Abstracts

XXI FIGO World Congress of Gynecology and Obstetrics

Vancouver, Canada, 4–9 October, 2015
International Federation of Gynecology and Obstetrics (FIGO)

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Supplement to

International Journal of Gynecology & Obstetrics

Volume 131, Supplement 5

Abstracts of FIGO 2015

XXI FIGO World Congress of Gynecology & Obstetrics

Vancouver, Canada, October 4–9, 2015

Congress abstracts are published as submitted or with minor editing only. The International Journal of Gynecology & Obstetrics (IJGO) is not responsible for errors or omissions in the abstracts.
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S001. Global Challenges in Prevention and Treatment of Preterm Birth

J. Howse1, M. Temmerman2, L. Greenslade1, L. Rand1, W. Holzgreve3. 1United States of America; 2Switzerland; 3Germany

In 2014, the World Health Organization declared preterm birth and its complications to be the leading worldwide cause of death in children 0–5 years of age. This expert panel will address the many challenges of preterm birth and explore potential approaches and solutions for addressing this complex problem including:

- The growing recognition of the global burden of preterm birth, WHO’s normative and research work on addressing preterm birth in lower-income countries, and WHO’s priorities in maternal and newborn health, including quality of care, within the post-2015 Sustainable Development Goals (SDGs) framework. (M. Temmerman)
- A dynamic new approach for partnership in the highest burden countries, put forward by the UN Development Fund and emphasizing prevention through improved preconception care and changes in lifestyle, exposure to infections, nutrition, and contraception availability (LINC). (L. Greenslade)
- Promising new models and metrics for improving preterm birth risk detection and improving maternal and newborn health care and treatment in Low Income Countries using new interventions such as “digital medicine”. (L. Rand)
- A case example of how the German Society of Obstetrics and Gynecology successfully translated lessons from obstetric practices in its High Income Countries to improve maternal care and lower preterm birth in a Low Income Country in East Africa. (W. Holzgreve)

Following the presentations, time will be allotted for questions.

S002. Hysterectomy in 2015

S002.1 WHICH HystÉRECTOMY WHEN?

S. Sheth, India

Since hysterectomy can be done via different routes by different techniques, it is essential for us to know which hysterectomy be performed – when?

As regards “which”, science is very clear on the basis of the Cochrane database review of evidence-based hysterectomy, ACOGs Guideline for laparoscopic assisted vaginal hysterectomy (LAVH), comments from giver of Laparoscopic Hysterectomy (LH) – Harry Reich and esteemed Editorial comments. They conclude, if all three can be done on a given uterus, the ideal choice in the best interest of patient is the vaginal route. When the vaginal route is not possible, the laparoscope comes to the rescue and when laparoscopic technique is contraindicated OR becomes risky, opening the abdomen is the way to under-take hysterectomy. The limits and contraindications for each technique are presented. The evidence-based pathway proceeds from the vaginal to the laparoscopic and finally to the abdominal route. If the pathology is benign, it is not the disease that matters, but “which route” is dependent on the pelvic findings like uterine size, uterine mobility, scarred or unscarred uterus, adnexal normalcy, normal physiological cervical descent, available space and the operator’s “will” to do so. A Uterus with a fibroid, less than 12 weeks size, 16 to 18 weeks size and more will require a different route and/or technique and therefore, which route of hysterectomy when? No doubt, as experience grows, contraindications whither. In all this however, the commercial angle must be kept away and only the interests of the patient must be considered.

S002.2 LAPAROSCOPIC HYSTERECTOMY IN DIFFICULT SITUATIONS

Y.-F. Fong, Singapore

Since the first description of laparoscopic hysterectomy by Harry Reich in 1989, the procedure has been widely accepted and incorporated as part of standard practice. The rate of laparoscopic hysterectomy however, can vary from less than 10 percent to over 80 percent of all hysterectomies performed, depending on the gynaecological unit. A lower rate of acceptance could perhaps be an indication of the association with and/or fear of complications. Even though the benefits of minimally invasive surgery is well known, there are specific issues related to laparoscopic hysterectomy in difficult situations which may deter many from pushing the limits of minimally invasive surgery, such as: obesity, uterine size, endometriosis, adenomyosis, previous caesareans leading to a plastered bladder, distorted anatomy secondary to multiple fibroids, repeated laparotomies etc. This talk focuses on each of these difficult scenarios and practices adopted to overcome these factors, as well as situations whereby consideration for conversion to laparotomy should be considered.

S002.3 ROBOTIC ASSISTED GYNECOLOGICAL SURGERY FOR Hysterectomy

L. Mettler, University Hospitals Schleswig-Holstein, Kiel, Germany

Through a better site recognition, 3D- stable view as well as magnification of the operation field with improved ergonomics using the Da Vinci robot or other robots in development it is possible not only to learn and to teach laparoscopic surgical anatomy in a fascinating direct way, but also to perform advanced laparoscopic operations, as hysterectomies, to a much larger extend in benign and oncological situations which are being performed even in the 21st century quite frequently with open abdominal surgery. Being aware that, of course, only if robotic technology set up’s are available, the following advises should be considered carefully.

- Patient positioning: After general anaesthesia is achieved the...
patient is placed in low dorsal lithotomy position. Thighs and legs are gently flexed, ankles and feet evenly supported, hips are minimally abducted and the buttocks are seated at the edge of the table, but not overhanging. Arms are positioned alongside the table, palms facing the thighs and fingers extended, nerve compression should be avoided.

- Trocar placement: With the Da Vinci robot as well as with other systems as TeleLap AlF-X there is always the placement of the optical trocar (umbilicus or higher at midline), the assistants port and 2–3 ports for the robotic arms (required distance at least 12–14 cm to the right and left of the optic trocar. To prevent robotic arm collision during the procedure this correct trocar placement is essential.

- Robotic column location and instrumentation: The robotic column(s) should be placed for hysterectomies clearly to the right or the left of the patient. The most commonly used instruments are the PK dissecting forceps, monopolar scissors or spatula and the meganneedle holder, which is not permitted to be used in Europe. The monopolar instruments are used with the right arm and a bipolar PK dissecting forceps is used with the left arm for a right handed surgeon.

- Use of assistants: The assistant helps with suction-irrigation, vessel sealing, tissue retraction, specimen retrieval, introduction and removal of sutures and needles and controlling of malfunction of robotic arms.

- Twelve hysterectomy steps for a robotic procedure:
  1. Introduce a uterine manipulator with a cervical cup to facilitate bladder dissection and identification of the cervico-vaginal junction.
  2. After grasping the uterus by one of the round ligaments pull it towards the patient’s contra lateral side and help with the uterine manipulator. Make a peritoneal incision parallel to the infundibulopelvic ligament, open the retroperitoneal space and identify the ureter.
  3. Create a window in the medial leaf of the broad ligament, grasp and divide the infundibulopelvic ligament with a sealing device.
  4. Open the peritoneum over the external iliac vessels towards the end of the round ligaments and open the lateral pelvic peritoneum with a monopolar energy device towards the insertion of the utero sacral ligaments.
  5. Transect the round ligaments and incise the anterior leaf of the broad ligament towards the vesico-uterine fold.
  6. With monopolar energy dissect the retroperitoneal tissue in the broad ligament till the ureteric vessels appear and divide the upper cardinal ligament adjacent to the lateral cervical wall.
  7. Repetition of all 6 steps on the contralateral side.
  8. Bladder dissection always from the left or right side at least 1 cm below the cervico-vaginal junction.
  9. With a vessel sealing device or bipolar instrument the lower cardinal ligaments adjacent to the cervix bilaterally are now divided.
  10. Colpotomy on the cervico vaginal junction which is well identified by pushing up the cup of the uterine manipulator with a monopolar instrument or ultracision and removal of the uterus.
  11. Exchange the monopolar instrument with a needle holder, introduction of suture and needle and closure of vaginal cuff incision of the uterosacral ligaments at the vaginal angles into the suture to prevent douglascele formation. Be careful to maintain a distance between the cuff closure and the ureters.
  12. Check for haemostasis, undock the robotic arms from the trocars and release the gas. For wound closure use a delayed absorbable suture for the fascia in all incision above 10 mm and close the skin.

- The Da Vinci robotic system in its present form is highly appreciated, however, we have to be open for further technical developments of Intuitive Surgery now the Da Vinci Xi as well as many new upcoming robotic systems and instruments, 3D- camera developments and the addition of “force feedback”, articulated instruments and wonderful medical technology.

If we do not use it we cannot judge it. Therefore, give it a chance in 2015 even if it is not available for everyone.

**S003. Gestational Diabetes and its Impact in Latin America**

E. Castelazo Morales, S. Fajardo Duenas, R. Zamora, F. Bernardez. Mexico

Latin America has multiple problems; unequal distribution of wealth, infrastructure, and technology among others. It is the region with more ethnic groups. As globalization progresses, different ways of living appear. LA has an obesity epidemic with malnutrition associated. Mexico is the leading country with overweight and obesity. This rate rise seen in overweight and obesity is parallel to the introduction of fast food, migration to cities, diminution of physical activity, and so on, and also a consequent rise in diabetes type II. There is an association between DMG and T II DM, with a 10% annual risk of DM T II debut after the first complicated pregnancy. The variable reported prevalence of DMG is due to unequal diagnostic criteria.

The world knew glycosuria, but until 1954 it was related to obstetric risk. In 1979 DMG was recognized. The screening test begun with attempts to identify women who would develop DM T II back in 60’s. Three basic methodologies are currently approved for screening, 2 steps, (ACOG), 1 step (WHO, ADA, HAP0). Today we recognize the benefits of an early identification and treatment of those women with risk and overt DMG. Although ideally a universal screening test is desired, the economic, geographic and educational barriers appear. It is proven a reduction in the morbimortality perinatal rate. As well a reduction in the offspring and adult morbidity: hypertension, diabetes, overweight, obesity and quality of life.

**S008. Abortion Fundamentals**

**S008.1 STATUS OF INDUCED ABORTION IN EUROPE**

G. Sedgh, Guttmacher, United States of America

Understanding the sociodemographic profiles of women who have abortions and when women have abortions, and who these profiles have changed over time, can inform efforts to improve and refine relevant services.

We examine data on characteristics of women who obtain legal abortions in Europe. We also examine information for North America as a point of comparison. We compute the percentage distributions of abortions, and abortion rates where possible, by women’s age, marital status and parity, and by the gestational age of the pregnancy. We examine trends since the 1990s where possible. Since the adolescent years are a particularly vulnerable period for many females, we also highlight adolescent abortion rates across countries.

In general across Europe and North America, abortion rates are higher among 20–24 year olds than any other age group. In some Eastern European countries, rates among 25–34 year-olds are comparable to the rates in 20–24 year-olds. In most countries with reliable evidence, married women obtain a larger proportion of abortions than unmarried women. More than half of abortions are obtained by women with at least one child. The proportion of abortions obtained by older women and nulliparous women has increased over time. The vast majority of abortions are obtained early during the pregnancy, and abortions are obtained even earlier in gestation now than in the past.
We find that abortion rates vary across socio-demographic subgroups of women. However, within all subgroups examined here, some women will obtain an abortion when faced with an unintended pregnancy.

**S008.2 SIMPLIFYING MEDICAL ABORTION**

K. Gemzell-Danielsson, Sweden

In the 1980ies the combined regimen of mifepristone and a prostaglandin analogue was developed into a safe and effective method for medical abortion. Today the prostaglandin analogue of choice is misoprostol and medical abortion is a safe option for termination of pregnancy at all gestational lengths. However, several barriers remain that limit global access to safe abortion services. Simplifying medical abortion could potentially contribute to increased access and acceptability. Possible approaches include the option to self administer misoprostol at home. Another possibility is task sharing with midlevel providers to allow these health care professionals to be more involved with the care of healthy women undergoing medical abortion. This possibility is likely to have major impact to increase access to safe induced abortion especially in countries where medical resources are scarce. An alternative for women living in countries were access to safe abortion is restricted is to use the telemedicine service provided by “Women on Web” (WoW) and self-administration of medical abortion. Today Internet is a major source of information for people all over the world. On the WoW website, women can do an interactive web-based medical consultation. Women are closely guided in the process through an email or telephone helpdesk. Professional counseling is provided in different languages. Our analysis shows that outcome of care is comparable to other medical abortion services provided in out-patient settings. A simplified treatment regimen may also include quickstarting effective long acting reversible contraception.

Today medical abortion including post abortion contraception can be offered as a “one stop clinic”. Educational objectives.

1. Recognize recommended regimen for medical abortion
2. Strategies to increase access to safe abortion care
3. Recognize the health economic impact of task shifting/sharing in abortion care

**S008.4 IS ROUTINE FOLLOW-UP NEEDED AFTER AN INDUCED ABORTION?**

K. Sunde Oppegaard, Department of Obstetrics and Gynaecology, Sykehuset Innlandet Lillehammer, Norway

Medical abortion (mifepristone + prostaglandins) established as a highly effective and safe method to terminate pregnancy during the last 25 years. It has the potential to “demedicalise” unwanted pregnancy by being “more natural”. The abortion may be completed at home, which gives the women more privacy than in a hospital setting. She can also decide whom to have with her and is less dependent on the abortion provider. However, medical abortion has initially involved more clinical visits than surgical abortion, which may have an impact on acceptability. Clinical follow-up after medical abortion is also associated with a higher risk of unnecessary treatment.

We carried out a randomized-controlled, non-inferiority trial in four clinics in Austria, Finland, Norway and Sweden using a commercially available semi-quantitative urine pregnancy test to determine whether women who did not attend clinical follow-up after medical abortion before 9 weeks pregnancy had a higher risk of complications compared to women who attended routine clinical follow-up. We found that overall there was no increased risk of complications in women who self-assessed their own treatment outcome, compared with women who attended clinical follow-up. Self-assessment of treatment success after early medical abortion has a resource-saving potential. However, three women in the self-assessment group had continuing pregnancies that were missed. Women need to be counselled about the risk of continuing pregnancy and any strategy for self-assessment will need to be carefully assessed for test and user performance before introduction.

**S008.5 CONSCIENTIOUS OBJECTION IN REPRODUCTIVE HEALTH**

C. Fiala, GynMed Clinic, Vienna, Austria

Conscientious objection (CO) is a healthcare professional’s refusal to provide a legal medical service for personal or religious reasons. CO is unregulated in most countries and the impact on women’s health and their human rights has largely been neglected in the literature. Analysing the historical development of CO, its moral stance on killing in war versus the practice of CO in medicine, and whether CO in medicine is inappropriate. Most professionals who cite CO are opposed to women’s reproductive self-determination because they personally disagree with women’s decisions to prevent or terminate an unwanted pregnancy. The refusal to treat is a serious breach of healthcare professionals’ duty to help patients. It occurs at two levels: individual (personal decisions of health care workers) and institutional (health systems and hospitals). Those who invoke CO are using their position of trust and authority to impose their personal beliefs on patients, who depend on them for essential healthcare. Hospitals that prevent staff from providing medical services are being discriminatory to a vulnerable population.

Refusal to provide medical services jeopardizes women’s health and lives and negatively impacts families and society as a whole. Any attempt to balance the rights of doctors and the needs of patients violates women’s rights and dignity.
CO in reproductive healthcare is immoral and unworkable. It is a refusal to treat – or Dishonourable Disobedience to laws and ethical codes. It should be dealt with like any other failure to perform one's professional duty, through enforcement and disciplinary measures.

S009. Unwanted Outcomes of Pregnancy and Childbirth: The Elephants in the Maternity Ward

S009.1 PERINATAL MENTAL HEALTH: AN INTERNATIONAL DISEASE WITH NO BOUNDARIES

V. Roach, FRANZCOG, Australia

Anxiety and depression in association with pregnancy, childbirth and the postnatal period remains poorly diagnosed and undertreated. There is significant morbidity and mortality associated with mental health disorders in pregnancy and the puerperal period. Antenatal anxiety occurs frequently, overlaps with depression and increases the likelihood of postnatal depression. Australian research suggests that around 40% of new parents experience adjustment disorders. Furthermore, up to 10% of women experience antenatal anxiety and/or depression, increasing to 16% of women experiencing postnatal anxiety and/or depression with about a third of fathers also experiencing a depression or anxiety disorder. Suicide has become one of the leading causes of maternal death in Australia. Additionally the presence of maternal mental health conditions can also have an adverse impact on the growth and development of the fetus/infant, and the wellbeing of other family members. The psychological wellbeing of pregnant women and new mothers should therefore be considered as important as their physical health and included as part of routine antenatal and postnatal care.

Most women live in the 112 countries classified by the World Bank as low and lower-middle income. Limited data exists on perinatal mental health amongst women in resource-constrained settings. It will be argued that, even when resources are limited, mental health still ranks very high in the hierarchy of needs of pregnant women.

S009.2 MAKING A DIFFERENCE IN WOMEN’S HEALTH: LESSONS FROM PRACTICE IN RESOURCE-POOR SETTINGS

S. Robson, FRANZCOG FRCOG, Australia

Australia is part of the Asia-Pacific region, a geographical area where there are some of the greatest differences in rates of maternal and perinatal mortality in the world. Because the health of women in developing countries is one of the strongest influences on family and community health, efforts to improve women’s health pay major dividends. Four important pillars of women’s health are prevention, education, research, and audit. Each of these is now gaining prominence in resource-poor regions, and these programs are in turn providing valuable lessons for better resourced countries such as Australia.

Prevention is a key strategy in health improvement where resources are scarce. Exemplar programs that empower women include injectable contraception and primary prevention of cervical HPV infection. It is estimated that for every fifty long-acting contraceptives placed, a life is saved from pregnancy complications. Cervical cancer is one of the commonest causes of death for women of reproductive age. Trials of HPV vaccination in GAVI-eligible Pacific nations are underway, combined with low-cost screening strategies such HPV PCR and visual inspection for acetowhite ( VIA) in place of cervical cytology.

Education programs for local birth attendants focussed on “train-the-trainer”; workshops allow for empowerment. Concerns about intimate partner violence and a culture of misogyny have led to programs for engagement of men that run in parallel to other training opportunities. Standardisation of care, with the development of Pacific-wide emergency manuals and associated training, have allowed partnerships between local and Australian-based specialists. It is difficult to assess the effects of prevention and education initiatives without data, and audit is a critical component of care provision. Many developing countries have limited capacity for audit, but the development of web-based common “data dashboards” can address these data deficits, allowing local health workers can see the fruits of their labours.

Lastly, efforts to engage a broad range of local health care workers in mentorship relationships with experienced researchers promote a culture of excellence, and allow for innovation and continuous improvement.

S009.3 VIOLENCE AND OTHER NON OBSTETRIC TRAUMA IN PREGNANCY

M. Ritossa, FRANZCOG, Australia

Trauma in pregnancy is an uncommon but potentially catastrophic event. It can have a significant impact on both the mother and the baby. In Australia pregnant patients account for less than 1% of trauma admissions. Usually these admissions are due to blunt trauma of a relatively mild nature. The majority of admissions are a result of motor vehicle accidents or falls. Deaths from trauma are rare, accounting for 3–4 deaths per 1 Million deliveries. Of some concern is that between 2003 and 2010, 30% of those deaths were the result of assaults. Violence against women is a common event and has been reported in as many as 1 in 5 pregnancies. Pregnancy is known to be a period of increase risk, with domestic violence often occurring for the first time during pregnancy. The presentation will provide a summary of the effects of trauma in pregnancy to both mother and child, outlining some of the differences seen throughout the world. It will describe the need and protocols for the correct and rapid response to trauma, as well as discussing the implications of domestic violence in pregnancy.

S011. Special Issues in the Reproductive Health and Rights of Migrants

S011.2 THE “THREE DELAYS” FRAMEWORK AND MIGRATION EFFECTS. PERINATAL AND MATERNAL MORTALITY AMONG REFUGEES IN SWEDEN

B. Essén, Sweden

For the last decades there has been a significant increased influx of Sub-Saharan African immigrants in Europe and North America. Women from some of the poorest countries in the world where traditions and standard of care related to childbirth differ a lot from the more high-resource context. Swedish studies, among others, have shown an increase risk for severe maternal morbidity and mortality as well as perinatal mortality especially among Somali refugees in diaspora compare to natives and other immigrants groups. Maternal and perinatal mortality are well known outcomes to be associated to poor socio-economic status as well as to low quality of care. What are the explanations of the higher numbers of death among some refugees groups? In what way are these findings a challenge for obstetricians and midwives working in multi-cultural settings? How is the health care seeking behaviours in these groups of pregnant immigrants related to delays? What barriers for accessibility and optimal obstetric care have been identified? These are some of questions that will be discussed by a contextualised migration-based conceptual framework inspired by the classic “The Three Delays Model” by Thaddeus and Maine (1994). Identified influences of pre-migration
socio-cultural factors on post-migration care-seeking and utilisation of optimal obstetrics care will be presented.

S011.3
PRENATAL SEX SELECTION AMONG IMMIGRANTS TO CANADA
M. Urquia, Canada

Background: Skewed male:female (M:F) ratios at birth have been observed among certain Asian immigrant groups in Canada. Temporal trends and geographical variations have not been previously described.

Direct data on abortion practices that might help to explain these findings are also lacking.

Methods: 1) Using Ontario immigration and hospital linked data 1993–2012, we determined M:F ratios by maternal birthplace and the sex of the previous living sibling(s), and whether having a male newborn was more common after a prior spontaneous or induced abortion, including the number and timing of induced abortions between livebirths. 2) Using Canadian national birth certificate data 1990–2011, we further examined temporal trends and geographical variations in sex ratios at birth by maternal (and paternal) birthplace and birth order.

Results: Among Canadian-born women, M:F ratios did not appreciably depart from the normal range. However among immigrant women from India were consistently higher at the third and fourth livebirth, across time and provinces. Having an Indian-born father was associated with higher M:F ratios. In Ontario, the M:F ratio after two girls was 1.96 (95% CI 1.75–2.21) and substantially higher if the current birth was preceded by 1 induced abortion, by ≥2 induced abortions, and if the induced abortion was performed at ≥15 weeks gestation.

Conclusions: In Ontario, high M:F ratios observed among Indian-born immigrants are partly explained by induced abortions. National data suggests that high M:F ratios did not substantially vary across time and Canadian provinces and that fathers’ birthplace may also influence sex ratios.

S011.4
DELIVERING PERINATAL HEALTH CARE AMONG INTERNAL DISPLACED REFUGEES AFTER THE TSUNAMI DISASTER IN JAPAN
J. Sugawara, Division of Feto-Maternal Medical Science, Department of Community Medical Support, Tohoku Medical Megabank Organization, Tohoku University, Sendai, Japan

The Great East Japan Earthquake occurred on March 11, 2011 and was an unprecedented major disaster. As a result, 15,882 people lost their lives and 2,668 people are still missing. In Miyagi prefecture, there were 19,445 births before the disaster (in 2010). After the disaster, the perinatal care system reached an unprecedented critical state in this area.

The surveys examined the damages to maternity institutions, evacuation status and transport of pregnant women, and prehospital childbirths, conducted in 50 maternity institutions and 12 fire departments in Miyagi. Two coastal institutions were completely destroyed, and four institutions were partially destroyed by tsunami, forcing them to stop medical services. In the two-month period after the disaster, 217 pregnant women received hospital transport or gave birth after evacuation. Emergency obstetric transport increased to approximately 1.4 fold the number before the disaster. 23 women had prehospital childbirths, indicating a marked increase to approximately 3 times the number of the previous year.

Four years have already passed since the major disaster that is said to occur only once in a thousand years. There has been a rapid decrease in global interest and concern about the reconstruction after the disaster. For reconstruction of the local community, it is important to preserve the environment for women to have safe childbirths. Thus, it is important to treat pregnant women as people with special needs in disaster situations, to broaden training of healthcare professionals providing childbirth services, and to have systems for transport and childbirth services in emergencies or disasters.

S011.5
CHALLENGES IN REPRODUCTIVE HEALTH IN REFUGEE CAMPS IN LIMITED RESOURCES SETTINGS – THE EXPERIENCES FROM LEBANON
F. El Kak, Lebanon

The ongoing military conflict in the Middle East, especially Syria, has inflicted 6.8 million people. More than 2 million are expected to be in the 5 neighboring countries (Lebanon, Turkey, Jordan, Iraq, and Egypt), with Lebanon alone hosting currently 1.4 million, mostly living in camps. Women and children comprise the largest proportion of displaced people (78%). Composite challenges, physical, financial, and public health, present a threat to the reproductive health issues of displaced women. Research findings and UN reports indicates deteriorating indicators in relation to maternal health, gynecological health, and gender based violence. In relation to maternal health, there was an increase in the pregnancy complications (40%), prematurity (26%), abortions (11%), and other poor outcomes. Types of violence manifested as sexual exploitation, harassment, abuse, community and domestic violence, and all were in the range of (31–39%). Gynecological problems also increased in relation to conditions of displacement and poor livelihood with around 50% of women reporting pelvic pain, menstrual irregularities, and reproductive tract infections of recent onset. Ongoing research reveals increased rates of teenage pregnancies and rising trends in fertility rates. It is expected that these problems will exacerbate in view of restricted international donors, overburdened health system, and different cultural norms- gender of health care provider- among Syrian women that might affect access to care and levels of utilization. More research of mixed methods are needed to look at reproductive health conditions and trends over time under the existing crisis condition and identifying the most appropriate interventions in the medium and long term situations.

S013. Contraception for Special Groups

S013.1
CONTRACEPTION IN CANCER SURVIVORS
K. Gemzell-Danielsson, Sweden

With improved diagnostics and advancements in treatment, the number of women of reproductive age surviving cancer treatment is increasing. Approximately 9 percent of cancer occurs in women under 45 years of age with breast cancer being the most common cancer among Western women. Today it is estimated that 80 percent of women diagnosed with cancer before menopause will survive at least 5 years. In these women, fertility preservation is an area of increasing focus. In women where the cancer treatment has not led to permanent sterility contraceptive counseling is of great importance. Many factors need to be considered when counseling women prior to-, during-, and after the cancer treatment. There is a substantial amount of epidemiological evidence demonstrating that hormonal contraception use decreases a woman’s lifetime risk for ovarian, endometrial and colorectal cancer. However, hormonal contraception may have an adverse effect on hormonally sensitive tumors or interact with the cancer treatment. Furthermore, it has been recommended that combined hormonal contraceptives be avoided during and immediately following treatment of any cancer given the risk of venous thromboembolism. The diagnosis of premenopausal breast cancer is especially poor if the breast cancer is “pregnancy-associated”, i.e., di-
The rate of obesity worldwide is at epidemic proportions and is not known if a pregnancy after breast cancer diagnosis influences survival. It may also be important to avoid or postpone pregnancy since chemotherapy and radiotherapy may have teratogenic effects. Despite the increased demand, few recommendations exist delineating when and how to counsel cancer patients and their partners regarding contraception, risk of unintended pregnancy and optimal timing of conception after cancer treatment. A recent study showed that sexually active cancer survivors are at threefold increased risk of unintended pregnancy compared to the US population underlining the need for updated clinical guidelines.

S013.2
CONTRACTION IN THE INTELLECTUALLY CHALLENGED PATIENT
E. Guilbert. Department of Obstetrics and Gynecology, Laval University, Québec, Canada & National Institute of public Health of Quebec

Many women with learning disabilities feel they do not have the opportunity to make their own decision regarding many aspects of their life including reproductive health and contraception. Health professionals, on the other hand, express concerns on intellectually challenged women’s abilities to be reliable contraceptive users. Providing contraception to this clientele requires thorough evaluation, simple counseling and quality time with the woman and her carers. Then, when dealing with decision making, health professionals must remember that a balance needs to be found between protection and empowerment. In this session, we will review contraceptive methods available to this clientele. We will also discuss the pertinence of therapeutic amenorrhea and how to achieve it. Combined hormonal or progestosterone-only products can be used in an extended or continuous manner to obtain menstrual suppression. Three case series done in intellectually challenged women showed the advantages and limits of the use of LNG-IUS to achieve therapeutic amenorrhea. Globally, research confirms that successful management of the contraceptive and menstrual concerns of intellectually challenged women can be met by the approaches normally taken with non-disabled women.

S013.3
OBESITY AND CONTRACEPTIVE CHOICES
S.O. Skouby. Denmark

The rate of obesity worldwide is at epidemic proportions and currently 30% are overweight (BMI > 25) in Europe and 40% obese (BMI > 30) in The United States. As an integral part of obesity the metabolic syndrome describes a clustering of metabolic abnormalities that together with obesity increase the cardiovascular and diabetes risk. Consequently, use of safe and effective contraceptive methods is of paramount importance in obese women. However, both obese and diabetic women are less likely to use contraception or to receive preventative health care services as compared to women of normal weight. Although the number of studies is limited current evidence suggests that modern types of hormonal contraceptives are safe and provide important non-contraceptive benefits to obese women. The impact of obesity on drug pharmacokinetics may result in lower blood levels of steroid contraceptives reducing their ability to prevent pregnancy, but the actual change is probably minimal. Of note existing data suggest that long-acting, reversible contraceptives maintain excellent efficacy in obese women. To day, there is a need for adequate contraception in post-bariatric-surgery patients is more frequently becoming an issue. This is because the initial months following surgery are associated with rapid weight loss, which could potentially cause adverse effects on a pregnancy, although and conversely, some data support the fact that many adverse maternal and neonatal outcomes may be lower after having had bariatric surgery. After this presentation, the learner will be able to:
1. Meet the special challenge of providing safe and efficient contraception to obese women.
2. Understand the cluster of metabolic disturbances existing in obese individuals.
3. Balance the benefit and risk associated with hormonal contraception e.g. VTE.
4. Give competent contraceptive guidance in women following bariatric surgery.

S016. Prevention and Screening for Gynaecological Cancers

S016.1
CERVICAL CANCER PREVENTION
R. Sankaranarayanan. Special Advisor on Cancer Control (CCO), Head, Early Detection & Prevention Section (EDP), International Agency for Research on Cancer, Lyon, France

Cervical cancer accounts for 530,000 new cases and 270,000 deaths worldwide annually, four-fifths of which occurs in low and middle-income countries (LMICs). Persistent infection with one of the high-risk human papillomaviruses (HR-HPV) is the necessary cause of cervical cancer. Invasive cervical cancer is preceded by detectable precancerous lesions such as high-grade cervical intraepithelial neoplasia (CIN 2–3). It is a highly preventable cancer yet not prevented to a large extent in many LMICs. There are two effective preventive strategies for cervical cancer namely HPV vaccination and early detection and treatment of cervical precancerous lesions by screening. HPV 16 and HPV 18 infections are responsible for 70–75% of cervical cancers globally. Currently 64 countries have implemented HPV vaccination in their national immunization programmes. It has been estimated that HPV vaccination of 58 million 12-year old girls in 179 major countries in the world will prevent 690,000 cervical cancer cases and 420,000 deaths during their life time. Thus the future gains from vaccinating successive birth cohorts are phenomenal. The current WHO recommendation of 2-doses of HPV vaccination for 9–14 girls and promising findings with a single dose in research settings, provide enormous scope of improving vaccination coverage in the world. Screening for precancerous lesions with HPV testing or cytology or visual inspection with acetic acid (VIA) is a complementary preventive strategy along with HPV vaccination. HPV testing is the most accurate and reproducible test with high negative predictive value and will be screening method of choice with increasing coverage of HPV vaccination.

S016.5
PRE-NEOPLASTIC DISORDERS OF THE VULVA
C. Dehaeck. South Africa

Vulval carcinoma arises from vulval intraepithelial neoplasia (VIN). Two different pathogenic pathways may be involved:
1. Undifferentiated VIN (UVIN), which is HPV related.
2. Differentiated VIN (DVIN), which is HPV negative, often associated with Lichen Sclerosis.

The importance of this etiology and differentiation is essential, as the progression to and/or presence of invasion is much higher in DVIN. The DVIN associated vulval carcinoma also have a worse prognosis. The etiology, pathology and management of both types of VIN will be discussed in more detail in the presentation.

HIV has brought an extra challenge to the management of UVIN, in that the lesions are often much bigger and have a greater tendency for recurrence. In the African continent this problem is taking on big
proportions and possible management solutions will be discussed. Two rarer pre-neoplastic disorders will also be discussed: Extra mammary Paget’s disease of the vulva and Melanoma in situ.

S019. Maternal Medicine

S019.2 CAN WE REDUCE THE MATERNAL AND PERINATAL COMPLICATIONS ATTRIBUTED TO GESTATIONAL DIABETES?

L.-K. Tan, Senior Consultant Obstetrician and Gynaecologist, Singapore General Hospital, Singapore

Gestational diabetes is a growing obstetric problem. Reducing its associated maternal and perinatal complications is a function of improving diabetic control, best effected by multidisciplinary care. The revised diagnostic criteria improve detection but increase the burden on society’s resources. Despite the provision of multidisciplinary care, optimal diabetic control is often thwarted by suboptimal patient compliance. Focus on education, use of technology eg. Telemedicine, reducing obesity and promoting exercise are paramount. Metformin, a safe alternative to insulin and preferred by women, should be more widely used if non-pharmacological measures prove insufficient. While accelerated fetal growth must be looked for, remember that growth restriction can also occur.

Timing and mode of delivery with access to neonatology expertise play important roles in perinatal mortality. While most guidelines suggest delivery by EDD if gestational diabetes is uncomplicated, the timelines are shifted earlier in the presence of maternal and fetal concerns. Shoulder dystocia is more common in diabetic pregnancies. Often unpredictable, maternity units must be staffed by personnel skilled in shoulder dystocia management. A recent UK Supreme Court appeals case highlighted the importance of giving women with suspected macrosomia all birth options including caesarean section, respecting that women may attach significant material risk to the sequelae of shoulder dystocia, even if the absolute risk is lower than what the obstetrician considers to justify a caesarean section. Postnatal retesting to determine resolution of gestational diabetes or a pre-existing diabetic state is often overlooked. This is important to facilitate appropriate lifestyle and pre-pregnancy counselling measures.

S019.3 LIVER COMPLICATIONS AND HEPATITIS IN PREGNANCY

T. Lao, Department of Obstetrics & Gynaecology, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, Hong Kong

Liver complications are not frequently encountered in pregnancy, most of which are related to obstetric disorders that include pre-eclampsia/HELLP syndrome, acute fatty liver of pregnancy, obstetric cholestasis, and hyperemesis gravidarum, and occasionally biliary obstruction. In the majority of cases, abnormal liver function is detected following the clinical presentation of the aforementioned obstetric complications. However, in areas endemic for hepatitis, liver dysfunction could be related to acute or chronic hepatitis, with chronic hepatitis B virus (HBV) infection being the commonest form encountered especially in areas endemic for HBV infection. In many instances, the HBV infection is unknown or undiagnosed before pregnancy, being only picked up on antenatal screening. Maternal-to-child-transmission is considered the major issue for pregnancies complicated by maternal HBV infection, and the emphasis is placed on the prevention of vertical transmission using antenatal treatment with antiviral agents, immunoglobulin, and neonatal immunoprophylaxis. However, there is now increasing awareness of HBV infection affecting obstetric outcome, even in the case of asymptomatic infection. The findings in the literature is nevertheless conflicting, which varied from no adverse effect, increased adverse outcome such as preterm birth, prelabour rupture of membranes, fetal loss, gestational diabetes mellitus, and antepartum haemorrhage, as well as some apparently beneficial effect in terms of enhanced infant size and birthweight, and reduction of pre-eclampsia. These reports are reviewed here together with the possible explanations on the apparently paradoxical findings. A recommendation on the management of incidental finding of abnormal liver function test will be provided.

S019.4 LIFE-THREATENING MATERNAL INFECTIONS: OPPORTUNITIES TO REDUCE THE GLOBAL BURDEN

M. Gravett, United States of America

Infection is an important, and potentially preventable, cause of maternal mortality and morbidity as well fetal and neonatal well-being. Puerperal sepsis, defined by (WHO) as infection of the genital tract occurring any time between the rupture of membranes or labor and the 42nd day postpartum, is the third leading cause of maternal mortality, responsible for 10%–12% of maternal death. These deaths disproportionately occur in low- and middle-income countries (LMICs).

However, the impact of infection during pregnancy upon maternal, fetal, and neonatal mortality and morbidity is much greater than that attributed to puerperal sepsis alone, including deaths and disability from other infections such as urinary tract, soft tissue, and abortion-related infections, or other infectious co-morbidities (e.g., HIV, curable sexually transmitted infections, tuberculosis, and malaria). A useful term that incorporates all of these different infections is “life-threatening pregnancy-related infections”. In a landscape review, with attention to Africa and Asia that together account for 80% of global maternal mortality, we identified four clinical syndromes that account for the majority of life-threatening puerperal infections: 1. “Puerperal sepsis”, a broadly encompassing term that includes clinical chorioamnionitis and postpartum endometritis; 2. Septic abortion; 3. Pyelonephritis and urosepsis; and 4. Rapidly progressive soft tissue infections. Each clinical syndrome occurs at a distinctive time frame during pregnancy and presents a unique opportunity for detection and treatment or prevention.

The recognition of discrete infectious syndromes that occur at discrete times in pregnancy affords the opportunity for “bundled” interventions, including the initiation of antenatal care, and the onset of labor.

S020. State of the Art: Educational Program on Pelvic Floor Medicine and Reconstructive Surgery

S020.1 ENABLING OBJECTIVES FOR TRAINING IN PELVIC FLOOR MEDICINE AND RECONSTRUCTIVE SURGERY

O. Contreras Ortiz1, G. Falconi2, 1Argentina; 2Italy

The FIGO Working group (FWG) on Pelvic Floor Medicine and Reconstructive Surgery (PFMRS) initial presentation was published in 2009 [1].

Up to this moment the Educational Objectives for OB/GYNs in Pelvic Floor Medicine and Reconstructive Surgery were related with guidelines proposed by the majority of the national and international societies. However, the OB/GYN practitioners, primary health care providers and midwives should have minimal knowledge included in their educational objectives. That is why the FIGO Working Group proposes minimal knowledge in this area.

Afterwards the FWG on PFMRS has investigated the needs of all the Obstetrics and Gynaecology Societies affiliated to FIGO in order to develop training guidelines in PFMRS by means of a questionnaire sent to all the Societies [2]. The FWG on PFMRS has reached consensus on
the minimal requirements of knowledge and skills regarding each of the enabling objectives.

In the enabling objectives we propose minimal requirements of knowledge in three progressive levels: Know, Understand and Perform.

Because of the high consultation on pelvic floor dysfunctions and of the skyrocketing associated health care costs, it is necessary that non-specialized gynecologists and health care providers can have at least some basic training in pelvic floor medicine.

References:


S020.2

HOLISTIC ASSESSMENT OF BLADDER DYSFUNCTION

T.-H. Su 1,2. 1 Department of Obstetrics and Gynecology, Mackay Memorial Hospital, Taipei, Taiwan; 2 President, Joint Commission of Taiwan Hospital Accreditation

The main functions of urinary bladder are to store and to void. The assessments of bladder function are divided into 3 sections:

1. History and self-assessment including urinary diary.

The bladder diary completed by the patient provides useful information about voiding intervals, voiding volumes, incontinence episodes, provoking factors, functional bladder capacity and daily urine volume. Urodynamic measurements includes cystometry, pressure-flow study, urethral pressure profile measurements. Filling cystometry is used primarily to evaluate reflex function in the storage phase, giving information about the presence or absence of detrusor overactivity and detrusor-sphincter coordination. The information of bladder sensation, capacity and bladder compliance are also obtained. Pressure-flow study records detrusor muscle pressure and urine flow rate during voiding to assess the presence of outlet obstruction or underactive detrusor function. Cystoscopy allows physicians directly examine the bladder, the urethra, and the openings to the ureters. Cystoscopy can assist in identifying problems with the urinary tract, such as obstruction, interstitial cystitis, or any iatrogenic injuries. The bladder ultrasound is a non-invasive test used to measure the amount of residual urine volume after voids, to look for stones, to measure the bladder wall thickness. All of the examinations are useful tools used to assess the bladder function and explain the patient’s symptoms.

S020.3

AUGS COMMITTEE OPINION ON THE USE OF URODYNAMICS IN THE INVESTIGATION OF WOMEN WITH URINARY INCONTINENCE

S. Swift. United States of America

Introduction: Urodynamics are a series of testing techniques that evaluate patients with lower urinary tract dysfunction. They are commonly used in the evaluation of urinary incontinence in females, however, the indications for their use is coming under scrutiny as recent studies suggest they play a limited role in decision making for the treatment of urinary incontinence. This lecture will describe recent best practices for determining who needs urodynamics before initiating treatment and will provide delegates a better understanding of the interpretation of urodynamic findings.

Methods and results: The recent literature establishing the appropriate role of urodynamics in the evaluation of incontinent women will be presented. The types of patients in whom urodynamics are indicated will be addressed, as well as, the information that urodynamic testing can provide. Finally several examples of urodynamics will be presented for discussion and interpretation.

Conclusion: Following this presentation delegates should be able to identify which patients in their practice that would benefit from urodynamics as well as which patients do not require these studies. Delegates will also be able to interpret urodynamic basic tracings to diagnose patients and plan a course of treatment.

S020.4

ICD 11: REFLECTING THE STATE OF THE ART OF PELVIC FLOOR MEDICINE AND RECONSTRUCTIVE SURGERY

M.A. Morgan, United States of America

The International Classification of Diseases (ICD) is a key instrument of the World Health Organization (WHO) that seeks to provide a public global standard to organize and classify information about diseases and related health problems. The WHO initiated a process to develop the 11th revision in 2007. ICD-11 is intended for use in all resource settings, will be backwards compatible with ICD-10 and will support electronic health records and information systems. The Genitourinary and Reproductive Medicine Topic Advisory Group (GURM TAG) was assigned the task of revising the classifications that deal with pelvic floor disorders. Concepts of pelvic floor disorders and terminology have changed significantly since the last ICD revision, which did not provide explicit definitions for each entity/category. Definitions are at the core of ICD-11 and will be referenced. Previous categories, without definitions, included terms such as cystocele, rectocele, enterocele, complete and incomplete uterovaginal prolapse. There was no category for obstetric fistula. The new version, with definitions, will include categories of anterior, posterior and apical vaginal wall prolapse and pelvic floor muscle disruption. It will also include more recent concepts of severity and functionality. There will be new categories for obstetric fistula. To ensure that the efforts of the GURM TAG are complete, the TAG has tried to contact specialist society/national groups who might have an interest and ask for their comments directly. Currently the process is open to the public and scientific community for comment through a web-based platform.

S023. New FIGO International Guidance on Adolescent, Preconception and Maternal Nutrition

C.N. Purandare 1, M. Hanson 2, L. Poston 2, F. McAuliffe 3, E. Oken 4, L.M. De-Regil 5. 1 India; 2 United Kingdom; 3 Ireland; 4 United States of America; 5 Mexico

Poor and under-nutrition throughout adolescence and reproductive years represents a major public health issue that affects not only girls and women’s health but also that of future generations. While there is global consensus on the need for girls and women to adopt optimal nutrition practices when planning a pregnancy, during a pregnancy and in the post-partum period, there has not hitherto been a comprehensive resource setting out evidence based guidance on nutrition to guide health care professionals. FIGO established an expert group to develop such a document. With the over-arching theme of “thinking nutrition first” – the panel introduce this document which clarifies good versus poor nutrition as well as under and over nutrition and micronutrient malnutrition and uses regional case studies to exemplify local situations and offer specialized solutions. As it is critical that micronutrient deficiencies are recognized and rectified, this comprehensive resource meticulously details the key deficien-
cies health care providers need to look out for and explains the potential consequences of such deficiencies for both the woman and potential offspring, as well as detailing necessary interventions including dietary diversity, consumption of fortified foods, and supplementation as appropriate. The panel will also draw out key points from how the guidelines can be translated into practice for both health policy makers as well as health care providers.

S024. Thinking and Teaching Ethics in Obstetrics & Gynaecology: Introduction to the FIGO Ethics Curriculum

B. Dickens, Canada

The purpose of the FIGO bioethics training curriculum is to equip students and practitioners of gynecology and obstetrics to understand ethical concerns in women’s health care, and to resolve them by ethically as well as medically satisfactory means. Modern bioethics reflects human rights values, including promotion of women’s equal status and rights in their communities by redressing historical and cultural denial or suppression of women’s entitlements to make critical decisions affecting their own lives, bodies and reproduction. Ethical decision-making involves the prioritization of key ethical principles, namely:
1. Respect for Persons, including autonomy and protection of the vulnerable;
2. Promotion (maximization) of Benefit and Avoidance (minimization) of Harm (Beneficence and Non-maleficence); and
3. Justice, particularly the fair allocation of medical and social benefits and risks.

Different priorities in application of these principles may result in different, but equally ethical, conclusions. For instance, non-medical prenatal sex selection may respect patients’ preferences in discriminatory societies where sons serve families’ needs better than daughters, but deplorably contribute to girls’ and women’s devaluation and inequality. Denial of sex selection to promote the justice of equality of the sexes, however, may harmfully risk women’s lives and health by compelling successive risk-laden pregnancies to bear sons. Bioethical principles are applicable at different levels, through:
- Microethics, centered on the doctor-patient relationship, or
- Macroethics, centered on promotion of social welfare.

Decisions ethical at one level may be ethically contentious at the other. For instance, rendering a patient comprehensive diagnostic testing for certainty may restrict available tests for others.

S024.2 SURROGACY – LEGAL AND ETHICAL ASPECTS AROUND THE GLOBE

F. Shenfield, (In)fertility Specialist at UCLH, London, and Co-chair of FIGO’s Ethics Committee, London, United Kingdom

This presentation will include legal issues concerning, mostly parental and national issues when commissioning/intended parents return to their home country where surrogacy is (often) banned, with their child(ren). Furthermore, in the face of much criticism of the potential for the exploitation of (especially poor) women in the case of surrogacy, we look at the ethical underpinning of the practice (ESHRE, FIGO) as well as of cross border reproductive care in general (ESHRE). This is especially relevant to commercial surrogacy and cross border surrogacy from high income to low income countries.

The question of compensation to the surrogate/gestational carrier is discussed, with the potential for commercial exploitation, as well as the role of intermediaries and agencies (ESHRE good practice guide).

It is also suggested that “single embryo transfer is the only acceptable option”.

References:

S024.4 C-SECTION ON DEMAND

D. Shah, India

A worldwide incidence of 1–18% of a primary pre-labour elective caesarean delivery on maternal request, in absence of maternal or fetal indications has been reported. Though not a well known entity, the incidence is definitely on a rise. An on-demand caesarean delivery compared to a vaginal delivery has a longer maternal hospital stay, increased infection rates, higher anesthetic complications and potential risks like uterine rupture, placenta praevia, morbid adhesions of placenta and hysterectomy in subsequent pregnancies.

Among the various reasons of caesarean delivery on maternal request are precious pregnancy/treated infertility, previous traumatic delivery, concerns of a weakened pelvic floor, and a need to avoid labour pains and stress. With the increasing safety of caesarean section due to advances in anesthesia, surgery, aspesis and postoperative care, non indicated caesarean on maternal request has emerged as a viable safe alternative to vaginal delivery.

Obstetricians are not obliged ethically or professionally to perform an on-demand caesarean section. The decision to accept or refuse on-demand caesarean lies in the hands of the obstetrician. FIGO states that a Lower Segment Caesarean Section should be strictly reserved for maternal and fetal indications. The views of the Royal College of Obstetricians & Gynaecologists (RCOG) and the American College of Obstetricians & Gynecologists (ACOG) are similar. But if a pregnant woman opts to have an elective caesarean section after being fully informed of complications following caesarean birth, then is it obligatory for the obstetrician to perform a caesarean section even if he/she feels that a vaginal delivery is possible and safe? Should he/she go ahead with a caesarean because the patient wishes to have one after an informed consent?

These are the Ethical challenges which will be discussed during this presentation.

S025. Developing and Disseminating Evidence-based Standards of Care Protocols on Caring for Women with Gestational Diabetes

H. Rushwan1, A. Kapur2, H. Divakar2, M. Agarwal3, E. Marseille4, G.C. Di Renzo5, M. Hod6, 1United Kingdom; 2India; 3UAE; 4United States of America; 5Italy; 6Israel

Hyperglycemia is one of the most common medical conditions women encounter during pregnancy, the majority of which is due to Gestational Diabetes Mellitus (GDM). With more women entering pregnancy with risk factors that make them vulnerable to hyperglycemia during pregnancy, and the fact that GDM is associated with a higher incidence of maternal, fetal and neonatal morbidity as well as other serious long term sequela, makes it a priority global health issue. The presenters will discuss how GDM contributes to the global non-communicable disease epidemic and argue that it is the low and middle income countries (that contribute the majority of annual global births, represent 80% of the global diabetes burden and over 90% of all maternal and perinatal deaths and poor pregnancy outcomes) that demand the most attention. The presenters will discuss how the first comprehensive resource was created which sets
out evidence based guidance on screening, diagnosing and providing care (including postpartum and preconception) for women with GDM for key health care professionals. This pragmatic guide offers alternatives for a variety of different regional and resource settings based on their financial, human and infrastructure resources. We will explore some of the guidelines, detailing the practical implications of providing care using the Indian experience as an example. We will review laboratory techniques that can be utilized to bring testing and diagnosing to pregnant women, and offer a framework for countries to calculate the cost-effectiveness of GDM screening and management based on their specific resources and burden of disease.

S026. Meeting the Reproductive Health Needs of Adolescents Around the World
V. Chandra-Mouli1, M. Dotson2, C. Lane3, T. Adamu2, 1WHO, Switzerland; 2Jhpiego, Kenya; 3USAID, United States of America; 4Jhpiego, United States of America

The session panelists will present multiple perspectives on the status of health care for adolescents – from the family planning, HIV, and maternal care areas – and some examples of what is needed and/or being done. They will be prepared to speak about some key insights regarding the provision of adolescent health care, as well as transformative solutions to improve access, quality, and utilization of these services.

Titles of individual presentations:
• “Taking Stock of the Progress Made with Adolescent Sexual and Reproductive Health and Rights, Twenty Years Since the International Conference on Population and Development” (Dr. Venkatraman Chandra-Mouli, WHO)
• “Adolescent Health Services: Putting Youth in the Driver’s Seat” (Manya Dotson, Jhpiego)
• “Programming and Service Delivery Considerations for Pregnant and/or Parenting Adolescents’” (Cate Lane, USAID)
• “Youth Preventing HIV Infection – Examples from Voluntary Medical Male Circumcision Programming” (Tigi Adamu, Jhpiego)

S027. Sexual and Reproductive Health of Indigenous Women: Optimising Care through Cultural Safety

S027.2 ABORIGINAL HEALTHCARE – FROM BASIC UNDERSTANDING TO CULTURAL SAFETY
P. Lessard, Canada

Cultural safety developed as a concept in nursing practice in New Zealand with respect to health care for Maori people. It develops the idea that to provide quality care for people from different ethnicities and cultures, nurses must provide care that respect cultural values and norms of the patient. Thus, cultural safety as a concept incorporates the idea of a changed power structure that carries with it potentially difficult social and political ramifications. The introduction of the concept of cultural safety to the debate on cross-cultural health care was significant: it questioned and challenged the concept of cultural competence and, by bringing in the notion of safety, it extended the debate by focusing less on the benefits of cross-cultural awareness and sensitivity, and more on the risks associated with their absence [1].

There is emerging evidence supporting improved health outcomes with the practice of culturally competent care. Preliminary findings indicate that health outcomes and patient satisfaction are improved with the delivery of culturally competent care as well as reduced litigation rates following implementation of cultural competency training. Another review of literature from 1980 to 2003 found excellent evidence supporting cultural competency training as a strategy for improving the knowledge, attitudes, and skills of health professionals and for improving patient satisfaction. Ultimately, cultural safety is an approach to care centred on the patient’s experiences, values, and beliefs. It involves building awareness and trust; recognizing power inequities and the role of socioeconomic conditions, history, and politics; and knowing that it is the patient who determines whether care is safe. No one formula exists for achieving successful rapport [2].

References:

S027.4 HOW HAVE CANADIAN HEALTH SYSTEMS AND POLICIES IMPACTED THE PROVISION OF REPRODUCTIVE CARE TO INDIGENOUS WOMEN
E. Harrold, JOGC, Canada

Background: In the case of First Nations people, what makes the intergenerational trauma different is that it wasn’t the result of a targeted event against an individual – it was a set of government policies that targeted and affected an entire generation. Children were traumatised when they were taken from their parents and placed into either government-funded, church-controlled residential schools or into foster homes.

Objectives:
1. Understanding that jurisdictional conflicts between federal, provincial, territorial and band governments (historical and present-day) make it difficult to provide comprehensive reproductive care to FN
2. Understanding Jordan’s principle
3. Non-insured health benefits – eligibility and coverage requirements and exceptions and special permissions needed in some cases impact the provision of care
4. Need for Indigenous health human resources, a full spectrum of health and wellness services that respects language and tradition

Summary: The complexities and challenges of the design, delivery and implementation of health services and policies for First Nations and Inuit have clear implications on access to quality, timely and culturally safe care. This has led to a fairly complicated service delivery system with multiple jurisdictional gaps and overlaps. An example of these challenges is the case of Jordan River Anderson of Norway House Cree Nation. First Nations, Inuit and Metis have strong unique traditions of health and healing. Priority has been placed on increasing Indigenous representation in order to advance the delivery of full spectrum of health and wellness services.

S028. Caesarian Section versus Vaginal Birth

S028.2 VAGINAL BIRTH AFTER CAESAREAN SECTION: IS IT SAFE IN DEVELOPING COUNTRIES?
S. Wanyonyi, Aga Khan University, Nairobi, Kenya

Vaginal birth after caesarean section (VBAC), has for a long time been practised in low resource settings using nonconventional methods. This not only poses danger to the woman and her baby, but could also have serious legal and ethical implications. The adoption of this practice had been informed by observational studies with many deficiencies, despite other studies from settings where the standard of care is much better, showing that Elective Repeat Caesarean Section (ERCS) may actually be safer than VBAC. This raises questions on whether we should insist on a dangerous practice when there are safer alternatives. For instance, a woman attempting VBAC may have a lifetime...
chance of dying from haemorrhage of 3.45% compared to 1.76% for ERCS. We highlight some of the challenges faced in making this decision and discuss why the fear of ERCS may not be justified after all in low resource settings. Since a reduction in caesarean section rate may not be applicable in these regions with an already low coverage, emphasis should be on adequate birth spacing and safer primary operative delivery.

**S030. New Technologies in Advanced Laparoscopic Surgery**

**S030.1 EVALUATION OF NEW SURGICAL ENERGY DEVICES IN RADICAL Hysterectomy AND Pelvic Lymphadenectomy**

G. Scibilia, Italy

Radical hysterectomy is one of the major surgical procedures in gynecological oncology. In 1898, Ernst Wertheim, a Viennese physician, developed the radical total hysterectomy with removal of the pelvic lymph nodes and the parametrium. This procedure at the present is utilized to cure cervical cancer. The cure rate is usually high if diagnosis is correct. From technical point of view, this procedure is quite complex and requires a very well expertise in knowledge of the functional anatomy of the pelvis and really good manual and technical expertise. New devices that utilize mechanic, ultrasound, bipolar and monopolar energy, are really useful particularly when this procedure has to be perform in laparoscopy or in robotic surgery. We explore the possibility to use different devices to perform this kind of surgery, with pro and cons.

**S031. Reproductive Options – Infertility: Safety**

**S031.2 NEONATAL OUTCOMES FOLLOWING INFERTILITY TREATMENTS**

U.-B. Wennerholm, Gothenburg, Sweden

Infertility or subfertility, the failure to conceive after one year of unprotected intercourse, affects 10 to 15% of all couples. Assisted reproductive technology (ART), any procedure that involves handling eggs, sperm, or both outside the body, is an effective treatment. ART includes in vitro fertilization (IVF) with or without intracytoplasmic sperm injection (ICSI), with fresh or frozen-thawed embryo transfer (FET), and with oocyte donation (OD). Worldwide, over 5 million children have been born after ART treatment and in many countries such births constitute more than 3% of the national birth cohorts.

Adverse perinatal outcome after ART is well-documented, a high proportion of multiple pregnancies being the most powerful predictive factor. Single embryo transfer (SET) can reduce rates of ART multiple pregnancies without significantly compromising successful implantation and live birth rates per embryo, particularly when used in combination with embryo cryopreservation. However, singletons born after ART have an increased risk of preterm birth (PTB), low birth weight (LBW) and being small for gestational age (SGA), compared to spontaneously conceived children. However, infertility itself has been associated with adverse perinatal outcome. Sibling studies comparing one singleton born after ART and one singleton born after spontaneous conception suggest that the aetiology behind the adverse outcome in ART conceptions is multifactorial, and related both to ART and the characteristics of the infertile couple. The use of different ART techniques may influence the results; while ICSI does not appear to increase adverse perinatal risks, OD may increase the risk of PTB and LBW when compared to standard IVF. Furthermore, FET may entail lower risks of PTB, LBW and SGA than fresh IVF. Significantly, the overall outcome for children born after ART has improved over time. Since new treatments are constantly being introduced, further research and long-term follow up of children born after ART is crucial for its safe practice.

**S031.3 PROTECTING FERTILITY IN GIRLS AND YOUNG WOMEN**

R.A. Anderson, United Kingdom

Chemotherapy and radiotherapy can both cause ovarian failure, and radiotherapy can also damage the uterus increasing the risk of miscarriage and premature delivery. There is now rapidly increasing activity in how the effects of chemotherapy might be mitigated, with developments in ovarian tissue, oocyte and embryo cryopreservation. The prepubertal reproductive system is also sensitive to these effects, although age, with treatment regimen, are important determinants of the degree of effect.

Issues to be addressed in fertility preservation include accurate identification of who is at risk. This involves identification of patient-specific issues, such as the potential impact of her ovarian reserve, and extrinsic factors, particularly the treatment she will be receiving, and what fertility preservation techniques are in reality available to her. Pre-chemotherapy ovarian reserve biomarkers appear predictive of post-chemo ovarian activity in women with breast cancer, with age an important co-variante. We have also developed criteria to aid selection of offering ovarian tissue cryopreservation to children and adolescents, which remains an invasive and experimental procedure in these patients. Analysis of this over a 15 year period, including all patients referred to a regional children’s cancer centre over that period, shows that those at highest risk of POI can be identified and offered ovarian cryopreservation safely.

**S031.4 WORLDWIDE EFFORTS TO REDUCE MULTIPLE GESTATIONS IN ART**

A. Yuzpe, Co-Director Olive Fertility Centre, Vancouver BC, Canada

Multiple gestations are considered a complication of ART due to the associated increased in maternal and fetal morbidity and mortality. In discussing reduction of multiple gestations, one must remember that the term ART includes a range of technologies from the empiric use of various drugs (clomiphene, letrozole, FSH) for superovulation with or without IUI to IVF. With superovulation, little can be done short of employing minimal stimulation protocols and avoiding triggering ovulation when the mature follicle number is greater than three. Much greater control is possible with IVF since the multiple risk increases with the number of embryos replaced.

Elective single embryo transfer (sSET) has had the greatest single impact on multiple pregnancy reduction. Acceptance of eSET varies from country to country and is directly related to government funding of treatment. Funding, in turn, can be linked to regulation of the number of embryos replaced. When patients pay for treatment they want to dictate the number of embryos replaced since they believe that the more embryos replaced, the higher the pregnancy rate. Patient education regarding the benefits of having one baby at a time, improvement in embryo culture techniques and selecting the best embryo for transfer using morphokinetics and screening embryos for aneuploidy have all been effective in reducing the risk of multiple gestation associated with ART by allowing for fewer embryos to be replaced.
S034. Minimally Invasive Management in the East

S034.1 ROLE OF Hysteroscopy in the Treatment of Intrauterine Lesions

J.-H. Yang, National Taiwan University Hospital, Taiwan

Intrauterine lesions might result in abnormal uterine bleeding, postmenopausal bleeding, menorrhagia, female infertility, and miscarriage. They generally include endometrial polyp, submucous myoma, retained gestational tissue or placenta, endometrial hyperplasia, endometrial cancer, intrauterine adhesion, septate uterus, Cesarean delivery scar defect, and intrauterine foreign bodies. Diagnostic hysteroscopy is able to observe the uterine cavity at outpatient clinics. It is safe and accurate, provides immediate results under direct visualization, and the discomfort of patients is minimum. Office hysteroscopy now comes in either a flexible or rigid unit with a diameter around 3–4 mm. Hysteroscopic examination can be done after the distention of uterine cavity with normal saline or glucose water.

After diagnosis of the above-mentioned intrauterine lesions, operative hysteroscopy is employed to remove them under anesthesia. Merits of hysteroscopic surgeries include: no abdominal incision wound, short operation time, less painful, quick recovery, short interval for subsequent conception, etc. However, not every intrauterine lesion can be treated with hysteroscopic surgeries, and case selection before surgery is important.

S034.2 Integrated Strategy for Fertility in Laparoscopic Treatment of Endometriosis

Y. Osuga, Obstetrics and Gynecology, the University of Tokyo, Japan

Endometriosis is an enigmatic disease that severely deteriorates women’s health. Endometriosis causes infertility as well as pain, 30–50% of endometriotic women being associated with infertility. Mechanisms inducing infertility are various, including anatomical distortion, local inflammation, and endocrine disruption. In general, infertility of endometriotic women are treated with laparoscopic surgery, controlled ovarian hyperstimulation and IUI, and/or IVF–ET. A meta-analysis showed that pregnancy rates by IVF–ET are a little lower in endometriotic women than in control women, whereas another study showed them equivalent. Recently, it has been controversial how to treat endometrioma (ovarian chocolate cyst) in infertile women. Endometrioma by itself exacerbates the ovarian function whereas surgical excision of endometrioma also exacerbates the ovarian function. Meanwhile, presence of endometrioma is a risk factor for ovarian abscess and contamination of aspirated oocytes. Endometrioma in aged women has high odds ratio to develop ovarian cancer. Faced with these dilemma, management of endometrioma have to be developed according to backgrounds of individual patients. Generally, large endometrioma of unmarried young women tends to be treated by laparoscopic excision. However, the recurrence rate is very high. We reported that a post-operative treatment with an oral contraceptive pill suppressed the recurrence rate remarkably. In this era, a patient-oriented combination of laparoscopic surgery, medical treatment, and ART would sustain fertility of women with endometriosis.

S034.3 Quality-Initiated Laparoscopic Hysterectomy: A Series Analytic Review of Peri-Operative Outcomes

W.-C. Chang, China Medical University Hospital, Taichung, Taiwan

Laparoscopic-assisted vaginal hysterectomy (LAVH) was introduced at our hospital in 1993 and a clinical pathway for LAVH started in January 1998. More than 3600 women have undergone LAVH in this hospital since its introduction. Because of the goal of quality-initiated LAVH, our team implemented series clinical prospective or retrospective studies to solve the following questions about clinical outcomes of LAVH and improved the quality.

Does physician experience affect costs and clinical outcomes in LAVH? What is the impact of LAVH clinical pathway on costs and quality of care? Does physician experience affect outpatient medical care utilization after LAVH? Does pelvic adhesion affect LAVH outcome? Is the time of day in which LAVH performed have a detrimental effect on outcomes? Is single dose of cefazoline cost-effective in the prevention of infection associated with LAVH? What are the risk factors for postoperative pelvic cellulitis after LAVH?

We find that physician experience and clinical pathway reduce medical costs and maintain the quality of care. Single dose of cefazoline is more cost-effective than multiple doses in the prevention of infection associated with LAVH. Pelvic adhesion significantly prolongs the operating time and length of hospital stay, but does not increase the complication rate. The time of day in which LAVHs were performed does not have a detrimental effect on outcome. The risk factors for postoperative pelvic cellulitis are systemic disease, pelvic adhesion and prolonged hospital stay.

S034.5 Fertility-Sparing Surgery for Cervical Cancer: Laparoscopic Radical Trachelectomy

H. Kano, N. Takeshima, Cancer Institute Hospital, Tokyo, Japan

The incidence of cervical cancer among young women has increased and many women are starting families much later in life. Therefore fertility preservation therapy for cervical cancer has received a great deal of attention. Since Dargent performed vaginal radical trachelectomy (VRT) and laparoscopic pelvic lymphadenectomy in 1986, VRT had been an effective treatment as a fertility preservation therapy for cervical cancer. However this procedure yields insufficient resection of cardinal ligament because the candidates of this procedure are nulliparous women, whose vaginal spaces are quite small. To overcome this problem, Smith reported abdominal radical trachelectomy (ART), and this procedure has been a standard treatment instead of VRT. ART require a large abdominal incision, which causes adhesion around the preserved uterus and fallopian tube, therefore successful pregnancy rate after ART tends to be low. To reduce the chance of adhesion and to increase the pregnancy rate after radical trachelectomy, we introduced laparoscopic techniques. However, the technique of laparoscopic radical trachelectomy (LRT) is challenging at the point that the cardinal ligament should be transected sufficiently (Type III procedure) under the preservation of uterine artery and round ligament.

In this presentation, we especially focus on the technical tips of LRT, explain them using the surgical video and introduce some outcomes of our LRT.

S035. New Developments in European Obstetrical and Gynaecological Practice

S035.3 Standards of Care to Improve Outcomes in Clinical Practice in Europe

T.A. Mahmood, Consultant Obstetrician & Gynaecologist, Victoria Hospital, Kirkcaldy/Clinical Senior lecture University of St. Andrews, Scotland, United Kingdom, President European Board and College of Obstetrics and Gynaecology

WHO, European Parliament reports and research documents have
clearly demonstrated that there remains a huge variation in standards of care in obstetrics and gynaecology within European countries as maternal mortality rates varies between 2/100,000 births to 200/100,000 births. There is also a huge variation in the rate of induction of labour (12–35%), caesarean section rates (15–48%), and perinatal mortality rates (2/1000–8/1000 births). There is also variation in the rates of multiple pregnancies (1.2/100–6/100 births) which is an indirect evidence of poorly controlled assisted conception treatments within Europe. Of concern is the poor provision and access to services related to sexual health, fertility control and of contraception. There remain huge gaps in the provision of quality assured treatment for benign and malignant conditions as well, as the mortality varies hugely across the member states. Such variation in care still persists, despite the publications of a large number of guidelines and protocols available in various formats throughout European countries. Most of these variations may be due to lack of adherence to high quality standards which have a direct bearing on delivery of these services. The European Board and College of Obstetrics and Gynaecology have taken the first step in addressing this variation by producing unified standards of care, both for obstetrics and in gynaecology. These standards of care provide guidance on how service providers should deliver high quality care, how they can benchmark their performance against the best, and above all how to address deficiencies in their services such as complication rates, poor patient satisfaction and improved quality of care. We are also working closely with EU Commissioner to promote European networks in all key areas of women’s health services. In order to sustain high quality care, we are also promoting European wide high quality standards of training for the future generation of specialists. This presentation provides an overview of these futuristic strategies.

**S036. New FIGO Guidelines for Intrapartum Fetal Monitoring**

**S036.1 INTRODUCTION AND PHYSIOLOGY OF FETAL OXYGENATION**

D. Ayres-de-Campos, Portugal

Intrapartum fetal hypoxia/acidosis still accounts for a high percentage of perinatal deaths and long-term neurological sequelae. In 1987, FIGO published its “guidelines for the use of fetal monitoring”, an important landmark in this field, because they constituted the first and so far unique international consensus effort on essential aspects, such as terminology, indications, acquisition techniques, and interpretation. However, with the passage of time the document has naturally become outdated. The “2015 revised FIGO guidelines on intrapartum fetal monitoring” will be presented for the first time in this session, an initiative promoted by FIGO’s Safe Motherhood and Newborn Health committee. The purpose of these guidelines is to update and expand the scope of the existing ones, in order to include all currently available methods of intrapartum fetal monitoring, and using a language that is accessible to all healthcare professionals, independently of their previous expertise in the subject.

The presentation will focus on one of the chapters of the guidelines dedicated to the physiology of fetal oxygenation, touching on the importance of oxygen supply to the fetus, how to document fetal hypoxia/acidosis, the main goals of intrapartum fetal monitoring, and the intrapartum events that lead to fetal hypoxia/acidosis. Attention will be brought to the main aim of any intrapartum fetal monitoring technology: the timely identification of fetuses that are being inadequately oxygenated, in order to enable appropriate action before the occurrence of injury: while at the same time to provide reassurance on adequate fetal oxygenation so as to avoid unnecessary obstetric interventions.

**S037. The ESHRE/FIGO Ethics in Reproduction: Tackling Tough Decisions for Women’s Reproductive Health for Every Age and around the Globe**

**S037.1 PRECONCEPTION SCREENING: NEW AND OLD ETHICAL CONSIDERATIONS**

W. Dondorp, The Netherlands

Carrier screening is the systematic offer of a genetic test for carrier status of one or more recessive disorders to individuals or couples who may want to use that information for reproductive decision-making. Carrier screening can be offered as a form of prenatal screening, but also preconceptionally (or both). A primary issue is the aim of the practice. Whether this is understood in terms of reducing the birth prevalence of serious disorders (“prevention”), or as enabling autonomous reproductive choices (“autonomy”) has important implications for how programmes should be set up, conducted and evaluated. For instance, whereas the autonomy aim favours preconception over prenatal and individual over couple screening, these distinctions are of secondary relevance from a prevention perspective. The main concern with prevention is the risk of subtle pressure upon individuals or couples to align their reproductive choices with collective goals. Further “old” ethical issues pertain to the quality of the test offer including information, counselling and follow up, ways to reach the target population, measures to avoid risks of stigmatisation and discrimination, false reassurance (no guarantee of a healthy child), etc. In addition, new ethical issues arise with the use of expanded panels also including relatively mild conditions and the prospect of further expansion towards next generation sequencing based pan-ethnic carrier screening for hundreds of recessive conditions. What should the scope of this screening be? How to deal with the information challenge? How to protect people from making reproductive decisions based on poorly understood or uncertain information?

**S037.2 EMBRYO DISPOSITION IN ART, THE ETHICAL WAY**

V. Provoost, Belgium

Embryo cryopreservation improves patients’ chances of becoming pregnant and it helps to avoid complications, such as multiple pregnancies. However, it also gives rise to a set of new decisions to be made by the patients: whether and when to use the embryos for further treatment, and if not: whether to continue storage, to donate for science or to others for reproductive use, or to discard the embryos. To enable patient’s autonomous decision-making, professionals provide information about the embryo, the cryopreservation, the thawing process and the disposition options. In order for a choice to be truly autonomous, it should also be in line with the patient’s values and principles. In relation to embryo disposition decision-making, we might presume that these values and principles relate to either the embryo (moral status) or the disposition option (e.g. embryo research). A growing number of empirical studies exploring the attitudes and choices of patients, however, have contested this view: for instance when patients who attach a high moral status to their embryos prefer to discard them or when patients who object embryos prefer to discard them or when patients who object embryos for instance when patients who attach a high moral status to their embryos prefer to discard them or when patients who object embryos prefer to discard them or when patients who attach a high moral status to their embryos prefer to discard them or when patients who object embryos prefer to discard them. Disputes about embryos, thinking that they have an “expiry date” comparable to frozen meat. Misconceptions like these challenge informed decision-making.

Based on the increasing insight in patients’ embryo disposition decisions, this presentation will go into these challenges as well as discuss suggestions for clinical practice.
The United Nations States that around 16 million girls aged 15–19, one million girls aged under 15 give birth every year and around 3 million girls aged 15–19 undergo unsafe abortions every year. Adolescent pregnancies are more likely to occur in poor, uneducated and underprivileged girls. Those happening outside marriage lead to immense social pressures for a forced adolescent marriage or unsafe abortion. This further compounds the problem, as the girl is unable to complete her education, resulting in poor skills and lesser opportunities to earn a living. Early sexual activity, early marriages, sexual abuse, together with non-existent sexual and reproductive health education, inaccessible or unaffordable health care are the usual culprits. There is a lot more to adolescent pregnancies like unwanted sex, rape, coerced sex and domestic violence. Unsafe abortions, needless to say, brew from such social circumstances and contribute to maternal morbidity and mortality.

The complications of an adolescent pregnancy due to biological immaturity include poor obstetric outcomes like low birth weight, still births, maternal and infant mortality and morbidity. When an adolescent gets pregnant outside of marriage many ethical challenges arise. She may approach a gynecologist for termination of pregnancy without the consent of her parents/guardians. The ethical challenge is to offer her assistance with a safe abortion without parental consent so as to maintain confidentiality. The issues which arise are:

- At what age is it alright not to inform parents
- If there is a complication during the procedure would there be legal implications?
- Will it be ethically correct to inform her parents if the doctor feels that she is behaving irresponsibly or is being sexually abused and could have serious health problems in future?

These are some of the issues which will be discussed during this session and answers sought based on sound ethical principles.

Mifepristone is an antiprogestin which blocks the action of progesterone at the receptor level. Because of the importance of progesterone in maintaining the pregnancy, mifepristone was used for termination of pregnancy but the complete abortion rate is only around 60%. Subsequently it was found that mifepristone can sensitize the uterine muscles to the action of prostaglandins, and the sequential administration of mifepristone followed by a prostaglandin 36 to 48 hours later became the regimen of choice. The manufacturer of mifepristone recommended that 600 mg of mifepristone should be used for termination of pregnancy. However, clinical studies have shown that 200 mg is as effective as 600 mg when the mifepristone is used with misoprostol for induced abortion. The interval between the administration of mifepristone and misoprostol can also be 1, 2 or 3 days without affecting the success rates of medical abortion. Misoprostol is a prostaglandin E1 analogue. It is the prostaglandin of choice for induced abortion because it is cheap, stable at room temperature, and effective after administration by various routes. Pharmacokinetic studies showed that after sublingual administration, misoprostol was absorbed most rapidly and the peak serum concentration and the area under the time-concentration curve were higher than those after vaginal or oral administration. The combination of mifepristone and misoprostol can be used for both first and second trimesters but repeated doses of misoprostol are usually required after 9 weeks gestation. The acceptability of medical abortion also falls with increase in gestational age.
cavity and can reduce complications. For women undergoing a first trimester surgical abortion, 400mg of misoprostol given by the sublingual route, one hour prior to aspiration is as effective as longer durations of treatment when administered vaginally, which may facilitate service delivery. Complications of safe surgical abortion are uncommon but are related to skill of the surgeon and increase with gestation. Antibiotic prophylaxis at abortion reduces infective morbidity. In the mid trimester, women may prefer surgical to medical abortion, although choice of this method is limited by the availability of skilled surgeons to conduct dilation and evacuation (D&E) at advanced gestations. For women wishing to use the most effective long acting reversible methods of contraception (LARC; intrauterine contraception and implants), these can be inserted immediately after surgical abortion. Women who choose LARC at abortion have a significantly reduced risk of a further abortion within the next few years compared to women choosing other methods. Future studies should focus on determining optimal pain management, antibiotic prophylaxis regimens, and preparations for cervical pretreatment before D&E.

SO40.4
POST-ABORTION COUNSELLING AND CONTRACEPTION
A. Faúndes, Brazil

Women admitted for a legal termination of pregnancy or with complications of induced abortion are expressing with their behavior that they are firmly determine not to have a baby in the near future. Thus, they are at high risk of having a new abortion if they get pregnant soon after. Consequently, one of the most effective ways to reduce induce abortions, which will be mostly unsafe in countries with restrictive laws, is to provide family planning counseling and effective contraception immediately after abortion. Experience have shown that post abortion contraception is highly effective in reducing repeated abortion if provided before the woman leaves the health facility where she was treated for abortion, and the contraceptive chosen is a long acting reversible or permanent contraceptives. If the woman is referred to a family planning clinic in another site the chances of using the selected method is significantly reduced and the probability of unintended pregnancy within the 12 months after the abortion are increased. On the other hand, studies have shown that users of IUD, IUS or implants have a significantly longer continuation rate, a far lower risk of pregnancy and of having a repeated abortion than those who choose a short acting method such as pill, patch or vaginal rings, and even injections. The challenge is to provide the contraceptives at no cost, to have well trained and motivated providers and organize the health units to have the contraceptives at hand in the same place where women received abortion related treatment.

SO41. The Global Perinatal Package for Growth & Development in the 21st Century. Translating the INTERGROWTH-21st Project into Clinical Practice
S. Kennedy, J. Hirst, on behalf of the International Fetal and Newborn Growth Consortium for the 21st Century (INTERGROWTH-21st). Nuffield Department of Obstetrics & Gynaecology, University of Oxford, Oxford University Hospitals NHS Trust and the Oxford Maternal & Perinatal Health Institute, Green Templeton College, University of Oxford, Oxford, United Kingdom

The findings of the INTERGROWTH-21st Project represent an important paradigm shift in our understanding of human growth and development demonstrating that a universal pattern of healthy growth exists from the first trimester of pregnancy until 5 years of age. The INTERGROWTH-21st Consortium have now published international Standards describing optimal gestational age assessment, fetal growth, preterm postnatal growth and newborn size at birth as well as new phenotypic approaches to fetal growth problems and preterm birth (available at intergrowth21.org). Given the scientific rigour and scale of the INTERGROWTH-21st Project, it is anticipated that the new standards and phenotypes will be widely adopted. However, with vested interests and strongly held views regarding the influence of ethnicity on fetal growth, barriers to adoption are anticipated. The challenge will be to reach a consensus on how to evaluate fetuses and newborns so as to: (i) detect individual babies at risk of adverse short- and long-term outcomes and (ii) identify women and populations where action on nutrition, health care and social equity are most needed. The INTERGROWTH-21st Standards provide a robust, universal toolkit developed to meet both these needs. The colour of a woman’s skin plays no role in determining the variation in growth compared to social conditions, health and nutritional state. Adjusting growth expectations for ethnicity has no biological basis and risks normalising sub-optimal growth in disadvantaged groups. Failure to appreciate the effects of poor or excessive nutrition in utero will have lifelong implications for the health of the child and wellbeing of society.

SO43. Cervix Adenocarcinoma

SO43.1
CERVIX ADENOCARCINOMA: EPIDEMIOLOGY AND RISK FACTORS
C. Gay, N. Bourgon, M. Courjon, M. Malincenco. Department of Gynaecology, Belfort Hospital, France; French Society of Colposcopy

Introduction: With 528,000 new cases worldwide in 2012 and 26,600 deaths, cervical cancer is the fourth female cancer and the fifth cause of death by cancer in women with many variations in the world. Most cancers of the uterine are squamous cell carcinoma (SCC) and adenocarcinoma (AC) with classical mucinous AC, mesonephric AC and metastasis represent 15 to 20% of these cervical cancers. Subjects and methods: We performed a PubMed search with the following keywords: “risk factor”, “epidemiology” and “cervix adenocarcinoma”. Results: The worldwide incidence of cervical cancer has been decreasing since the 80s. SCC although still majority fell while AC increased in many countries. Classical cervical AC shows a high HPV positivity (72%), while other types have lower HPV prevalence (8 to 27%). Three HPV genotypes 16, 18, 45 dominate in all AC. HPV type prevalence depend on geographical region and patient age. Diethylstilbestrol exposure increases the risk of clear cell AC. Unlike SCC, obesity increases the risk of AC. Ever use of oral contraception was associated with twice as great a risk of AC. The highest risk was observed for long time oral contraceptive use, multiple sexual partners and early first pregnancy. There is no association between smoking, HIV, trachomatis infection and AC. Several genetic polymorphisms have recently been identified as risk factor. Conclusion: The incidence of AC has risen in recent years. Even main risk factors are known (especially HPV infection), even prognostic value of cytology is less for AC than for SCC, screening and vaccination could inhibit a large proportion of such tumors.

SO43.4
TREATMENT OF CERVICAL ADENOCARCINOMA IN SITU
J.-J. Baldauf, C. Akladios. Strasbourg University Hospital, France

Cervical adenocarcinoma in situ (AIS) is a rare condition those potential progression towards invasive adenocarcinoma justifies an effective treatment while the young age of the patient who often desire fertility preservation needs a conservative management. Owing to
specifc histopathological characteristics, therapeutic strategies remain controversial.
Recent studies showed that the probability of positive resection margins depends more on preoperative knowledge of the glandular pathology and the diagnostic or therapeutic design of the procedure than on the method of cone biopsy. In case of negative margins residual AIS and invasive cancer are present on respectively 20% and in less than 1% of second excision performed immediately. These residual lesions are reported even when intra-operative endocervical curettage was negative. When margins are positive, residual lesions are encountered in nearly 55% of cases. Eight to 20% of which correspond to invasive adenocarcinoma.
The follow up of patients after conisation for AIS allows the diagnosis of residual or recurrent lesions in about 6% of cases when margins were negative and 21% when they were positive with a risk of invasive cancer varying between 1 and 2%. These high frequencies together with the relatively low sensitivity of postoperative monitoring modalities: cytology, HPV testing, colposcopy, directed biopsy or endocervical curettage, justify the proposal of hysterectomy in absence of further desire of pregnancy. Conservative treatment could hence be accepted only in patients who present a desire of pregnancy, in case of a limited lesion with negative margins at conisation as well as a possibility of regular monitoring.

S044. Key Reproductive Health Concerns in Africa

S044.1 SOCIAL CONSTRUCT AFFECTING WOMEN REPRODUCTIVE HEALTH AND RIGHTS IN AFRICA
M. Mandara, Nigeria
Women in Africa have for a long time been represented in more mysterious ways than any other group that I am aware of. While on the one hand, people see African women as hopeless and bearing a lot of unhappiness as a result of the burden of poverty, disease and labour, others glamorize them as strong sensual objects and yet those who know the history, culture and context of these subset of humans see them as powerful with a lot of potential. Interestingly, this lack of understanding is found across board from non-African males and females, African men, educated African women and the African women themselves with each group having their narratives based on the unique lens they choose to see the African Woman.
Regardless of the narrative one chooses to proffer, or even promote, the one constant in all the narratives is the central role of the African Women's Reproductive role and the power or lack of it entrenched in this role. The paper on social construct affecting women's reproductive health and right is an attempt by a woman who grew up sorely in traditional Africa, gone through Western system of schooling and had the opportunity to serve same African women as and OB/GYN with the rare opportunity to hear their perspectives. This paper reviews what we know from medical data on women's reproductive health, social and anthropological analysis as well as live experiences of how culture and religion affects the African Women's Reproductive Health including how African women make their choices within the matrix they find themselves.

S044.3 INTIMATE PARTNER VIOLENCE IN KENYA: AN OVERVIEW OF RESPONSES AT KENYATTA NATIONAL HOSPITAL
M. Makanyengo 1, R.J. Kosgei 2, N. Haberland 3, S. Kalibala 4, C. Ndwiga 3, C.-C. Undie 3, 1Kenyatta National Hospital, Nairobi, Kenya; 2University of Nairobi, Department of Obstetrics and Gynecology; 3Population Council; 4HIVCore/Population Council
Intimate partner violence (IPV) is the most common form of violence against women world-wide, and the prevalence of physical and/or sexual IPV among ever-partnered women is highest in the African region (37%). In Kenya, about half of ever-married women (47%) reported experiencing some kind of IPV (physical, sexual, or emotional) in the last 12 months. Various negative physical and mental health consequences are associated with IPV. Among pregnant women, associations have been made between IPV and poor physical health outcomes, including increased sexual transmitted infections, pre-term labor, and low birth-weight infants. Although IPV is more common during pregnancy than some maternal health conditions routinely screened for in antenatal care, responses to the issue have only recently become a focus of attention in sub-Saharan Africa.
This presentation provides a synopsis of IPV response strategies by Kenyatta National Hospital (KNH) – the oldest, largest, public referral, teaching, and research hospital in the East and Central African region. The presentation shares findings from studies conducted by KNH and its partners from 2011 to date to address IPV among female clients. These studies include 1) an assessment of provider and patient acceptability and feasibility of routine screening for IPV in antenatal care and other settings; and 2) an evaluation of a pilot approach to HIV testing and counseling that addresses IPV in the context of antenatal care. Current efforts to institutionalize these pilot IPV interventions within KNH will also be highlighted.

S044.4 REPOSITIONING FAMILY PLANNING IN KENYA TOWARDS IMPROVED REPRODUCTIVE HEALTH OUTCOMES: LESSONS LEARNED
G. Ndirangu, Kenya
Background: Kenya has purposed to improve the socioeconomic and health status of its citizenry as outlined in the Vision 2030 blueprint. One strategy has been to manage its rapid population growth to keep it in tandem with socioeconomic development.
Method: A multi-prong approach has brought together state and non-state actors in the health and non-health sectors to accelerate implementation of high impact FP interventions, resulting in improved FP commodity security; strengthened health systems; improved method mix; increased demand for services through multiple channels; expanded access to services including use of community based distribution of commodities; use of the mobile platform to provide information; and use of other contextually and culturally appropriate innovative interventions for populations with high unmet needs. These interventions have taken advantage of a clear policy direction, multiple level advocacy, and strong partner support leading to accelerated implementation of high impact FP interventions.
Results: There has been a steady rise in CPR from 27% in 1989 to 58% in 2014. Between 2009 and 2014, CPR has risen sharply from 46% to 58% for all methods and from 39% to 53% for modern methods. This has been accompanied by a decline in total fertility rate from 4.6 to 3.9 per woman over the same time period.
Conclusion: While the current CPR is still lower than the MDG target of 70% by December 2015, an enabling political engagement, good policy environment, strong partner support and increased demand for FP services have contributed to significant improvement in CPR in Kenya.

S044.5 EBOLA IN PREGNANCY: WHAT WE KNOW AND WHAT TO DO
B. Dao, W. Shasha, C. Ruparelia, Jhpiego, 1615 Thames Street, Baltimore, MD, United States of America
Ebola Viral Disease (EVD) is among the family of hemorrhagic fever diseases which also include Marburg fever. Since the first outbreak in 1976 in DRC (then Zaire), there has been more than 20 outbreaks so
far. The current West Africa outbreak seems to affect women more than men. Available data suggest the negative impact of the EVD on pregnancy with high maternal and newborn mortality rates. Affected countries have also seen the destruction of any gains made in recent years in reproductive, maternal, newborn and child health. Management of EVD infected pregnant and post-partum women is still challenging. For the safety of healthcare workers current recommendations call for interventions during pregnancy, labor and childbirth and in the postpartum period to be kept to the minimum. Faced with the lack of an effective cure and vaccine for EVD strengthening infection preventions and control in health care settings including RMNCH services is the most effective intervention.

S046. PAG Pearls: Tips for the Clinician in Pediatric and Adolescent Gynecology

S046.1 JUST THE SAME BUT DIFFERENT: RECOGNIZING AND TREATING THE ADOLESCENT PAG PROBLEM VERSUS THE ADULT

D. Bauman, Hadassah-Hebrew University Medical Center, Ein Kerem, Jerusalem, Israel

Pediatric and adolescent gynecology is a unique subspecialty of gynecology that encompasses reproductive health care of girls and young women under the age of 22 years. The spectrum of gynecologic problems that a physician might encounter in young girls is age specific and involves different skills than those applied for adults. This talk will concentrate on some recognized disorders prevalent in adult women and as in adolescent girls, emphasizing the different approach for each, including coverage of:

- Vulvovaginitis, one of the main reasons for gynecological visit among women of all ages. Candida species happens to be the etiologic factor in 45% of postpubertal females, while it is the cause in less than 1% of prepubertal girls, therefore, trying to use antifungal preparations in this age group will be inefficient.
- Polycystic ovary syndrome (PCOS) – prevalent hormonal disorder among young women (8%). The pathophysiologic mechanism involves insulin resistance and high androgens level. Those deviations are known to be part of normal pubertal process. Applying the diagnostic criteria for adult PCOS, will erroneously lead to overdiagnosis (20%) in adolescent girls.
- Endometriosis – a serious disease, starting in the teenage years with a progressive course, leading to infertility and, in some girls, intolerable pelvic pain. The atypical symptom in adolescents of acyclic pain without classical dysmenorrhea (28%) makes it diagnostically challenging. Even at laparoscopy, the different endometriotic lesions might lead to underdiagnosis. During the presentation, more examples will be discussed, focusing on prevalent gynecological disorders requiring a specialized approach in the young girl.

S046.2 BLEEDERS AND CLOTTERS, OR VAGINAL BLEEDING IN THE ADOLESCENT: DIAGNOSIS AND SOLUTIONS

E. Rome, Adolescent Medicine at Cleveland Clinic Children’s Hospital, President of FIGIJ, President of NASPAG, United States of America

Building on the notion that presentations in girls and adolescents may differ from what occurs in adult women, this session will talk about problems of excessive bleeding and clotting in the adolescent girl. At the end of the session, participants will be able to:

- Recognize/identify the adolescent with heavy periods with an underlying bleeding disorder.
- Describe appropriate menorrhagia treatments for youth with bleeding disorders.
- Identify relevant PAG Clinical Practice Guidelines and resources in this area.
- Discuss the utility of a multidisciplinary team approach.

S046.3 CUTTING THROUGH COSMETIC LABIOPLASTY

P. Wood, Kettering General Hospital, Rothwell Road, Kettering, Northamptonshire, United Kingdom

As the demand for female genital cosmetic surgery increases globally it is appropriate to consider the implications of cosmetic labiaplasty and in particular its role in adolescent clinical practice. The increased demand for surgical reduction of the labia does not reflect an increase in recognized labial pathology, and the likely factors contributing to this rise in requests will be explored. This talk will define the structure and function of the labia minora and consider the concept of labial hypertrophy, the commonest reason given for labial resection surgery. By the end of this presentation the attendee should be able to recognize normal development and structure of the labia minora as well as appreciating their function. The importance of education of clinicians, family members and adolescents will be stressed and novel ways to appreciate normality will be demonstrated. Approaches to management of requests for cosmetic labiaplasty will be described with special reference to the adolescent population. Surgical techniques, consequences of surgery and complications of labiaplasty will be presented as will be references to current legislation and advice for best practice. The need to consider the implications of a request for labiaplasty in the adolescent will be highlighted along with current best practice recommendations, so that by the end of the presentation the attendee should be able to manage a request for labiaplasty in an adolescent.

S048. When the Uterus is Missing

S048.4 BIOENGINEERED UTERUS AND ENDOMETRIAL RECONSTRUCTION BY STEM CELLS

C. Simón, Fundación Instituto Valenciano de Infertilidad (FIVI); Instituto Universitario IVI/INCLIVA, Valencia University, Spain; Department of Obstetrics and Gynecology, School of Medicine, Stanford University, United States of America

Regenerative Medicine is one of the most promising areas of the Translational Medicine today. This new concept is based on the ability to replace and reconstruct human tissues or organs with the aim to restore physiological function. Gynecological and Reproductive Sciences are particularly interested in the maintenance, reconstruction and preservation of a functional uterus based on bioengineering approaches and stem cell therapies. In this context, numerous works have recently described the reconstruction and bioengineering of uterus and others related organs in animal and human models (Miyazaki et al., 2014, Biomaterials; Hellström et al., 2014, Acta Biomater; Raya-Rivera et al., 2014, The Lancet). Our group is now starting new approaches based on the perfusion system in a bioreactor for in vitro maintenance and decellularization processes in human and pig uterus. Moreover, the endometrial regeneration is mediated by the existence of tissue specific resident stem cells identified during the last years (Cervelló et al., 2010, PLoS One; Masuda et al., 2010, PLoS One). The key role of the bone marrow, in the reconstitution of the human endometrium, like a reservoir of stem and progenitor cells was demonstrated by multiple groups. We describe here the first instance of stem cell therapy specifically targeting the endometrial stem cell niche in Asher-
man’s syndrome (AS) and endometrial atrophy (EA). Both incurable conditions result in menstruation disorders and infertility. We assessed an autologous cell therapy using CD133+ bone marrow derived stem cells (BMDSc) in 11 patients with refractory AS and 5 with EA.

S049. Strategies to Reduce Maternal Morbidity and Mortality in Ecuador

S049.3 STRATEGIES TO REDUCE MATERNAL MORBIDITY AND MORTALITY IN ECUADOR


The year 2013 in Ecuador 155 mother deaths happened, which establishes a Rate of Mother Mortality (TMM) of 46.6 for 100,000 born alive (INEC 2013), that still it is raised compared by that of other countries inclusive Latin-American. This reality worsens on having observed in the trends demographic of the country, that the population of minors to 18 years comes to 45%, group in which the number of pregnancies and births is major (19.9%). They have identified as more frequent reasons of mother mortality to the hypertensive disorders of the pregnancy and the infections after the childbirth.

From the year 90 the TMM it got down 23% less to the observed one to the beginning of this decade, for lamentably in the years 2008-2011 to present a recovery of 18%, and though again the rate descended in the following years of 70% to 46.6% did not allow to expire in 2013 with the aim of 35% of TMM established in the National Plan of the Good one To live and the agenda of International Organizations.

The Strategy of Obstetric Care and Neonatal Esencial (CONE) who tries integrated and constant services to the mother during the pregnancy, childbirth and puerperio as well as to newly born/born up to 28 days of life, during 12 p.m. from the day, 365 days to the year, it has been implemented by the Department of Public Health of the Ecuador (MSP) to deduce the TMM, there being projected that for it has been implemented by the Department of Public Health of the Ecuador (MSP) to deduce the TMM, there being projected that for it has been implemented by the Department of Public Health of the Ecuador (MSP) to deduce the TMM, there being projected that for

S050. Hands-on Session: Breast Diagnostics

S. Becker1, M. Hahn2, M. P. Lux3, R. Schul-Wendtland4. 1Klinik für Frauenheilkunde und Geburtshilfe, Universitäts-Frauenklinik Frankfurt, Frankfurt; 2Universitäts-Frauenklinik Tübingen, Tübingen; 3Frauenklinik, Universitätsklinikum Erlangen, CCC Erlangen-EMN, Erlangen; 4Radiologisches Institut/Gynäkologische Radiologie, Universitätsklinikum Erlangen, CCC Erlangen-EMN, Erlangen, Germany

Breast cancer is the most common malignancy in women in the western world and therefore the most frequent cause of death among all malignancies. Regarding Germany. 71,660 women are diagnosed with breast cancer per year. Taking into account the mortality of 17,209 women per year and the implementation of a 10-year follow-up, there are currently more than half a million women in Germany in follow up. In the German system, the gynecologist is the primary physician for breast diseases cooperating with pathologists in multi-disciplinary breast disease centers. Unfortunately so far breast cancer has no special focus in the FIGO although it is a typical female disease. Therefore it is important that especially gynecologists are trained in breast disease. The understanding of basic diagnostics of the breast is essential. Hands-on-sessions can focus on breast imaging, ultrasound and mammography as well as biopsy techniques in a practical way. Screening strategies can be discussed and explained using clinical cases. Moreover, participants have the chance to learn an easy way of performing a core needle biopsy using phantoms and ultrasound machines.

S055. Abortion Access and Quality

A. Edelman1, M. Thapa Upadhayay2, P. Aboagye3. 1Oregon Health and Science University; 2Nepal Government Service, Ministry Of Health and Population; 3Reproductive and Child Health Department, Family Health Division, Ghana Health Service

Improving abortion care requires access to high quality services and timely incorporation of evidence into practice. This panel will demonstrate how access, quality and evidence are linked and lead to improved health outcomes for women.

S057. Gynaecological Cancers and Health Economics

S057.3 ESTABLISHING A CERVICAL CANCER PREVENTION SERVICE IN BOTSWANA

D. Ramogola-Masire, Botswana

Establishing a cervical cancer prevention program, whatever the screening modality, requires adequate resource allocation as well as political will. The government of Botswana has recognized the magnitude of the national health crisis caused by cervical cancer, and its prevention is included in the country’s health agenda. The key stakeholders involved in the development of the program have tried to understand resource requirements at multiple levels, followed by pragmatic planning of how and when to implement various pieces of the system.

The country developed its first five year comprehensive cervical cancer prevention strategy in 2012. This called for dual use of the existing cytology-based screening and the new visual inspection with acetic acid (VIA) method. The foundation of the prevention program was built by leveraging donor funds and developmental partners’ expertise. The key decision in getting started was to follow a phased scale-up model that sought to balance demand creation and supply of services at every step, ensuring linkage to treatment. Training of personnel in screening and treatment procedures occurred concurrently with equipment procurement, pathology diagnostic systems and supply chain optimization. Roll out of the national HPV vaccination program for 9–13 year old girls occurred at the beginning of 2015.

Evaluation of data collected during this period will be used to guide the next strategy development.

None of this happens unless there is a core of dedicated people at the forefront of the effort, continuously advocating at various levels, combined with constant fine-tuning of the system.

S057.5 SURGICAL OPTIONS IN CERVICAL CANCER IN LOW RESOURCES SETTINGS

A. El-Shalakany. Gynecological Oncology Unit, Early Cancer Detection Unit, Department of Obstetrics & Gynaecology, Ain Shams University, Abbassia, Cairo, Egypt

Background: The incidence of cervical cancer has been dropping in the developed world with the cases being discovered at an earlier stage because of cytology based screening program over the past four decades. The situation is the opposite in the developing world particularly in Africa, India and South East Asia and parts of Latin America. The incidence is rising and majority of cases care discovered as bulky, locally advanced or late disease. Not only the lack of screening programs is having a detrimental effect on the disease burden in low resources settings but also the lack of organized efficient therapeutic modalities particularly radiotherapy is far from ideal.

Objective: The presentation will review the surgical options that can be possible in low resources settings, particularly the use of neoadju-
vant chemotherapy to downstage tumors prior to surgery or completion surgery following radiotherapy when schedules of treatment were suboptimal. The evidence of reported impact on survival and adverse events of surgery following chemotherapy or radiotherapy will be assessed.

S058. Update on Endometriosis Guidelines and Research
D. Adamson¹, P. Rogers², S. Missmer¹, C. Becker³. ¹United States of America; ²Australia; ³United Kingdom

The pathogenesis and aetiology of endometriosis remain unknown, consequently providing a challenge when it comes to developing individual treatment strategies for women with the disease. The World Endometriosis Society (WES) and the World Endometriosis Research Foundation (WERF) have established and funded global, multi-disciplinary, consortia of clinicians, surgeons, scientists, industry representatives, and women with endometriosis, who have come together to agree on what we know today about endometriosis and its treatments – both from an evidence based point of view, but also from shared experience of what works. This knowledge allows for treatment guidelines. These consortia, however, have also identified gaps in the collective knowledge base that need filling through global scientific collaboration in order to discover effective treatments for endometriosis and, ultimately, prevention of the disease. Such collaboration has resulted in the development of standardised biospecimen and data collection tools (WERF EPHect), which allow for consistent collection of essential “big data” to increase our global understanding of endometriosis and how the disease develops and behaves, as well as how it responds to current treatment modalities. Global collaboration in collecting consistent “big data” is the only way forward to discover the endometriosis phenotype and, consequently, to advance research in understanding the causes of the disease so that targeted treatments, and prevention, can be developed for the millions of women whose lives are affected daily by endometriosis.

S059. Cancer Epidemic in Africa: Preparation and Roadmap for Sustainable Control

S059.1 INFLUENCE OF DEMOGRAPHIC TRANSITION ON FEMALE REPRODUCTIVE CANCERS IN AFRICA: WHAT IS THE EVIDENCE?
L. F. Adewole, Gynecological Oncology Unit, Faculty of Clinical Sciences, College of Medicine, University of Ibadan, Nigeria

Background and Objectives: African demographic transitions indicated by increasing life expectancy rate, behaviour modification and social lifestyles with positive change in gross domestic products might trigger new epidemic of cancer related morbidities and associated deaths especially in women. This paper presents overarching facts and figures from countries in Africa on the time bomb of neglected female cancers that could potentially deflate the demographic and socio-economic gains recorded.

Methods: MEDLINE, Embase, WHO, DHS and GLOBOCAN databases were searched using demographic dividend, global burden of diseases, burden of non-communicable diseases, burden of cancers and population growth/dynamics. All these were limited to Africa and women.

Results: The continent and sub-regional demographic data will be presented to highlight key variables that might be suggesting future cancer epidemics. These variables include; life expectancy, sexual behaviour variables (age of sexual debut, changing sexual practices, networking and sexual orientation), social variables such as alcohol, smoking and substance use and health system capacity. In addition, increasing economic prospect in Africa and poor health investment is making the continent to continuously accumulate high health burden including non-communicable diseases such as cancer. Data showing lack of priority for women's health within Africa will be used to argue for the time bomb of likely female cancer epidemic.

Conclusion: The positive demographic achievements might be one of the critical root causes of female cancer epidemics in Africa if other demands are not met. Recommendation on better ways to avert this future disaster will be discussed.

S059.2 DRIVERS AND BARRIERS TO NATIONAL CANCER CONTROL IN AFRICA: LESSONS FROM NATIONAL CERVICAL CANCER PREVENTION PROGRAMS
C. Stefan, South African Medical Research Council, South Africa

Economic progress on the African continent has brought along a change in the pattern of disease. A rapid increase in the incidence of non-communicable diseases, with cancer among them, was not counterbalanced by efficient national measures to limit their impact. This happened in spite of the fact that some very effective means to fight cancer are not costly or technically complex. The situation of the cancer of the uterine cervix in Africa illustrates perfectly the above. It was estimated that, in 2012, a number of almost 100,000 new cancers of the cervix appeared on the continent. In the same year, more than 60,000 women died from this disease. Yet cervical malignancies are almost entirely preventable and, in early stages, highly curable. In the words of Margaret Chan, Director-General of WHO: “No African woman needs to die from this disease”. Vaccination of girls against the human papilloma virus and regular screening of women by acetic inspection of the cervix, followed by immediate treatment of intraepithelial lesions which precede cancer by cryotherapy, have the potential to relegate deaths from cancer of the cervix to the annals of history. It is necessary to promote widespread awareness of this disease, of its prevention and cure and to intensify the training of health care providers in the simple techniques meant to prevent it. Governments should find the will to address this health issue with complete determination and to establish realistic goals towards its complete eradication.

S059.5 GENERATING A COALITION OF CANCER CONTROL ACTIVISTS IN AFRICA, HOW FEASIBLE IS IT?
L. Denny, University of Cape Town/Grooto Schuur Hospital

It is only in recent times that cancer has started gaining attention as an important disease in Africa, largely due to the predominance of communicable diseases, diseases related to maternal and child health and nutrition. However, it is becoming clearer that cancer is a significant cause of morbidity and mortality on the continent with over 700 000 incident cases of cancer identified in 2012. The case-fatality rate is very high in most countries, access to supportive resources for diagnosis such as pathology, radiology, chemistry, blood work is limited and treatment facilities woefully inadequate. Hence the high case to fatality rate and the stigma associated with cancer as being inevitably fatal. Prevention, early detection and timely and appropriate treatment are only available to a very few people. Building a coalition of activists is essential if cancer control is going to be put on and kept on the African health care agenda. This needs to begin with educating health ministries and encouraging the development of Cancer Control Programmes to which resources can be allocated and region or country specific plans generated. Training in cancer care needs to be harmonised across the approximately 160 medical schools in Africa and should be directed towards the needs and burden of disease in Africa, rather than based on Eurocentric approaches. There are now a number of organisations working for cancer control in Africa that are likely to have significant impact on cancer control in the future.
The session will be held at XXXX Congress and performed by Dr Jorge Milhem Haddad. It will focus on the treatment of apical prolapse, uterine and vaginal vault prolapse. The presentation will be divided into topic including: anatomy of pelvic floor and surgical treatments for the middle compartment prolapses. It is very important to know all the anatomy involved in the reconstructive surgery. The integral theory of woman proposed by Petrus and Ulmsten in 1993 showed us that there is a synergic action among muscles, fascias, and ligaments. We need to know the insertions of these structures, where are the defects and the relationship between anatomical structures and sutures or devices for increasing the efficacy and decreasing complications.

Regarding to the treatment, it is very important to evaluate age, sexual intercourse and Clinical and Gynecology Diseases associated for choosing the best treatment for each patient. The presenter will show a summary of the modalities available (vaginal and abdominal) to treat surgically the prolapses. In the vaginal approach: reconstructive and obliterator surgeries, including, when we should use Mesh for this treatment.

According to abdominal approach, we can perform laparotomy, laparoscopic, or robotic surgery. The session will also have a video with fresh cadaver dissection for demonstrating the relationship between anatomical structures and sutures or devices. The presenter will also show the evidence related to each procedure. The duration of the session will be 20 minutes.

Women with posterior compartment prolapse can experience a range of pelvic floor symptoms. In cases of mild to moderate prolapse, conservative management approaches, such as lifestyle advice, exercises, and pelvic floor muscle training (PFMT) can be considered and should be part of treatment algorithms (FIGO Working Group consensus).

Surgical procedures for the treatment of posterior compartment prolapse include transvaginal (posterior colporrhaphy, site-specific fascial defect repair), transanal, transperineal, abdominal, and laparoscopic approaches. The choice of approach depends upon the surgeon and patient preference, surgeon’s experience, type of defect, symptomatology, and whether there is a need for concomitant surgical procedures.

The transvaginal route is superior to the transanal route for posterior vaginal prolapse repair (Grade A recommendation). Levator ani plication during posterior colporrhaphy is associated with increased risk of dyspareunia and should be used with caution in sexually active women (Grade B recommendation). There is not enough evidence to support the use of graft materials for trans-vaginal repair in the posterior wall (Grade B recommendation).

Patients who undergo POP repair with mesh are at risk of mesh-related complications, which can be life-altering for some women and may continue despite mesh removal. The most common mesh-related complication in transvaginal POP repair with synthetic mesh is vaginal mesh exposure. More than half of the women with exposures require surgical excision. Some women require additional surgical interventions.

For the study of the impact of surgery on associated pelvic floor symptoms the use of validated pelvic floor questionnaires is recommended.

Polypropylene mesh for the treatment of Pelvic Organ Prolapse was introduced because of the perception that native tissue repairs for prolapse had high failure rates. Marketing of kits began with little background information which was available in the literature and without any preliminary studies in humans as to its effectiveness or adverse events. Studies were done only in cadavers. We now know that adverse events include mesh colonization on insertion, bacteria are protected from host defences, degradation, mesh brittleness, migration of particulate polypropylene, shrinkage of 30–50%, decrease in vaginal caliber, dyspareunia, exposures and erosions into adjacent organs, vaginal stress shielding causing denervation and atrophy, chronic pelvic pain for which there is no cure, impossible to remove all of the mesh if indicated, lack of benefit recognition by patients and death. 92,000 law suits have been filed in the US alleging that the manufacturers failed to research mesh use in humans and did not disclose to implanting physicians or their own representatives all the information that would be needed to obtain a true informed consent for the implantation of mesh. They did not disclose that the manufacturers of the resin used to make the mesh fibres stated that it should not be implanted in humans or that the iodine solution used to sterilise the vagina before surgery could attack the mesh causing degradation. The California Supreme Court recently held that one manufacturer of mesh kits did not train physicians appropriately, opening the door for physicians to sue the manufacturer of any implantable device.
S066. An Innovative mHealth Approach to the Challenge of Safer Motherhood
S. Arulkumaran1, D. Bloomer1, S. Mather1, S. Deganus2, A. Murithi3, 1United Kingdom; 2Ghana; 3Republic of Congo

“The MOTHER Initiative” is an entirely new and original programme that has been developed to optimize the potential that mobile phone technologies offer for supporting midwives and other medical professionals in the care of women during pregnancy and childbirth. Specifically designed for less-resourced settings, it fulfills three separate functions: (a) monitoring women throughout pregnancy and storing and sharing their clinical records securely (b) providing instantaneously available guidance via film and text on the management of obstetric emergencies, without the need for any phone connectivity and (c) communicating with other medical professionals by email, text or voice. An initial short “Proof of Concept” evaluation was recently undertaken in Botswana with very positive results and planning is now in progress to establish a detailed, long-term study to make a full assessment of the programme’s real potential. This session will provide a full description of the nature and functionality of The MOTHER Initiative.

S068. Fetal Genetic Diagnosis and Preterm Birth
D. Lo1, L. Muglia2, G.C. Di Renzo3, 1Hong Kong; 2United States of America; 3Italy

Great strides have recently been made in prenatal genetic diagnosis. The number of disorders detectable in utero has greatly increased. Conversely, progress into the causes of preterm birth has been slow, despite the high global burden due to premature birth. Fortunately, the same technological advances that have fueled prenatal genetic advances can now be applied to elucidate the etiology of preterm labor and birth. This symposium will consider selected aspects of these pressing obstetrical issues.

• Cell free fetal DNA now allows a noninvasive but direct screening method to detect fetal aneuploidy and single gene disorders. There is concomitantly ample evidence that certain adult-onset disorders are pivotally governed by processes that begin during pregnancy; determining precisely how fetal origins of adult diseases can better be determined on the basis of this technology.

• Next generation sequencing can efficiently identify the sequences of protein coding genes. Genes governing gestational length are being identified, providing strategies for treatment.

• Many risk factors (increased odds ratios) have been found to be associated with preterm birth, but their biological (molecular) basis is usually unclear. Yet therapeutic intervention requires molecular explanations of the roles played in preterm birth by these factors, which include nulliparity, prior preterm birth, and male fetal gender. Other potential explanations involve the microbiome, fetal and maternal bind fetal signaling, uterine and cervical perturbations and both protein-coding and regulatory genes. Once explanations come from robust research, directions for future interventions will be clearer.

S068.2 GENES GOVERNING GESTATIONAL LENGTH AND PRETERM BIRTH
L. Muglia, United States of America

Despite the growing global attention to preterm birth, limited understanding of the control of the normal timing for parturition in women and how these mechanisms become disrupted to result in delivery of a premature infant continue. Over the last decade, we and others have channeled our efforts into genetic and genomic approaches to investigate families with spontaneous idiopathic preterm birth along with families experiencing only term birth. Twin and family-based studies demonstrate that the major determinants of preterm birth are conferred by the maternal genome, with 30–40% heritability in birth timing. A smaller association also links the paternal genome to preterm birth. Armed with this evidence of genetic contributions to prematurity, we have collected more than 1000 carefully phenotyped families from Finland, a country where environmental influences for preterm birth are low, to enhance gene identification. Using these families, we used comparative genomics to test the hypothesis that genes that are rapidly evolving in humans would be enriched for alleles that harbor risk promoting variants. We identified the follicle-stimulating hormone receptor gene (FSHR) as a new, high priority target. More recently, we have used whole exome sequencing to identify rare variants in the complement pathway as contributing to preterm birth risk. Recent data resulting from meta-analysis of 3 Northern European cohorts has identified loci in both the maternal and infant genomes achieving genome-wide significance. With growing numbers of genotyped mothers and infants, we anticipate enhanced sensitivity for elucidation of genes and pathways that will guide preventive efforts.

S069. The Continued Relevance of Conventional Gynecological Surgery
S069.1 VULVECTOMY UPDATE
A. Lopes, United Kingdom

The vulva is prone to numerous conditions that can affect women at different stages in their life from birth to old age. However, surgical treatment with vulvectomy is only appropriate in minority of these diseases and these include lichen sclerosus (LS), VIN, vulval cancer and rarely Paget’s disease and necrotising fasciitis. There are variations in the terminology used for the different vulvectomy procedures undertaken, but they are essentially simple or radical and partial or total. A simple (or skinning) vulvectomy involves removal of the vulval skin and superficial fat and is used for intraepithelial conditions. A radical vulvectomy involves obtaining adequate disease free margins of both skin and subcutaneous tissue and is used to treat vulval cancer. With improving medical management of LS & VIN, surgical excision is rarely necessary and is usually reserved for symptomatic cases or lesions suspicious of malignant change. It is just over 100 years since Antoine Basset published his thesis on vulval cancer, its lymphatic drainage and surgical treatment by en bloc removal of the groin nodes and vulva. During the intervening century there have been several changes in surgical management aimed to reduce the surgical morbidity without compromising cure. As a result, radical vulvectomy with groin lymphadenectomy are performed less frequently and usually reserved for advanced disease where radiotherapy and chemotherapy are often used as an alternative. The presentation will concentrate on the role & briefly the technique of vulvectomy in the evolving management of vulval cancer.

S070. Ebola and Pregnancy
S070.1 DEVELOPMENT OF PROTOCOLS AND ESTABLISHMENT OF SPECIALIZED CARE FOR PREGNANT WOMEN
P. Lledó, M. Luna Ramirez. MSF

MSF’s West Africa Ebola response started in March 2014 and included activities in Guinea, Liberia, Sierra Leone, Mali, Nigeria, DR Congo and Senegal. From then until mid-May 2015, MSF admitted over 9,509 patients for treatment for suspected or confirmed Ebola in a total of 14 hospitals. Among them, 106 women (2%) were pregnant at the time of admission. Among these pregnant women, 27 were delivered, 37 died during the pregnancy, 1 died at delivery and 45 were transferred to another hospital.

These cases received specialized care that was developed and established during the West Africa Ebola response. In this session, we will present the protocol that we developed and the main lessons learned from the medical staff involved in the care of pregnant women.
patients, 5,177 of whom were confirmed as having Ebola; 2,449 survived (47%) and were discharged as cured from MSF Ebola Management Centers (EMCs). Throughout the epidemic, caring for pregnant women produced high levels of anxiety both within EMC teams and amongst health staff in non-Ebola health structures, due to the high risk of health worker infection during birth via exposure to blood and body fluids. Therefore, in mid-2014 MSF developed specific guidelines for care of pregnant women in EMCs and has adapted them continuously as experience was gained.

In January 2015 MSF opened a dedicated treatment centre for Ebola-positive and Ebola-suspected pregnant women in Freetown, Sierra Leone. The rationale was to apply our accumulated experience towards establishing facilities that target the specific needs related to pregnancy and childbirth while moderating risk for the medical staff. With the outbreak receding, MSF is exploring possibilities for (re-)starting emergency obstetric and newborn care projects in affected countries, both to help address the huge unmet needs and to contribute to research in reproductive health among Ebola survivors. New models of care will be needed to bridge the widened gap to accessing reproductive health care, and to anticipate the likely presence of Ebola in these contexts for the foreseeable future.

S070.2

CLINICAL MANAGEMENT AND PATIENT CARE: OBSTETRICS IN EBOLA SETTINGS

S. Caluwaeerts, Belgium

Introduction: Published data on pregnancy complicated by Zaire strain Ebola virus disease (EVD) are scarce; they report a maternal mortality of approximately 90% and 100% fetal/neonatal mortality of transplacental EVD infection. Management of suspected/confirmed Ebola-positive pregnant women presents practical and ethical challenges for medical staff, including anxiety over risk of infection due to the large amount of infectious body fluids at delivery.

Objective: Describe pregnant EVD survivor characteristics, fetal/neonatal outcomes and the obstetrical management protocol developed during the 2014/2015 epidemic in West Africa.

Methods: Retrospective descriptive analysis.

Results: Pregnant patients in Ebola Management Centers (EMC’s) were managed according to an adapted obstetric management protocol that emphasized protection of health care workers and avoidance of invasive procedures (if possible). As of mid-May 2015 a total of 33 pregnant patients survived EVD in MSF EMC’s in Guinea, Sierra Leone and Liberia. These pregnancies included 9 first trimester pregnancies, 15 second trimester and 9 third trimester. 33 fetuses were stillborn (1 pair of twins) and 1 baby survived for 2 days postpartum. EVD testing of amniotic fluid/placenta after delivery was done by PCR in 15 patients: all were highly positive, even after negative EVD PCR results from maternal blood.

Conclusions: MSF acquired unique experience in managing pregnant women with EVD. This description represents the largest case series of pregnant EVD survivors reported to date. Fetal mortality was 100%. Amniotic fluid EVD-PCR remained EVD-positive even after cure of the patient.

S070.3

CLINICAL STANDARDS AND MANAGEMENT OF TRANSMISSION RISK

L. Thomas, WHO, Switzerland

WHO integrated reproductive and maternal health within the Ebola operational response through field deployment and collaborative development of evidence-based, experientially-informed SOPs, guidance and training on the clinical management of Ebola virus disease (EVD) in pregnant women, and management of pregnant contacts. As maternal EVD knowledge evolves, we are moving from a “risk aversion” to “risk management” approach. Vigilance must be maintained in the restoration of essential reproductive and maternal health services through minimum standards for front-line health facilities.

S070.4

HIGHLIGHTS OF TWO PROJECTS: PERCEPTIONS OF EBOLA VIRUS DISEASE (EVD) RISK AND THEIR IMPACT ON HEALTH FACILITY STAFF AND HEALTHCARE-SEEKING BEHAVIOR OF PREGNANT WOMEN; EVD IN LACTATING AND PREGNANT WOMEN AT A MATERNITY HOSPITAL – SIERRA LEONE 2014

D. Morof, CDC, United States of America

During the 2014 Ebola Virus Disease (EVD) epidemic in West Africa, the U.S. Centers for Disease Control and Prevention (CDC) have been providing assistance to the Ministry of Health and Sanitation in Sierra Leone (MoHS) to contain the outbreak, prevent the spread of Ebola infection, and help protect people and save lives. Prior to the outbreak, Sierra Leone had the highest maternal mortality ratio and the fourth highest neonatal mortality rate in the world. The Ebola epidemic has limited routine maternal and newborn health (MNH) care, increasing the risk for adverse outcomes. Additionally, data on outcomes of pregnant women infected with EVD are limited and current EVD surveillance does not capture pregnancy status. This presentation will discuss two projects conducted by CDC, MoHS and partners to better understand the impact of the outbreak on MNH. The first project assessed knowledge, attitudes, and practices towards Ebola and health facility utilization in Kenema District. The second project investigated the maternal and perinatal outcomes of pregnant women suspected of EVD at the country’s only maternal hospital in Freetown. The presentation will show salient findings from each of these projects and discuss their implications for health care of the women, newborns and contacts.

S070.5

RESTORING MATERNAL AND NEWBORN HEALTH CARE IN EBOLA CONTEXTS: THE UNFPA MANO RIVER MIDWIFERY RESPONSE

L. de Bernis, UNFPA, Switzerland

The negative impact of Ebola virus disease (EVD) on maternal and newborn health in the three most affected areas in Guinea, Liberia and Sierra Leone is not yet well addressed. Health systems collapsed and with an estimated 1.1 million pregnancies affected by EVD in the three countries in 2015, maternal and newborn mortality and morbidity are likely to increase to 1990s levels. As a response, UNFPA, in collaboration with the H4+ partners and with donors’ support, is implementing the phased “Mano River Midwifery Response” program, which aims to build resilient health systems focused on establishing a strong midwifery workforce placed primarily in health centers and organized in midwife-led units with strong links to the communities and to referral facilities.

The goal of the Mano River Midwifery Response is to positively impact the health and well-being of girls, women and newborns in this fragile context through this package of interventions. For this reason, the program is conducting baseline surveys in targeted districts and working to strengthen monitoring and supervision mechanisms, and to conduct implementation research alongside implementation of the planned activities to help overcome identified bottlenecks.
S071. The role of Medical Providers as Human Rights Defenders in Developing, Shaping and Implementing Human Rights Friendly Laws – Specifically Focusing on Access to Safe and Legal Abortion and Contraception

J. Kaur 1, A. Faúndes 2, P. Boylan 3, G. Ortiz Avendaño 4, C. Chraibi 5.
1United Kingdom; 2Brazil; 3Ireland; 4El Salvador; 5Morocco

The panel will explore the role of medical providers as human rights defenders in developing, shaping and implementing laws that regulate the provision of sexual and reproductive health services. The speakers will outline recent trends, reforms or retrogression taking place at national, regional and global level with regard to laws regulating the provision of abortion and contraception, and will discuss the crucial role medical providers can play as advocates for human rights friendly laws and their effective implementation on the ground.

*Amnesty International’s global priority campaign: “My Body My Rights” is working to stop the discriminatory use of criminal law to regulate sexuality and reproduction and stop third party control over individual decision-making; remove barriers to access sexual and reproductive health services by addressing discrimination in law and practice; and works to enable people to claim and exercise their rights, so that every person can make free and informed choices about their sexuality and reproduction and can exercise their sexual and reproductive rights free from discrimination, coercion and violence.

S071.1 MY BODY MY RIGHTS: ENDING THE CONTROL AND CRIMINALIZATION OF SEXUAL AND REPRODUCTIVE RIGHTS

J. Kaur, Senior Campaigner, Amnesty International, International Secretariat, United Kingdom

My Body My Rights is Amnesty International’s global campaign to stop the control and criminalization of sexuality and reproduction by governments and others. Over 2014–2016. This presentation will share Amnesty’s work with rights holders, medical professionals and others to bring real change in the lives of people in Ireland, El Salvador, Morocco-Western Sahara, Algeria, Tunisia and Burkina Faso.

S071.2 THE ROLE OF OBSTETRICIANS AND GYNAECOLOGY SOCIETIES IN PROMOTING LAWS AND REGULATIONS THAT FAVOUR ACCESS TO SAFE ABORTION SERVICES

A. Faúndes, Chair, Initiative FIGO “Prevention Unsafe Abortion”; Emeritus Professor of Obstetrics Unicamp, Brazil

The FIGO Committee for the study of Ethical Aspects of Human Reproduction and Women’s Health have discussed the issue of access to safe abortion and ends saying that: “In summary, the Committee recommended that after appropriate counselling, a woman has the right to have access to medical or surgical induced abortion, and that the health care service had an obligation to provide such services as safely as possible”.

The FIGO Working Group on Prevention of Unsafe Abortion work with 46 FIGO member societies with the purpose of reducing the burden of unsafe abortion for women and societies and reducing the morbidity and mortality associated to unsafe abortion. Many of the societies in Africa, Asia and Latin America have included in their plans of action to facilitate access to safe abortion within the limits of the law, by contributing to establish appropriate regulations and implementing such regulations, mostly in teaching hospitals. A few of these societies have been directly involved in legal reforms that had led to more liberal legislation, such as in Kenya and Uruguay, where they were successful, and in several other countries where such efforts have not yet been fruitful.

A mechanism of advocacy used by this FIGO Working Group has been the dissemination of the evidences that making abortion a crime is very effective in increasing abortion related morbidity and mortality without reducing abortion rate, while making abortion legal drastically reduces abortion related maternal mortality without increasing, but more often decreasing abortion rate.

S071.3 IRELAND’S RESTRICTIVE ABORTION LAWS

P. Boylan, Chairman, Institute of Obstetricians and Gynaecologists; Consultant Obstetrician/Gynaecologist and former Master, National Maternity Hospital, Dublin, Ireland

The Republic of Ireland has the most restrictive abortion laws in Europe, only Andorra, Malta and San Marino have more restrictive laws, prohibiting abortion in all cases. Abortion is only permissible where there is a “real and substantial” risk to the woman’s life. There are no guidelines as to how close to death a woman must be before a doctor can perform an abortion. The woman has no say with regard to how much risk she is willing to tolerate, the decision is that of her doctors alone. The procedure requires at least two Obstetricians to agree that an abortion is necessary to save her life, in the case of a danger due to death from suicide further involvement by Psychiatrists is required by law. The woman has a right of appeal against a decision not to terminate a pregnancy, but this is a cumbersome process. Abortion is not permitted in cases of rape, incest, serious but not fatal threat to health, or foetal abnormality. Examples of the trauma Ireland’s laws have caused to women will be presented.

The history of how Irish law has evolved in respect of abortion, and the influence of the Catholic Church, will be presented. Despite Ireland’s restrictive laws the rate of abortion among women resident in Ireland is similar to that in other European countries due to proximity and ease of travel to the UK for those who can afford it and for those who can travel. Asylum seekers cannot travel. Some Irish doctors have been prominent in efforts to have the law changed.

S071.4 LEGAL OBSTACLES AND SETBACKS FOR EMERGENCY OBSTETRIC CARE IN EL SALVADOR

G. Ortiz Avendaño, Head of the Obstetric Department, Ministry of Health, Woman National Hospital, El Salvador

El Salvador’s penal code of 1973 allowed abortions if the pregnancy posed a risk to the woman’s life, in cases of rape and when the foetus carried severe abnormalities. But in 1998 a new penal code became effective which banned abortion in all circumstances, without exception. If found guilty for having an abortion a woman faces two to eight years in prison, the same sentence applies for anyone assisting the woman to terminate her pregnancy with her consent. Health professional who assist women face a heavier sentence of between six and 12 years. The impact of El Salvador’s total ban on abortion increases the risk of maternal death from pregnancy-related complications. Women and girls with pregnancy related medical complications have in some cases been suspected and reported by health care providers as having induced an abortion. In some cases this has resulted in women and girls being sent to prison with sentences of up to 30–40 years. In 1998, the Legislative Assembly passed an amendment to the El Salvador constitution which recognises the right to life from the moment of conception. Medical professionals in El Salvador are divided on the introduction of this amendment. Dr Guillermo Ortiz Avendaño will also discuss the impact of the “Beatriz” (2013) case, in addition to the impact of the lack of access of modern and emergency contraception in El Salvador.
S071.5
MOROCCO: DEPLORABLE CONSEQUENCES OF UNWANTED PREGNANCIES AND THE ROLE OF MEDICAL PROVIDERS AS AGENTS FOR CHANGE

C. Chraibi, Lecturer in Obstetric Gynaecology, Faculty of Medicine, Rabat University Hospital Centre, Morocco

While Moroccan law significantly restricts abortion and criminalizes any activity outside of this legal framework, many women and girls resort to illegal and unsafe abortions under conditions that place their lives and health at risk. Professor Chafik Chraibi will discuss the consequences and complications resulting from illegal abortions in Morocco as well as current proposals to reform the country’s legislation at the request of King Mohammed VI. The royal intervention came in the wake of a series of conferences and debates on the issue of access to abortion in which Moroccan civil society and medical providers played a key role. Professor Chafik Chraibi will also discuss prevention through access to contraception and sexual health education.

S072. Women’s Labor Migration and Sexual and Reproductive Health and Rights in Asia

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Human migration has increased steeply in last two decade. World migration report 2010 estimate 214 million international migration in 2010, with this pace international migration will reach up to 405 million in 2050 [1,2]. In 2010 the entire Asia region account for 27.5 million of international migrants, referring closely to 13% of total global figure of 214 million. UNDESA report in 2010 notes that Asia have 12.9 million international migrant under age of 20 reporting 39% of total global fugure [3]. India census 2011 shows that 307 million people have been reported migrant out of which 42 million (2%) outside the country [4]. In Nepal every day 500–1300 young people are leaving for work to Gulf countries, India, Malaysia [5]. There is no readily available and accessible regional data for disaggregation in status, occupation, age and sex. Yet a major proportion of migrant are young and women migrant as an independent economic unit is on the rise. Almost half of all international migrant from Asia (48%) are women [6].

Certain law of social sciences have been proposed to explain human migration. Lee’s Law divides cause of migration in Push and Pull Factors [7], Relative Deprivation Theory explains awareness of income difference for same work as cause of migration. Neoclassical economic theory [8] is based on wage difference between two geographical location and demand and supply equation. World System Theory [9] Explain the quantum of human migration due to International trade and economic dependence of developing and poor world on developed world [9]. Counter geographic of globalization and feminization of survival analyses candidly that global economy pressures are sharply eroding local employment opportunity [10]. The effect of migration on biology of human population is almost unknown. However, this huge migration of human population is de-rooting the age old concept of family, gender role, sexuality and human reproduction. It is usually young lone adult population, which now constitute a large share of women, most prone to migrate. In most of destination country families are not welcome or undesired. Migrant population is more likely to have reproductive tract infection including HIV, sexual problem, unsafe abortion, unwanted pregnancy [11,12]. Few health issues need urgent attention [13–15]. These are gender specific health needs of migrant, Prohibition of Compulsory pregnancy & HIV testing. Pre-migration and post-migration counselling for reproductive health and Inclusion of migrant in functional health system. The role of migrants in economy also need recognition and social violence against them has to be curtailed. Finally Human need family, society, well directed sexuality and belonging for their happiness. It is hard time to look and treat root causes of migration and not only treating the disease and side effect of migration.

References:

S072.2
SOUTH ASIAN WOMEN ON THE MOVE: HEALTH OUTCOMES AND FAMILY INTEGRATION

R. Afzar, Centre for Muslim States and Societies (CMSS), University of Western Australia (UWA)

Notwithstanding increasing feminisation of migration, there is little cognisance of the gendered outcomes of migration and subsequently, migration policies remained largely gender-blind. This paper focuses the impacts of women’s migration from South Asia to the Gulf region highlighting mainly health outcomes and social costs and benefits. The paper draws largely on empirical studies of women migrants, particularly from Bangladesh and Sri Lanka. It argues that while overseas migration opened up doors for better employment and incomes compared to those available in the home countries; potentially empowering women, yet migrant women often face greater discrimination in the labour market as revealed from their lower wages, limited access to diverse employment, and greater vulnerability to physical, sexual and verbal abuse than men. The paper aims to examine that contexts and conditions in which women become more vulnerable to deprivation, hardship, discrimination or have positive outcomes, including assessing whether and to what extent the health status of migrants influences their migration.
outcomes. Also by focusing on the impact of migration on migrant women and their families, particularly their children during migration and after their return, it will cover another neglected dimension – social cost of migration.

Considering the co-existence of inequality and exploitation along with opportunity and well-being, the paper urges governments of both home and host countries to cooperate for establishing rights and welfare of migrant workers and women in particular throughout the migration process and after return.

**S072.3 RESPECTABILITY IN SRI LANKA’S FREE TRADE ZONES – GENDER RELATIONS AND IMPLICATIONS FOR MIGRANT WOMEN’S SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS (SRHR)**

M. Jordal. International Maternal and Child Health (IMCH) Department of Women’s and Children’s Health, Uppsala University Hospital, Uppsala, Sweden

Industrialization has affected women's migration patterns in Asia and elsewhere. In Sri Lanka, unmarried women's labor migration escalated after the opening of several garment factories in urban Free Trade Zones (FTZ) in the late 1970s. Women's FTZ migration has challenged gender norms on labor division. Furthermore, the large amounts of unmarried women living near the FTZ without family surveillance are said to attract men looking for sexual adventures. The aim was to explore migrant women's perceptions of gender relations and premartial sex in Sri Lanka's FTZs and to discuss the possible implications for migrant women's SRHR. Qualitative individual interviews with 16 migrant women were conducted and analyzed thematically. Gender theories guided the discussion and helped unravelling possible SRHR implications. Results revealed that the women migrated to the FTZ to earn a better life, but that the stigma attached to migration threatened their reputation as “good girls”. To reduce stigma, they portrayed themselves as “innocent” virgins and distanced themselves towards “other” migrant women perceived as breaking with norms of femininity and respectability. It was considered acceptable to enter heterosexual love relationships in FTZ, but not to engage in premarital sexual relations. At the same time the women perceived premarital sex as somewhat common in the FTZ. However, unmarried women taking precautions for contraceptives risked being regarded as “promiscuous”, something that could mean stigma and social exclusion. In conclusion, living up the ideal of respectability placed migrant women at risk for SRHR ill health, including unwanted pregnancies and gender based violence.

**S072.4 CHALLENGES AND ACCESS TO SRH & RIGHTS OF MIGRANTS IN MALAYSIA**

H. Lasimbang. Malaysia

Malaysia ranks among the world’s top immigration destinations. The number of non-citizens in Malaysia has almost doubled in the last 20-years. In 2011 registered foreign workers were 12.8% of the labour force. Of these 97% were low or semi-skilled workers and half were from Indonesia. The close proximity to neighboring countries and porous national borders make it easy for illegal migration into Malaysia. There are an estimated one to two million undocumented migrants.

Legal and illegal migrants in Malaysia face a multitude of sexual and reproductive health and rights challenges. Economic barriers pose a significant threat to reproductive health. Legal migrants are entitled to the same public health care services as Malaysia citizens however they are charged a higher rate. Employers may refuse: attendance at health checks, to pay for medical expenses and continued employment when diagnosed with illness or pregnancy. In addition, they are faced with language and cultural barriers, lack of familiarity with the health care system and discrimination by health workers. There are even bigger challenges for the undocumented migrants who are afraid of being arrested and deported and who have no reproductive health services and rights.

In recent years Malaysia has been in the international spotlight for ill treatment and violence against migrant workers. The Malaysian government is working with international organizations and NGOs to meet these challenges and to ensure that in the future the reproductive and sexual health rights of both men and women migrant workers are respected and appropriate services are provided.

**S073. Innovations to Improve the Quality and Reach of Postabortion Care**

R. Dabash¹, N. Hassanein², A. Diop³, P. Blumenthal⁴, C. Simon⁴.

¹United States of America/Egypt; ²Egypt; ³Senegal; ⁴United States of America

In many low resource settings, postabortion care (PAC) services remain highly centralized, stigmatized, and often dependent on dilatation and curettage (D&C) for uterine evacuation. Safer treatment alternatives like manual vacuum aspiration and misoprostol have the potential to reduce reliance on D&C, improve satisfaction, and decrease costs; however, they remain under-utilized in low resource settings. New task-sharing models utilizing misoprostol for treatment of incomplete abortion along with postabortion family planning have the potential to effectively decentralized comprehensive PAC services and improve safety, access, and acceptability of care. This panel will discuss the implications of task-shifting PAC to lower levels and the importance of involving midwives and other non-physician providers to improve the quality and reach of comprehensive PAC in low resource settings. Results will be shared from recent task shifting demonstration projects in Senegal and Egypt that have successfully decentralized PAC and integrated simple outpatient treatment with misoprostol to avert D&C for the vast majority of women.

The panel will also examine how expanding access to outpatient PAC services at lower level facilities, in closer proximity to women’s homes, improves satisfaction and enables providers to better meet the family planning needs of women and youth. This includes the postabortion provision of long-acting reversible contraception (LARC) alongside treatment to reduce the number of visits required of women. Finally, a discussion of the importance of youth friendly services in PAC will address why meeting the needs of youth in PAC is critical and how it can be achieved.

**S074. Current developments in Pelvic Floor Medicine**

**S074.2 IMAGING DIAGNOSIS AND GENITAL PROLAPSE**

C. Betschart. Switzerland

For decades knowledge of pelvic organ prolapse (POP) was gained from clinical observation and cadaver studies. Today imaging studies using ultrasound (US) and magnetic resonance imaging (MRI) contribute to a better understanding of POP. Diagnostic imaging tools detect defects involved in the etiology of POP, like levator ani muscle avulsion or ligament lesions. In the midsagittal plane, ultrasound allows to diagnose different types of prolapse: cystocele with central or paravaginal defect, enterocoeles or rectoceles.

3D- and dynamic US and MRI gain further insights by a multiplanar display and by visualization of cross-sectional planes (axial, sagittal and coronal planes). MRI is considered to be the best reference standard because of its exquisite soft tissue contrast. However there is no gold standard for imaging available yet.

Most of the reference lines are based on bony landmarks, namely
the central symphyseal axis for ultrasound and the pelvic inclination correction system (PICS), the sacro-coccygeus inferior pubic point (SCIPP) or the pubo-coccygeus (PCL) line. Lack of standardization of reference lines makes it difficult to compare studies and degrees of prolapse. Additional imaging methods are MR defecography for defection symptoms or CT scan and cystoscopy for concomitant microhernatuya.

New developments like diffusion tensor imaging (DTI) provide a detailed view on the course of muscle fibers and nerves, hereby possibly giving further insides in the mode of action of the pelvic floor muscles and the pathology of POP.

After this presentation the audience will be able to recognize muscle and fascial disruptions involved in POP.

**S076. Fertility Management across the Life Span – Current Evidence and Practices**

N. Sheriar¹, C.G. Sarria², S. Singh³, J. Zamir¹, B. Ganatra⁴, C. Asmani⁵, ¹India; ²Colombia; ³United States of America; ⁴Switzerland; ⁵Kenya

The decision of whether to have children, their number and timing, whilst being a fundamental human choice, can contribute to undue morbidity or mortality and influence the quality of a person’s life. In attempting to navigate and realize their desired fertility goals at a given point in their life, individuals have needs ranging from desiring to be pregnant, desiring to continue the non-pregnant state or return to a non-pregnant state. With declining age in the onset of sexual maturity globally, on average a woman is fertile for 30 to 40 years. Given a desired family size of 2–4 children, she will complete childbearing in 5–10 years, and will need to manage her fertility for two to three decades of her life. Globally, 80 million couples experience challenges in becoming pregnant and 85 million women face an unintended pregnancy, of which, 22 million attempt to terminate it unsafely. In the developing world, 225 million women have an unmet need for effective contraception. However, current health systems especially in low resource settings rarely consider these services as a spectrum or offer them in an integrated manner. Thus, the availability of services for infertility, contraception or safe abortion are far from universally available or accessible and is influenced by location, politics or socio-economic status. Health services, especially in low resource settings, must adopt a client-centred, rights based, integrated approach to providing a holistic range of sexual and reproductive health services that will allow women and men to manage their fertility.

**S078. Sepsis: Neglected Killer of Women and Newborns**

**S078.2 MATERNAL SEPSIS GUIDELINES IN EUROPE**

S. Zhou¹, W.-H. Zhang², ¹International Centre for Reproductive Health (ICRH), Ghent University, Belgium; ²School of Public Health, Université Libre de Bruxelles (ULB), Belgium

**Objective:** To provides the overview of the existing guidelines and its content in Europe on the management of maternal sepsis.

**Methods:** We conducted a systematic review of the guidelines in Europe of Maternal Sepsis, defined as any pregnant or recently pregnant woman (up to 6 weeks postpartum) diagnosed with sepsis (irrespective of the source of infection). Research limited the guidelines and reviews published by 30 April 2015.

**Findings:** Three main evidenced-based guidelines were identified and included in the analysis. The recommendations were proposed by these guideline were based on available evidence and followed the Grading of Recommendations Assessment, Development and Evaluation system. Two were developed by Royal College of Obstetricians & Gynaecologists in UK in 2012 which addressed specifically to the pregnant women and the third one was developed by National Clinical Effectiveness Committee in Ireland in 2014 in which the obstetric population was considered when establishing the guidelines. These guidelines cover the diagnosis, management, risk assessment and treatment by taking into account the particular physiological characteristic of pregnancy compared with the Standardized Surviving Sepsis Campaign recommendations for general population implementing worldwide.

**Conclusions:** Maternal sepsis remains a leading cause of preventable maternal death in Europe. Implementing the evidenced-based guidelines focused on pregnancy would help improve the maternal outcome. However the current recommendations were mostly based on the very low level of quality of evidence (D) and areas lacking evidence are present. The high-quality evidences are needed to strengthen the recommendations and the implementing guideline needs to considerate resource availability.

**S078.3 MATERNAL SOLUTIONS – FACILITY AND COMMUNITY**

M. Mathai, World Health Organization, Geneva, Switzerland

Sepsis is the cause of at least one in ten maternal deaths. Most of these sepsis related deaths occur in low and middle income settings particularly postpartum and following unsafe abortions. Maternal sepsis is also associated with long term morbidity. Other infections such as HIV, malaria and Tb add to the burden of maternal ill health due to infections.

This presentation will review the current best evidence on the prevention, diagnosis and management of maternal sepsis in health facilities and communities and introduce the WHO recommendations for prevention and treatment of maternal sepsis.

**S078.4 NEWBORN SOLUTIONS – FACILITY AND COMMUNITY**

N. Kissoon, Canada

Sepsis is the leading killer of infants and children worldwide, but this is not fully reflected in estimates of global mortality. The issue of highlighting sepsis as the end result of severe infections is important for a provision of care especially in resource limited environments where skilled healthcare workers are in short supply and care is being delivered by teams with limited training and clinical skills. One of the major barriers to sepsis care in resource limited areas is education of healthcare workers. In many cases specialists are unavailable and much of healthcare is delivered by village health workers, nurses and general practitioners. Thus we need tailored training for teams with limited medical skills and knowledge base. In addition we need to determine the setting in which they will be trained and what technologies can be leveraged to assist in diagnosis and treatment. Beyond training, innovative solutions in building capacity to prevent and treat and sepsis in resource poor areas are needed. Building capacity entails several factors including increasing community engagement, strengthening competencies at all levels, adapting guidelines based on available resources and best current evidence, use of innovative technologies for diagnosis and treatment as well as strengthening transport and referral systems. There are other innovative solutions such as intervention packages used by child health workers which has resulted in reduced neonatal mortality. The provision of low cost antibiotics, child health workers, day clinics and home treatments have revolutionized care and saved lives in many environments.
Z. Alassoum, Niger

Problem: While resources are desperately needed for obstetric fistula surgery and re-integration of its sufferers to productive life, prevention is the real solution for this socio-economic, medical catastrophe; global incidence levels are an order of magnitude higher than surgical capacity.

Rapid reduction of birth-related mortality and obstetric fistula incidence: On a public health scale in a remote, severely affected under-resourced area, Niger’s Ministry of Health has essentially eliminated obstetric fistula, and reduced all-cause birth-related maternal mortality (down 73% from Year 1 to 3, and then to > 80% reduction in the initial pilot area) and early perinatal mortality (down > 60%), while strengthening health systems in an ongoing program by optimizing the effect of existing resources and modest community-based interventions. The symposium will summarize the global obstetric fistula situation, Niger’s approach to rapid obstetric fistula and mortality prevention, and results from the first roughly 100,000 births (7+ years) of Niger’s ongoing, expanded program.

Next steps – where and how to replicate Niger’s results? Where and how can the global community best “repeat the experiment” and replicate Niger’s approach to rapidly prevent maternal mortality and obstetric fistula? Which countries, UN, academic, and NGO agencies and foundations can best collaborate on the ground in an ongoing and sustained manner to do this? And how? The symposium aims to share Niger’s experiences and stimulate discussion that can subsequently resolve some of these questions among others.

S080. WHO HRP Research on Contraceptive Development

S080.1 COMPARISON OF THE 3 AND 5 YEAR EFFECTIVENESS OF LEVONORGESTREL AND ETONORGESTREL CONTRACEPTIVE IMPLANTS
M. Ali1, L. Bahamondes2, 1WHO RHR; 2University of Campinas, Brazil

This clinical trial compares Levonorgestrel and Etonorgestrel Contraceptive Implants at 3 and 5 years. The 3rd year cumulative pregnancy rate was 0.4/100 [95% CI 0.2–1.0] for both ENG- and LNG-implants users. Bleeding disturbances was the most frequent reason for discontinuation in both groups, reaching three-year cumulative rates of 16.7/100 [95% CI 14.4–19.3] and 12.5/100 [95% CI 10.5–14.9] for ENG- and LNG-implants, respectively. More ENG implant users reported amenorrhoea, but there were no significant differences recorded. At 1 and 2 years there were no differences in continuation rates for the two implants. In the sensitivity analysis at 2½ year (30 months), rates were also similar, 69.8/100 [95% CI 66.8–72.6] and 71.8/100 [95% CI 68.8–74.5] for ENG- and LNG-implant, respectively. As expected, the method continuation rate by the end of three years (38 months) was higher in the LNG-implant group (52.0/100 [95% CI 41.8–61.2]) compared to ENG-group (12.1/100 [95% CI 5.2–22.0]). A total of 616 and 595 women in the ENG-implant and the LNG-implant, respectively attended the 3-years (34–38 months) follow-up visit, of these women 235 ENG- and 57 LNG-implant users, respectively discontinued use. Among the 235 ENG-implant users who had the implant removed after 3 years of use, 101 (42%) asked to have a new implant inserted. Among the ENG users attending the follow-up visit in the 34–38 month period, 365/381 (95.8%) consented to participate in the extended follow-up study up to five years. No pregnancies occurred both among ENG- and LNG-users after the third year of use.

S080.2 A PROSPECTIVE, OPEN-LABEL, SINGLE ARM, MULTICENTRE STUDY TO EVALUATE EFFICACY, SAFETY AND ACCEPTABILITY OF THE PERICOITAL ORAL CONTRACEPTION USING LEVONORGESTREL 1.5 mg

Objective: To determine the contraceptive efficacy, safety and acceptability of LNG 1.5 mg taken percoitally by women who have relatively infrequent sex.

Study design: From January 2012 to November 2014, a prospective, open-label, single-arm, multicenter Phase III trial was conducted, with regular follow-up up to 6.5 months, or until pregnancy occurs, or she stops participating.

Participants/Methodology: 330 women in Thailand, Brazil, Singapore and Hungary were recruited to use LNG 1.5 mg percoitally (24 hours before/after coitus) as primary method of contraception. A diary recorded data on coital acts and tablet intake, use of other contraceptives and vaginal bleeding patterns. Pregnancy tests were performed monthly and pregnancies occurring were assessed by ultrasound. At 2.5-months and at 6.5 months, acceptability questions were administered.

Main results/Conclusions: Among 321 women in evaluable population was a rate of 7.1 pregnancies/100 W-Y typical use, and 7.5 pregnancies/100 W-Y perfect use. Reported were three severe adverse events and 102 other mild adverse events, such as headache, nausea and abdominal/pelvic pain, with complete recovery. Vaginal bleeding patterns showed slight decrease in amount of bleeding and increase in number of bleeding-free days over time. The method was acceptable, as over 90% of participants would choose using it in the future or would recommend to others.

S080.3 EFFECT OF BMI AND BODY WEIGHT ON THE EFFECTIVENESS OF LNG AS EMERGENCY CONTRACEPTION: ANALYSIS OF FOUR WHO HRP STUDIES
M.P.R. Festin, A. Seuc, A. Peregoudov, J. Klairie, M. Temmerman, Switzerland

Objective: To estimate the effect of increased body weight and body mass index (BMI) on the efficacy of Levonorgestrel 1.5 mg as emergency contraception.

Methods: Data four WHO HRP randomized trials of EC between 1993 and 2010, on 6873 women receiving 1.5 mg of LNG in a single dose or two doses 12 h apart, up to 120 h of an act of unprotected intercourse, were analysed. Contraceptive efficacy at different weight and BMI categories was compared.

Results: The overall pregnancy rate was low in all the studies – 1.208 (0.949–1.466), including among women weighing over 80 kg and with BMI over 30. Distribution varied in weight (0.2 to 7.4% for women over 80 kg) and BMI categories (1.2% to 2.7% for BMI over 30 kg/m²) across the four studies. Pooled adjusted analyses showed BMI decreased efficacy significantly (OR 8.27, p=0.0002), mainly influenced by a small group of obese women from one study site. Others significantly associated with reduced efficacy were delay in drug intake more than 48 hours (OR 1.92 [1.20–3.08], additional acts of intercourse after drug intake (OR 1.80 [1.13–2.85]), and taking the drug at the time of ovulation (OR 2.88 [1.14–7.23]) or after (OR 3.08 [1.61–5.90]).

Conclusions: Use of LNG 1.5 mg for emergency contraception remains effective across different body weight and BMI categories, with pregnancy rates less than 3%. Findings show that EC using LNG remains effective and should not be restricted in any weight or BMI category.
SO81.4 EFFICACY AND SAFETY OF AN INJECTABLE COMBINATION HORMONAL CONTRACEPTIVE FOR MEN

H. Behre, M. Festin, M. Callahan, D. Colvard, and others. Switzerland

This multicentre study tested the contraceptive efficacy and safety of a regimen of intramuscular injections in men of norethisterone enantate (NET-EN) and androgen testosterone undecanoate (TU) in ten sites in 7 countries. Of the 320 participants who received at least one injection, 274 suppressed to a sperm concentration ≤ 1 million/ml by the end of 24 weeks, with rate of 95.9/100 continuing users, 95% CI (92.8, 97.9). During efficacy phase, four pregnancies occurred among the partners of the 266 participants, (rate of 1.57 per 100 users, 95% CI (0.59, 4.14)). All pregnancies occurred before the 16th week of efficacy phase. The Pearl index was 2.18 (95% CI: 0.82, 5.80). During the trial, 1491 AEs were reported by the male participants, 31% of the AEs listed were considered “possibly related”, 40% “probably related”, and 29% “definitely related”; 91% of these AEs were classified as “mild”. The recovery rate of after one year of stopping injections is comparable to the rate when using other androgen or androgen-progestagen combinations for suppression of spermatogenesis.

As part of continuing review of the study, the WHO Research Project Review Panel (RP2), reviewed data and recommended, for safety reasons, to stop recruitment and enrolled participants should discontinue receiving injections and be transitioned to the recovery phase. The basis was RP2’s opinion that safety risks to study participants outweighed the potential benefits to the study participants and to the precision of the findings of having the full cohort contribute to the final analysis.

SO81.1 CRITICALLY MATERNAL ILLNESS/MATERNAL MORTALITY

SO81.1.1 AMNIOTIC FLUID EMBOLISM

G. Dildy. Division of Maternal-Fetal Medicine, Department of Obstetrics & Gynecology, Baylor College of Medicine, Houston, TX, USA

Amniotic fluid embolism (AFE), one of the leading causes of maternal mortality, is poorly understood due to 4 major factors. 1) Prospective study is nearly impossible due to its relative infrequency and unpredictability. 2) Published case series are derived primarily from administrative data, which include misdiagnosed cases of AFE. 3) There is no gold-standard diagnostic laboratory test for AFE. 4) There is no consensus for strict clinical diagnostic criteria of AFE. In August 2013 we opened an international AFE Registry at Baylor College of Medicine (Houston, TX) in partnership with the nonprofit AFE Foundation (Vista, CA). Medical records of registry participants were obtained, abstracted and entered into the database. The diagnosis of AFE required meeting each of the 3 specific criteria established by the registry researchers, who are Maternal-Fetal Medicine specialists with experience in critical care obstetrics and AFE. Cases are categorized as “AFE” (per the defined criteria), as “atypical AFE” (fulfilling some but not all criteria), as “not AFE” (clinical presentation most consistent with other diagnoses such as uterine atony or anesthetic accident), and as “indeterminate” (mostly uncertain due to incomplete medical records). By July 2015 we received 116 submissions of signed informed consent for participation in the AFE Registry. Some women originally diagnosed with AFE likely did not actually experience AFE, resulting in negative unintended consequences. For any further progress towards understanding AFE, particularly its etiology, prevention and treatment, we believe strict diagnostic research criteria should be applied in the thorough medical record review of suspected AFE cases.

SO81.2 SEPTICEMIA

E. Cordioli, Brazil

Sepsis is defined as an acute inflammatory response syndrome secondary to an infectious focus. It has a high incidence, morbidity and mortality, causing substantial financial costs, especially due to complications such as septic shock and multiple organ dysfunction. The pathogen toxins associated with individual susceptibility culminate with cytokine release, which promotes a systemic inflammatory response that can progress to multiple organ dysfunction and eventual patient death. Specifically, sepsis incidence, morbidity and mortality are lower in pregnant women, as this group is typically younger with fewer comorbidities having a polymicrobial etiology resulting in sepsis. Pregnant women exhibit physiological characteristics that may confer specific clinical presentation and laboratory patterns during the sepsis course. Thus, a better understanding of these changes is critical for better identification and management of these patients. The presence of a fetus also requires unique approaches in a pregnant woman with sepsis. Sepsis treatment is based on certain guidelines that were established after major clinical trials, which, unfortunately, all classified pregnancy as an exclusion criteria. Thus, the treatment of sepsis in the general population has been extrapolated to the pregnant population, with the following main goals: maintenance of tissue perfusion with fluid replacement and vasoactive drugs (initial resuscitation), adequate oxygenation, control of the infection source and an early start of antibiotic therapy, corticosteroid infusion and blood transfusion when properly indicated, prophylaxis, and specifically monitoring and maintenance of fetal health.

SO81.3 MASSIVE POSTPARTUM HEMORRHAGE AND DIC

J. Palacios-Jaraquemada, Argentina

The massive obstetric hemorrhage is a common cause of failure of normal obstetrical and surgical systemic hemostasis. This condition is responsible for 25% of the maternal deaths every year worldwide. Most women have no identifiable risk factors and a quick development of massive hemorrhage in a short time, which is associated with high morbidity and mortality. A critical problem is an early development of DIC, which needs a special transfusion protocol with emphasis on special transfusion ratio of red blood cells, plasma components and fibrinogen. Although hysterectomy is commonly indicated as hemostatic control, the procedure itself could reduce circulating volume in 2 to 3 liters, which can stop the bleeding but also aggravate a hemodynamic and hemostatic state. For this reason, current use of bloodless methods (aortic vascular control) seems to be better to avoid further bleeding and improve the possibility of managing DIC until definitive treatment is done. Non-controllable DIC is associated to multiorgan failure and death; consequently, an easy and effective bleeding control with prompt blood and blood component replacement is associated with better results and reduced morbidity. Coagulation laboratory evaluation may be useful in guiding hemostatic management during massive PPH, but for the results to be useful, they must be rapidly available and provide information that would not be available from clinical assessment alone. Obstetrical DIC is an uncommon condition associated with high maternal and perinatal morbidity and mortality. Prompt recognition and treatment with timely administration of blood products is crucial in the management of this life-threatening disorder.
**S082. Family Planning from A to Z**
E. Starbird, C. Curtis, P. MacDonald, S. Radloff, R. Jacobstein. United States of America

The 2012 London Summit on Family Planning refocused attention on family planning, garnering much-needed support for the goal of reenergizing and expanding programs in 69 low- and medium-income countries “to enable 120 million more women … to use contraceptives by 2020”. In every region of the world there have been increasing desire to delay, space, and limit pregnancies – matched, to an extent, by increasing use of contraception. Access to family planning information and services have often lagged behind this demand, resulting in high percentages of women having an unmet need. Unmet need is not uniform. Access to modern family planning is lower, risks are higher, outcomes are worse among women who are young, unmarried, rural, poor, and disadvantaged. Knowledge of global trends in contraceptive use and unmet need is critical for OB/GYNs as they seek to serve women and couples in public and private settings. This panel presentation will provide basic patterns and trends in reproductive intentions, contraceptive use, and unmet need in all regions of the world as well as information on the contraceptive needs of key underserved populations – postpartum and postabortion women. Health workers and health systems are making adaptations to ensure that new contraceptive methods are added to the method mix while ensuring informed voluntary choice in decisions making. Increased, access to contraception and increasing availability of contraceptive methods including long acting and permanent contraception will be discussed.

**S082.2**
**BREAKING THE CYCLE OF UNINTENDED PREGNANCY FOR POSTPARTUM AND POSTABORTION WOMEN**
C. Curtis. United States Agency for International Development, United States of America

Postpartum and postabortion women are vulnerable populations who have an unmet need for family planning (FP). DHS data analysis from 27 countries found that 40% of all unmet need for FP in these countries was in the first year postpartum. Of the 95% of women 12 or fewer months postpartum not desiring another birth within the next two years, 65% of them were not using contraception. The analysis also found that unmet need for FP could be reduced by 50% if FP were effectively integrated with childhood immunization.

A situational analysis of 17 low resource countries show that 43% of women seeking postabortion care services were not using a FP method; nearly 20% had a previous abortion; 60% desired a FP method, yet only 25% of postabortion care clients leave the facility with a family planning method.

Proven evidence based methodologies to address unmet need in postpartum and postabortion care women include providing family planning counseling and services at the same time and location where women receive treatment for abortion related complications; supporting CHW to provide a wide range of FP methods. Promising practices include offering a wide range of FP methods through mobile outreach services and offering FP services to postpartum women during routine childhood immunization. The decentralization of postabortion care services increases access to FP counseling and service delivery for clients before they leave the facility. Use of evidence based practices can yield sustainable results in a short period of time, and can decrease maternal mortality and contribute to the reduction of prematurity, a major cause of newborn death.

**S082.3**
**METHOD CHOICE – GOING BEYOND METHOD MIX**
P. MacDonald. United States Agency for International Development, United States of America

Women and men in low and middle income countries often have limited choice of contraceptive methods. In most of these countries, one or two methods dominate the method mix, usually short-acting methods, such as pills and injections. Yet even as more contraceptive methods are developed they are not always available, easy to access, or affordable. This is especially true for the long-acting reversible contraceptives (LARCs), the IUDs and implants, as well as the permanent methods, tubal ligation and vasectomy, which required skilled health care providers to offer the services. As they are added to the method mix, countries have adopted innovative approaches and tools for ensuring that clients know about them, and have true access to available, affordable, quality services. But how much choice is enough? too much? This presentation will address how health workers and health systems are adapting to add new methods into the mix, and ensure that they are available, accessible and affordable to clients, and that services offer quality of care and true choice, that best meets client’s needs and lifestyle.

**S082.4**
**WHAT IN THE WORLD IS GOING ON? CONTRACEPTIVE USE, UNMET NEED, AND THE BENEFITS OF MEETING FAMILY PLANNING DEMAND**
S. Radloff, R. Jacobstein. 1The Bill and Melinda Gates Institute for Population and Reproductive Health, United States of America; 2IntraHealth International

This presentation will provide basic patterns and trends in reproductive intentions, contraceptive use, and unmet need. In every region of the world there has been increasing desire to delay, space, and limit pregnancies – matched, to an extent, by increasing use of contraception. Access to family planning information and services has often lagged behind this demand, resulting in high percentages of women having an unmet need for family planning (FP). Unmet need is not uniform: Access to modern FP is lower, risks are higher, and outcomes are worse among women who are young, unmarried, rural, poor, and disadvantaged. Meeting women’s needs for FP confers important immediate health benefits as well as economic benefits which can be realized at family, community, and even national levels through a “demographic dividend”. These important benefits will be outlined in this presentation.

**S083. Drugs for Prevention and Management of Postpartum Haemorrhage: New Developments**

**S083.2**
**THE WHO CHAMPION TRIAL**
M. Gülmezoglu. WHO, Switzerland

**Background:** Postpartum haemorrhage (PPH) is the leading cause of maternal mortality in low-income countries. The majority of these deaths could be avoided through the use of prophylactic uterotonic during the third stage of labour. Oxytocin is the recommended uterotonic but its use is limited by the need for refrigeration, thus precluding its administration in women from poor countries. The World Health Organization, Merck for Mothers and Ferring Pharmaceuticals discussed room temperature stable carbetocin (carbetocin RTS) as a promising intervention for reducing PPH, and agreed to proceed with a randomized, double-blind, non-inferiority trial to evaluate the effectiveness of carbetocin RTS compared to oxytocin for the prevention of PPH after vaginal birth.
Methods: 30,000 women will be recruited in 11 countries. The primary objectives are to evaluate the non-inferiority of carbetocin RTS (100 μg) versus oxytocin (10 IU) in the prevention of postpartum haemorrhage and severe postpartum haemorrhage after vaginal birth. The primary endpoints are blood loss ≥500 mL or the use of additional uterotonic (composite endpoint) and blood loss >1000 mL. The non-inferiority margins for the primary endpoints would be 1.16 and 1.23, respectively. If the upper limit of the two-sided 95% confidence interval for the relative risk for the endpoints is below the corresponding pre-established margin, non-inferiority will have been demonstrated.

Discussion: If the results of the study show that carbetocin RTS is a safe and effective alternative to oxytocin, this could have major implications for preventing postpartum haemorrhage and a substantial impact on maternal survival worldwide. Should that be the case, the WHO recommendations for the prevention and treatment of PPH will be updated accordingly. HRP/RHR will undertake the application to WHO recommendations for the prevention and treatment of PPH will be updated accordingly. HRP/RHR will undertake the update the WHO Model List of Essential Medicines and carbetocin RTS will be updated accordingly.

Background: Postpartum haemorrhage (PPH) remains the leading cause of maternal mortality worldwide. Uterotonic drugs can reduce blood loss, and are recommended for routine use. There are numerous uterotonic drugs, but there is uncertainty about their relative effects and ranking. We aim to assess the clinical effectiveness and side-effect profile of uterotonic drugs to prevent PPH, and to generate a clinically useful ranking of available uterotonics according to their effectiveness and side-effects.

Methods: We will search the Cochrane Pregnancy and Childbirth Group’s Trials Register for randomised trials that included women who had prophylactic uterotonic (oxytocin, ergometrine, misoprostol, carbetocin, or combinations of uterotonics) administered for preventing PPH following a vaginal birth or a caesarean section. The primary outcomes are PPH ≥500 mL and PPH >1000 mL.

We plan to perform a network meta-analysis of all uterotonic drugs for preventing PPH to rank their relative effectiveness and side-effect profile. We will perform both standard pairwise meta-analyses and network meta-analysis within a Bayesian framework using both direct and indirect effectiveness data. We will also estimate the ranking probabilities for each treatments. We will obtain a treatment hierarchy using the surface under the cumulative ranking curve (SUCRA).

Findings: From our scoping search, we estimate we will be including over 100 randomised trials with a total of approximately 300 intervention arms and 100,000 women.

Interpretation: We aim to identify and discuss the uterotonic drugs that are the most effective in preventing PPH with a favourable side-effect profile.

Funding: UK National Institute for Health Research (Health Technology Assessment Project 14/139/17 Uterotonic drugs for preventing postpartum haemorrhage: a network meta-analysis and cost-effectiveness analysis).

S083.5
THE WOMAN TRIAL OF TRANEXAMIC ACID (A HEAT STABLE DRUG THAT REDUCES BLEEDING) FOR PPH TREATMENT

M. Gülmezoglu, Switzerland

Tranexamic acid (TXA) is an inexpensive, heat stable, generic drug that reduces bleeding by inhibiting the enzymatic breakdown of fibrinogen and fibrin [1]. Trials of TXA in surgery show that it reduces bleeding by about one third [2]. Trials in caesarean section operations also show less bleeding with TXA [3]. When given soon after traumatic injury, TXA reduces death due to bleeding by about one third [4]. Taken together, there is reason to believe that TXA could reduce deaths due to bleeding following childbirth. However, to date there have been no high quality multi-centre trials of TXA for the treatment of PPH.

The WOMAN trial is an international, multi-centre trial of the effect of TXA on death and hysterectomy in women with post-partum haemorrhage. If a treatment as simple and widely practicable as TXA could reduce the risk of death or hysterectomy, this would be an important obstetric advance. The trial aims to recruit 20,000 women with PPH. It has currently enrolled over 15,000 women and should reach its target sample size in 2016. Unlike many trials of potential PPH treatments, the end points are health outcomes (death and hysterectomy) that matter to women. If TXA is shown to be safe and effective, international efforts will be required to ensure that this heat stable...
generic drug is made widely available in countries that have a high burden of maternal morbidity and mortality.

References:

S085. Speaking the Same Language: Working toward Consensus Definitions for Key Obstetric and Neonatal Terms – The Brighton Collaboration Process
F. Munoz-Rivas, A. Weeks, C. Rouse, F. Munoz-Rivas, M. Harrison, United States of America; United Kingdom

In the context of maternal immunization research globally expanding, the need to standardize definitions used for maternal and newborn conditions, or potential adverse outcomes in pregnancy or the newborn that could occur in maternal immunization trials is attracting much attention and effort. In July 2014, the World Health Organization hosted a conference along with the Brighton Collaboration to start the process of aligning terms of importance for maternal immunization, with an emphasis on applicability in low to mid resource settings. This meeting identified priority terms for definition standardization. The Global Alignment of Immunization Safety Assessment in Pregnancy (GAIA) project, funded by the Bill and Melinda Gates Foundation and coordinated by the Brighton Collaboration Foundation, is working to develop a core set of globally standardized case definitions of key outcomes, create case identification algorithms and data collection tools for monitoring immunization programs in pregnancy and develop guidance for harmonized data collection, analysis and presentation of these events. The first set of these priority definitions of interest to facilitate research and a common language in the field of maternal immunization are being developed. Five neonatal and five obstetrics workgroups are in the process of reaching consensus definitions, with the first draft of ten terms available by the end of September 2015. This interactive session will discuss this consensus building process, present the draft definitions with levels of diagnostic certainty of the ten workgroups that are ongoing, and use four workgroup processes as examples and catalysts for discussion. We hope to engage in an active interchange with other individuals and groups who are also working toward consensus building as we discuss difficult challenges of prioritization, defining terms across all resource settings, and how to use these terms both in and beyond the field of maternal immunization.

The GAIA project consists of the Brighton Collaboration Foundation, WHO, NIH, Public Health Agency of Canada, International Alliance for Biological Standardization, Global Healthcare Consultants, University of Washington, Baylor College of Medicine, Prince Henry’s Institute of Medical Research, Erasmus Medical Center, Children’s Hospital Medical Center, St George’s University of London and Synapse Research Management Partners.

S088. Pelvic Floor Dysfunction and Classification

S088.1 PELVIC FLOOR DYSFUNCTION AND CLASSIFICATION – INTRODUCTION WITH BRIEF OVERVIEW
O. Contreras Ortiz, Argentina

The holistic concept of Pelvic Floor Dysfunction or Pelvic Floor Medicine is interpreted in relation to the anatomical lesion associated with the degrees of descent of genital organs (genital prolapse). Within the degrees of descent, the affected compartment (anterior, middle, posterior) is identified. There is no global consensus about the classification to be used. The average mean consultation is between 5 to 12 years depending on the cultural characteristics of the population. However, the anatomical lesion can be accompanied by urinary incontinence, anal incontinence, colorectal dysfunction, dyspareunia, among others. Facing the latter, the mean average consultation ranges from 2 to 5 years. This reflects the importance of the symptom in the face of the anatomical lesion. The OB/GYN needs a standard of interpretation of functional and anatomical lesions as a whole. That is why Subgroup 2 of the FIGO Working Group on Pelvic Floor Medicine and Reconstructive Surgery designed the FIGO Assessment Scoring System (FASS).

S088.3 BASIC EVALUATION AND TREATMENT OF URINARY INCONTINENCE USING THE NICE GUIDELINE
S. Swift, United States of America

Introduction: The National Institute for Health and Clinical Excellence or NICE Guidelines are an excellent evidence based resource for the evaluation and treatment of many clinical conditions including urinary incontinence. The website that houses these guidelines can be difficult to navigate and this course will give you the tools to easily navigate the website and will review some of the basic evaluation and treatment recommendations.

Methods/Results: A step-by-step approach on how to use the web site will be reviewed with screen shots to allow the delegate to navigate the myriad of resources available on the NICE website. Next a review of the websites basics for evaluation and treatment of urinary incontinence will be reviewed.

Conclusions: Following the presentation delegates will be familiar with the NICE website and will be able to use the slides from this presentation to assist them with future use. In addition, delegates will be able to describe a few simple steps that are necessary for any evaluation of an incontinent female as well as the first steps in the therapeutic management of the various forms of incontinence in females.

S088.5 BASIC EVALUATION AND TREATMENT OF FECAL INCONTINENCE
R. Fernando, United Kingdom

Faecal incontinence (FI) is defined as involuntary loss of liquid or solid stools which is a social or hygienic problem. It is a debilitating condition affecting between 11–15% of women worldwide. Childbirth and pelvic floor injury is the commonest cause for faecal incontinence amongst women. Most women do not present to a physician with FI symptoms because of embarrassment. Detailed history
and examination with the use of patient reported validated questionnaires are vital in establishing the impact on quality of life. Endoanal ultrasound, anal manometry and defecatory proctogram are vital investigations to identify the cause for faecal incontinence. Conservative treatment including dietary modification, constipating agents, stool bulking agents, bowel re-education and biofeedback should be considered as the first line treatment. Surgical treatment is aimed at reconstructing the damaged anal sphincter by sphincteroplasty or augmentation of the sphincter complex using bulking agents. However the reported success rate of these surgeries is low. Recent studies have reported better outcome with neuromodulation including Sacral Nerve Modulation and Percutaneous Tibial Nerve Stimulation. As the overall success rate of treatment for faecal incontinence is low, the aim should be focused on reducing and limiting pelvic floor injury during childbirth.

**S090. Young People at the Centre: How to Provide Sexual and Reproductive Health Services to Young People in the 21st Century**

V. Chandra-Mouli¹, D. Breaken², J.F.Nsensele³, E. Yarrow².
¹Switzerland; ²United Kingdom; ³Kenya

The world is home to the largest generation of young people in history. They are diverse. They have opportunities, but they also face immense obstacles while seeking to improve their lives, including their sexual and reproductive health. In the past decade a lot of progress has been made to improve access to SRHR for young people. International initiatives have been undertaken to move away from a view of services to young people as passive consumers, towards a focus on young people gaining/regaining a sense of agency and empowerment. This includes a new approach to service delivery which puts young people at the centre of decision-making and service delivery. In the realm of sexual and reproductive health decision-making, we believe that a balance must be struck between respecting the autonomy of young people and providing a safety net for their protection. During the panel we will discuss various new concepts and practices which recognize the role young people play and put young people at the centre of our services. Based on research and case studies from the field the panel will showcase new approaches to improve young people’s sexual and reproductive health and rights.

This includes:

- How do new ideas about brain development impact on young people's learning, roles, skill development and autonomy around the world?
- What are the most important keys of youth centred service delivery to young people?
- What role can young people play themselves in service delivery?
- What are the legal barriers to services and how to address them?

**S092. Working Together: Clinical Competencies for Providing Safe Abortion and Effective Contraception**

**S092.1 RESEARCH AND STRATEGY IN CALIFORNIA THAT LED TO CHANGE OF LAW PERMITTING NURSE MIDWIVES, NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS TO PERFORM FIRST-TRIMESTER VACUUM ASPIRATION**

M. Battistelli, University of California, San Francisco, Oakland, CA, United States of America

Objectives: By the end of the session, the learners should be able to:

- Identify the evidence needed to make sustainable policy change to integrate abortion care into women’s healthcare services
- Identify evidence-based strategies and methods to improve abortion access through abortion care workforce innovations, clinical practice improvements, and reducing regulatory barriers

With the culmination of the Health Workforce Pilot Project (HWPP) #171 and the passage of Assembly Bill 154 (AB154) nurse practitioners (NPs), certified nurse-midwives (CNMs), and physician assistants (PAs) can now provide comprehensive first-trimester aspiration abortion care in California. As part of HWPP #171, ANSIRH researchers evaluated a standardized, competency-based curriculum and training plan for education of primary care clinicians in early abortion care. The curriculum and training plan consists of didactic education, problem-based case reviews, and “hands on” clinical experience, along with knowledge testing and periodic clinical assessment, with the goal to train primary care clinicians to competence in all aspects of early aspiration abortion care. Methods and successful strategies to train CNMs, NPs & PAs to competence in aspiration abortion care as well as the development of an empirically tested competency-based curriculum in early abortion care will be presented. Experience will be shared regarding the education of policymakers, health professional associations, patient advocates and other stakeholders on the evidence. Finally, lessons learned during the implementation efforts after the successful passage of legislation will be presented.

**S092.2 IMPROVEMENT IN ABORTION PROVISION AND LARC AMONG NURSES, MIDWIVES AND PHYSICIANS IN THE KENYAN PRIVATE SECTOR AND SOUTH AFRICAN PUBLIC SECTOR**


**Background:** While abortion is legal in South Africa and a new constitution allows for abortion to protect the health and life of a pregnant woman in Kenya, high rates of unsafe abortion continue to contribute to life-threatening complications and maternal mortality and morbidity.

**Methods:** Woman Care Global’s (WCG) field representatives follow healthcare providers who provide abortion services in Kenya and South Africa, providing tailored medical detailing support in order to help improve abortion caseload and contraception provision. MAX representatives collect both quantitative client data on each abortion procedure and post-abortion contraception, as well as qualitative data on the barriers providers encounter to providing quality services. Data collection began in January 2013 and was analyzed by the University of California San Diego’s Center on Gender Equity and Health.

**Results:** 76% of providers in both Kenya and South Africa had a significant increase in at least one of the MAX outcomes related to abortion caseload or contraception provision. There was a statistically significant increase in the average provision of LARC by provider in South Africa from 17% (initial month of enrollment) to 32% by month 17 (p<0.0001). In addition, average abortion caseload per provider in Kenya more than doubled from 7.4 cases per provider in January 2013 to 16.8 cases per provider in August 2014 (p=0.03).

**Conclusions:** Data illustrates that WCG’s medical detailing model can be effective in influencing provider behavior. Frequent and tailored support from field representatives is capable of improving abortion and contraceptive services.

**S092.3 MIDWIVES, NURSES AND DOCTORS PERFORMING MVA IN VIETNAM AND SOUTH AFRICA AND EARLY MEDICAL ABORTION IN NEPAL: EVIDENCE FROM RANDOMIZED, CONTROLLED TRIALS**

L. Warriner, United States of America

To improve access to safe abortion services in some developing countries, mid-level providers (MLPs) have been trained to provide first-
trimester induced abortions. MLPs provide cost-effective services and often work in areas where doctors are scarce. We conducted two randomized, controlled equivalence trials to assess the safety and efficacy of surgical and medical first-trimester abortion provided by MLPs and by doctors. All participating providers had received government training following national protocols. The first assessed first-trimester manual vacuum aspiration in South Africa (N=1160) and Viet Nam (N=1734). Women presenting for an induced abortion were randomly assigned to a doctor or MLP and followed-up 10–14 days later. The primary outcome was complication from abortion and in both countries rates of complication met predetermined statistical criteria for equivalence. A second trial in Nepal assessed early medical abortion up to 9 weeks' gestation (N=1032) by type of provider. Women followed the Nepalese medical abortion protocol at the time of the study, which consisted of 200 mg of mifepristone taken orally and 800 μg of misoprostol administered vaginally. The primary endpoint was complete abortion within 30 days of treatment and the risk difference for complete abortion fell within the predefined equivalence range for type of provider. With appropriate government training, MLPs can provide both first trimester manual vacuum aspiration and medical abortion up to 9 weeks' gestation as safely and effectively as physicians.

S095. The Changing Landscape of Abortion
B. Ganatra, B. Winikoff, L. Castleman, M. Romero. 1Department of Reproductive Health Research, World Health Organization, Switzerland; 2Gynuity Health Projects, United States of America; 3Ipas, United States of America; 4Centro de Estudios de Estado y Sociedad (CEDES)/Center for the Study of State and Society, Argentina

Global trends toward liberalizing abortion laws, reducing abortion-related maternal mortality, broadening availability of medical abortion, ongoing need for increased access to second trimester abortion, and women’s increasing awareness of their sexual, reproductive and human rights all contribute to the changing landscape of abortion. In light of these abortion trends, this plenary will summarize key issues and future directions in measurement, research, program implementation and women’s engagement in efforts to make safe abortion available and accessible as part of the continuum of women’s health care.

S096. Intrapartum Fetal Monitoring
S096.1 SHOULD ALL WOMEN HAVE CONTINUOUS CTG IN LABOUR?
D. Ayres-de-Campos, Portugal

Most international guidelines recommend the use of continuous CTG monitoring for high-risk cases only, based on randomised controlled trials showing that, compared with intermittent auscultation, it decreased the occurrence of neonatal seizures but had no effect on perinatal mortality or cerebral palsy. On the other hand, it was associated with increased c-section and instrumental vaginal delivery rates. However, all of these studies were carried out in the 1970s and 1980s where equipment, clinical experience and interpretation criteria were very different from current practice, and they were clearly underpowered to demonstrate differences in major outcomes. The evidence for the use of continuous CTG monitoring during labour should therefore be considered as scientifically inconclusive. There is evidence that about 50% of serious adverse events occur in low-risk cases. In a world of decreasing perinatal mortality and during an unstable and rapidly-evolving situation such as labour, the suggestion that a less rigorous and discontinuous evaluation of the fetal heart rate can lead to better results requires serious re-evaluation. Several shortcomings of CTG have been pointed out, such as the restriction of mothers to bed, the occasional occurrence of poor quality signals or maternal heart rate, complex and poorly reproducible interpretation, and limited specificity. Recent developments in telemetry, non-invasive signal acquisition, simpler and more objective consensus guidelines, computer analysis, and adjuvant methodologies have changed this reality. Given the serious consequences of hypoxia/acidosis, and at a time when “every baby counts”, it is time to focus on improving the technology rather than throwing away information.

S097. Reproductive Options – Infertility: Effectiveness
S099.2 OBESITY AND REPRODUCTION
T.A. Mahmoud. Consultant Obstetrician & Gynaecologist, Victoria Hospital, Kirkcaldy/Clinical Senior lecture University of St. Andrews, Scotland, United Kingdom, President European Board and College of Obstetrics and Gynaecology

The effect of obesity is dose dependent; the higher the BMI, the higher the risk of developing complications during pregnancy and during the lifetime of women. Obesity is a state of hyperinsulinaemia, increased insulin resistance and hyperleptinaemia. Obesity per se is
associated with poor reproductive outcomes regardless of the mode of conception; including natural conception, pregnancies achieved by ovulation induction, IVF-ICSI and from ovum donation programmes. Pregnancy among obese women is associated with higher risk of euploid miscarriages, increased risk of developmental abnormalities involving cardiovascular and cranio-splanchnic systems and metabolic syndrome related complications such as Gestational Diabetes Mellitus (GDM) and type 2 DM, pre-eclampsia and increased risk of stillbirths. There is a direct correlation between a higher BMI and poorer fertility prognosis. Obese women quite often present with polycystic ovarian disease and chronic anovulation. Obese women attending for assisted conception treatment have poor response to induction of ovulation; require higher dose of stimulating agents, lower egg numbers, diminished embryo quality, a higher risk of implantation failure and reduced pregnancy rates. This presentation will explore the impact of interventions which are currently used to improve reproductive outcomes in obese women. Community based studies of “Life style interventions” have been shown to reduce metabolic consequences of obesity such as progression to type 2 DM and the risk of pre-eclampsia during pregnancy. There are no current data demonstrating an effect of life styles on fertility primary outcome of pregnancy, ovulation or menstrual regularity. Various bariatric surgery techniques (restrictive, malabsorptive and mixed) have been reported to promote weight loss by decreasing gastric volume, and malabsorption. Current literature suggests a trend to improved spontaneous pregnancy rates following surgery compared with conservative therapy. Although bariatric surgery leads to significant weight loss, its role in improving overall fertility rates in obese women remains unclear. Bariatric surgery per se reduces risk of pregnancy induced hypertension but the risk of GDM is not significantly changed. Conversely there is an increased risk of intra-uterine growth restriction and prematurity. So, there remain a large number of unanswered questions, which will be discussed in this presentation.

S099.3 ENDOCRINE DISRUPTORS AND THEIR IMPACT IN FERTILITY OF MEN AND WOMEN

L. Escudero, Peru

An introduction to the harmful effects of endocrine disruptors in male and female fertility is provided here. The idea is to acknowledge why chemicals, both natural and man-made can affect adversely the endocrine profile and therefore interfere with human health, human reproduction and also seems to affect the offspring throughout generations to come. There is a lot of research going on, that provides information to help us understand the mechanism by which different environmental chemicals that are found in everyday products, can alter the endocrine system and affect the hormone pathways, which may affect the normal functions of tissues and organs.

There is some evidence suggesting that endocrine disruptors may increase the incidence of diseases like obesity, diabetes, some types of cancer and endometriosis as well as important alterations in both male and female reproductive system. The idea of this presentation is to provide a comprehensive summary to the concept of endocrine disruptor and the mechanisms by which chemicals interfere with the endocrine function and affect both male and female infertility.

S099.4 ALTERNATIVE THERAPIES OR COMPLEMENTARY MEDICINE. DEBATE: USEFUL VS USELESS

E.H.Y. Ng. Department of Obstetrics & Gynaecology, LKS Faculty of Medicine, The University of Hong Kong

More than 70% of the world’s populations have used some forms of alternative therapies for health care, mainly as a compliment to standard care or as a second line treatment after the first line treatment fails or leads to significant side effects. The use of these alternative therapies is especially common among women of reproductive age. Acupuncture may restore ovulation among patients with polycystic ovary syndrome, but there are not a sufficient number of randomized studies to validate this. Evidence supporting the role of acupuncture in male subfertility is also insufficient. Acupuncture can be considered as an alternative for pain relief during oocyte pickup in patients who cannot tolerate the conventional conscious sedation because of its associated adverse effects. Several meta-analyses showed no evidence of overall benefit of acupuncture for improving live birth rate of in vitro fertilization (IVF). In China, a large number of infertile couples are using Chinese herbal medicine as an adjuvant therapy to improve their success when undergoing IVF. A meta-analysis reveals use of Chinese herbal medicine improves IVF success but there is a high risk of bias observed with the trials. Although alternative therapies are widely used among women, strong evidence for its effectiveness is still lacking in many areas. The limitations of relevant studies include small sample sizes, non-randomized or uncontrolled samples, and the self-selected nature of the participants. Thus more adequate size randomized studies are urgently needed.

S099.5 NEW DEVELOPMENTS IN CRYOPRESERVATION

K. Diedrich. Department of Obstetrics and Gynecology, University of Lübeck, Germany

Since the birth of the first in vitro fertilization baby in 1978 the treatment options in infertile couples have developed rapidly in the field of reproductive medicine. At the beginning cryopreservation achieved with the slow freezing protocol was not very successful, less reliable and inconsistent. That changed dramatically with the introduction of vitrification in 1985. Vitrification protocol appear to be safe, relatively simple, potentially faster and inexpensive. Vitrification has now replaced slow freezing protocols for oocytes and embryos. Vitrification is the method of choice with higher levels of clinical efficiency and universal acceptance.

S101. Current Proposals in Pelvic Floor Medicine

S101.2 THE ROLE OF PHYSIOTHERAPY IN ELDERLY PATIENTS

C. Betschart. Switzerland

Pelvic Floor disorders increase with age, from 36.8% in women aged 60 to 79 years, to 49.7% in women aged 80 years or older. Female pelvic floor disorders include urinary incontinence, fecal incontinence and pelvic organ prolapse (POP).

National and International guidelines recommend pelvic floor muscle training (PFMT) as first-line conservative treatment for stress urinary incontinence; besides, PFMT improves other pelvic floor disorders too. In elderly patients co-morbidities, medication and life circumstances have to be taken in consideration for a successful physiotherapy. Outcomes are assessed with quality of life questionnaires, bladder diaries, cough test, manometry, digital and clinical assessment (POP-Q), electromyography, and recently imaging.
Studies that compared in an age-stratified way the effect of PFMT showed ambiguous results. Most previous research studies examined the effect of PFMT on a single aspect of PFM function, however especially in elderly patients different functions and structures might be affected. The 4th International Consultation on Incontinence stated: “More research is needed to investigate the association of PFMT between age and outcome.” and “there is no good evidence to date to suggest that healthy older women with urinary incontinence do not benefit from PFMT as much as younger women”.

A central role in the therapy of elderly patients is a comprehensive approach including patient education, behavioral and life style intervention, bowel management and specific exercise given by a geriatric specialized team. In this presentation the evidence is discussed that elderly patients are able to apply motor learning strategies and gain neuronal control to improve or resolve their pelvic floor disorders.

S101.3
OVERACTIVE BLADDER RESISTANT TO TRADITIONAL ANTICHOLINERGIC
S. Farrell, Canada

Women with over active bladder symptoms that are resistant to modifications in lifestyle (caffeine reduction) and anticholinergic medications present a clinical challenge that is not easily resolved. These women have resistant overactive bladder. Newer treatment options that have shown promise in the treatment of resistant overactive bladder include the new β-agonist mirabegron, tibial nerve stimulation and intravesical botox injections. This presentation will examine the evidence for the safety and effectiveness of these newer treatment options for resistant overactive bladder.

S101.4
PESSARY FOR PELVIC ORGAN PROLAPSE: GLOBAL AND ASEAN PERSPECTIVES
J. Manonai, Thailand

Pelvic organ prolapse (POP) is common and is seen in up to 50% of parous women in a clinic setting worldwide. Vaginal pessaries can be used to restore the prolapsed organs to their normal position so as to relieve symptoms. Pessaries can be classified as support pessaries or space-occupying pessaries. The most commonly used types of support pessaries include ring and shaatz pessaries. The space occupying pessaries include cube and donut pessaries. Successful fitting and proper care are important for continuation of pessary use. Complications of pessary use are usually minor, and vaginal discharge is the most common complaint. Vaginal erosions can be treated with removal of the pessary and vaginal estrogen application.

A previous study reported real-world evidence of pessary use for management of POP among elderly Americans. The prevalence of prolapse treatment with pessaries seemed to be uniform throughout the United States. Most of the pessaries were placed by gynecologists. The low rates of complications confirm the safety of this treatment modality. A recent survey conducted in the UK reported that doctors were significantly more likely to report involvement in pessary care than nurses or physiotherapists. The majority of respondents used ring pessaries and shelf pessaries and most recipients were older women. The most common indication for fitting a pessary was that the woman was unfit for surgery. In Asian countries including Southeast Asian nations, a few studies have been reported on the use of the pessary.

S102. ISPOG Presents: Psychosomatic Issues in Gynecology

C. Damonte Khoury1, H. Kentenich2, S. Carr3, J. Schaffir4, Spain; Germany; Australia; United States of America

In this session, representatives of the International Society for Psychosomatic Obstetrics and Gynecology who are experts in this field will present information and research on selected topics that involve the interface between women’s health and psychology. Specifically, the session will cover the following topics:

Clinical challenges in menopause: Explanation of psychosocial issues that influence women’s experience of menopause, and the impact that menopause has on other facets of psychological well-being. Psychosomatic counseling in sterility and reproductive medicine: Couples undergoing infertility work-up and treatment may experience psychological complications including anxiety and depression. These couples may need additional counseling outside of medical information regarding treatment. Psychosexual care… a human right? Presentation of data on prevalence, causes and impact of cancer on sexuality. Discussion of communication, assessment and therapeutic approaches.

Hormonal contraception and mood: Review of studies that demonstrate the prevalence of mood effects in hormonal contraceptive users, and analysis of what drug components may have greater effects.

S102.2
PSYCHOSOMATIC COUNSELING IN STERILITY AND REPRODUCTIVE MEDICINE
H. Kentenich, Germany

Counselling in sterility and reproductive medicine should include medical/biological, psychological and social aspects. This is based on the medical and psychological history of both patients. The treatment itself with possible harm and side effects of medication, the stress of the treatment, the success rate/non success rate, the possible aspects of the welfare of the child and the patients are important points of counselling. Intensive counselling should be offered in case of sperm donation, egg donation, embryo donation and surrogacy, because this implies questions of genetic origin and the question of known or unknown identity regarding donation. These are parts of counselling done by physicians. An independent counselling by psychologist or counselor should be offered. From the beginning one should include a so called “Plan B”, which implies future plans without the expected and wished child.

S106. The Global Prevention of Maternal Isoimmunization and Rh Hemolytic Disease of the Fetus and Newborn

J. Parer1, V. Bhutani1, A. Zipursky2, J. Olufunnmilayo Banire3, United States of America; Canada; Nigeria

This session will describe the problem of Rh disease and its impact on mothers and infants. This however is a completely preventable disease. It has been eradicated in rich countries but it is a serious health problem in many low and mid-income countries where it is responsible for more than 100,000 deaths annually.

This session will describe the problems and discuss how this completely preventable disease can be eliminated. The Consortium for Universal Rh Disease Elimination has been established to eliminate Rh disease worldwide. Obstetric and perinatal groups are called upon to participate in this global initiative.

In addition to the important role of obstetricians and neonatologists to develop Rh prevention programs in their countries it is also impor-
tant that communities assume responsibility for solving the problem. This can be done by healthcare systems in the country and by a population knowledgeable about the disease, demanding a prevention program.

In Nigeria a group of women independently developed a program of identifying Rh negative pregnant women and providing them with Rh immunoglobulin prophylaxis at 28 weeks of pregnancy and post-partum. This presentation will describe the steps taken to develop this unique program which could serve as a model of what could be implemented elsewhere for the global prevention of Rh disease.

S107. Hot Topics in Perinatal Medicine

S107.5

PLANNED HOME BIRTH: A CHALLENGE TO PERINATAL MEDICINE


This presentation addresses the recrudescence and new support for planned home birth in the United States and the other developed countries in the context of professional responsibility. Advocates of planned home birth have emphasized patient safety, patient satisfaction, cost effectiveness, and respect for women’s rights. Planned home birth has unnecessary, preventable, irremediable and unacceptable increased risk of harm for pregnant, fetal, and neonatal patients. We show that the persistently high rates of emergency transport undermine patient safety and satisfaction, the raison d’etre of planned home birth, and that a comprehensive analysis undermines claims about the cost-effectiveness of planned home birth. We then argue that obstetricians should understand, identify and correct the root causes of the recrudescence of planned home birth; respond to expressions of interest in planned home birth by women with evidence-based recommendations against it; refuse to participate in planned home birth; but still to provide excellent and compassionate emergency obstetric care to women transported from planned home birth. We explain why obstetricians should not participate in or refer to randomized clinical trials of planned home vs. planned hospital birth. We call on professional organizations of obstetricians and midwives not to support planned home birth when there are safe and compassionate hospital-based alternatives and to advocate for professional responsibility in obtaining a safe home-birth-like experience in the hospital.

S110. Improving the Availability and Quality of Care for Mothers and Babies in Middle and Low-Income Countries: The Making it Happen Programme

S110.1

INCREASING THE CAPACITY OF HEALTHCARE WORKERS TO PROVIDE EMERGENCY OBSTETRIC AND EARLY NEWBORN CARE (EMONC) IN SUB-SAHARAN AFRICA AND SOUTH ASIA

C. Anawo Ameh. on behalf of CMNH, LSTM. United Kingdom

Objective: An estimated 300 000 women die every year from complications of pregnancy and childbirth. The causes of these deaths are well understood and can be readily treated. In-depth assessments of facilities in low-income settings have highlighted many cases where equipment and consumables are available yet the staff lack skills. The Emergency Obstetric and Newborn Care training package was developed in 2006 by Liverpool School of Tropical Medicine, the World Health Organisation and the Royal College of Obstetricians and Gynaecologists. This international training aims to improve the knowledge and skills of the multi-disciplinary team. The objective of this study was to evaluate the change in knowledge and skills following the training and to investigate what staff demographics were associated with greater pre-training knowledge and skills, and greater improvements.

Methods: Participants were assessed immediately before and after the training in Ghana, Sierra Leone, Nigeria, Kenya, Malawi, Tanzania, Malawi, Bangladesh and Pakistan between November 2012 and March 2015. Knowledge was assessed by 40 true/false questions. Skills were assessed by four written scenario-based questions and four objective structured clinical examinations. Independent t-tests, one sample t-tests, ANOVA and linear regression were used for statistical analysis.

Result: 5939 participants took part in the training and assessments, the majority of whom were nurses or midwives- 3,045 (51.3%); 99.7% (4951/4965) of participants improved their overall score following EmONC training. Differences in pre-training score had their greatest association with country and cadre (combined R square 0.378, p<0.05). Kenyan doctors had the highest mean scores (74%); and Tanzanian nursing aides had the lowest (44%). Having >11 years of obstetrics was associated with having a poorer pre-course score and improvement (beta coefficient −2.53, −0.035 respectively, p<0.05).

Conclusion: The LSTM EmONC training resulted in an improvement in knowledge and skills in all cadre-groups in all countries. These improvements were variable, perhaps due to differences in pre-existing knowledge, skills and learning.

S110.2

HEALTH SYSTEM DETERMINANTS OF THE AVAILABILITY OF SKILLED BIRTH ATTENDANCE AND EMERGENCY OBSTETRIC AND EARLY NEWBORN CARE

B. Madaj, on behalf of CMNH, LSTM. United Kingdom

Objective: To explore factors affecting availability of signal functions for emergency obstetric and newborn care (EmONC) at facilities offering basic (BEmONC) and comprehensive (CEmONC) care across eight African and Asian countries under the Making it Happen programme.

Methods: Baseline data from 549 facilities (366 BEmONC and 183 CEmONC) collected between 2012 and 2013 in Bangladesh, Ghana, Kenya, Malawi, Nigeria, Pakistan, Tanzania and Zimbabwe were analysed. Availability of relevant drugs, equipment and trained staff necessary for performing the seven (at BEmONC) or nine (at CEmONC) signal functions was examined using Stata software.

Result: Among CEmONC facilities, signal functions least available were assisted vaginal delivery (AVD) – with 48% reporting lack of the service – followed by Caesarean section and blood transfusion (at 13% each). BEmONC facilities were generally more affected by non-availability of EmONC signal functions with AVD not offered in 86% of facilities, followed by removal of retained products-(61%) and newborn resuscitation with bag and mask-(32%). Lack of equipment was the most common cause of non-availability (57%) followed by trained staff-(41%) and drugs-(2%). Additionally, no apparent reason for non-availability was reported for 5% of signal functions in BEmONC and 25% in CEmONC facilities.

Conclusion: This analysis contributes to the discussion on factors affecting availability of EmONC care in healthcare facilities. It shows that lack of resources affects services to a varying degree both between individual signal functions but also between types of facilities, pointing to BEmONC facilities in particular requiring attention if necessary care is to be available to mothers and babies. In addition to the key components – drugs, equipment and human resources – it seems other factors may play a role in providing services. These include competencies and confidence of staff performing the procedures, highlighting the need to ensure healthcare workers are appropriately trained.
S110.3
ASSSESSMENT OF MATERNAL MORBIDITY IN FOUR COUNTRIES
M. McCauley, on behalf of CMNH, United Kingdom

Objectives: The definition and measurement of maternal morbidity in a standardized method will ultimately contribute to reducing maternal deaths. In 2013, the World Health Organization (WHO) defined maternal morbidity as "any health condition attributed to and/or complicating pregnancy and childbirth that has a negative impact on the woman’s wellbeing". At the time of writing there is no comprehensive, internationally recognised method to measure maternal morbidity consistently in different settings. The Centre of Maternal and Newborn Health (CMNH) has developed a new data collection tool to measure maternal morbidity (both subjective and objective) in low and middle income countries.

Method: Descriptive multi-country cross-sectional study has been undertaken to measure maternal morbidity in pregnant and postnatal women across five assessment points. Sample size of 11,520 women assessed over four countries: India, Malawi, Pakistan and Kenya. The data collection tool consists of a full health consultation during which a questionnaire is administered in a face-to-face interview. The questionnaire includes socio-demographics, details of previous and current pregnancy complications, medications, domestic violence, use of alcohol, tobacco, psychological wellbeing, and quality of life. Clinical (general, obstetric and/or pelvic if indicated) examinations and basic urine and serological investigations (haemoglobin, malaria, CRP, syphilis and HIV) are performed.

Results: Pilot results demonstrate the data collection tool is acceptable to both women and their health care providers. It is feasible to use in the antenatal and postnatal stages of pregnancy and at different levels of health care facilities. Data collection has commenced in four countries – Malawi (2,245), India (1,686), Kenya (589) and Pakistan (112). Preliminary descriptive data analyses show that the data tool is capturing the necessary criteria to calculate global summary estimates of physical, psychological and social maternal morbidity. Further results will be presented.

Conclusions: We present a new data collection tool that is able to identify and measure maternal morbidity in a comprehensive, holistic and robust way. Preliminary analyses highlight that there are certain markers of morbidity that can be combined and used to provide a maternal morbidity “score” both in the antenatal and postnatal periods. We recommend this “morbidity score” can be used as an outcome measure to assess the effectiveness of interventions implemented, especially in the development of evidence based antenatal and postnatal care bundles in low and middle-income countries.

S110.4
THE IMPACT OF THE MAKING IT HAPPEN PROGRAMME ON MATERNAL AND NEWBORN MORTALITY AND MORBIDITY
N. van den Broek, on behalf of CMNH, LSTM, United Kingdom

Objective: To evaluate the impact of Making it Happen interventions (“skills and drills” training in Emergency Obstetric and early Newborn Care, strengthening of Quality Improvement using audit methodology and MNH data and use of data) in 11 countries.

Methods: A five level framework was developed and used to evaluate the impact of the MiH interventions in Sierra Leone, Ghana, Nigeria, Malawi, Tanzania, Kenya, South Africa, Bangladesh, India, Pakistan and Republic of South Africa. Data was collected at baseline and then at 3-monthly intervals, up to 12 months post intervention. Availability of emergency obstetric care signal functions, number of women requiring emergency obstetric care, maternal case fatality rate, stillbirth rate and the admissions rate of newborns to special care unit for birth asphyxia before and after the interventions were obtained. Results from health care facilities were 80% or more of maternity care providers have been trained were included in the analysis.

Result: The results at 6 months post intervention for 64% (82 of 129) health care facilities were 80% or more of maternity care workers were trained: a decrease in SBR and direct obstetric case fatality rate of 4.9% and 27.6% respectively. There was 67% reduction in postpartum haemorrhage and 36.6% reduction in admissions to NCBU for birth asphyxia. 54.5% and 35.5% more health care facilities could provide all the basic emergency obstetric care (BEmOC) and comprehensive EmOC signal functions respectively.

Conclusion: The MiH interventions contributed to improved availability of emergency obstetric and newborn care at both basic and comprehensive EmOC health care facility levels, a reduction in the number of women with obstetric complications, maternal case fatality rate, stillbirths rate and admissions for birth asphyxia.

S111. New Evidence to End Preventable Stillbirth: The Lancet Series
F. Frøen, on behalf of CMNH, LSTM, United Kingdom; J. Lawn, on behalf of CMNH, LSTM, United Kingdom; A. Heazell, V. Flenady, L. de Bernis, Norway; United Kingdom; Australia; Switzerland

There are an estimated 2.7 million third-trimester stillbirths each year, 98% in low- and middle-income countries, of which the majority occur in Sub-Saharan Africa and South Asia. Despite the heavy global burden, stillbirths were not included in the MDGs, nor do they figure in the SDGs. However, there has been a gradual increase in attention to stillbirth, notably the UN’s adoption of stillbirth targets within the Every Newborn Action Plan and the WHO’s Inter-agency Group for Child Mortality Estimation’s recent agreement to take on the first regular global estimates of stillbirth rates. The Lancet’s Ending Preventable Stillbirths Series follows on from the Lancet Stillbirths series published in 2011. It reports on progress against the 2011 call to action, looking at stillbirth’s profile in national and global policies, research, funding, and program implementation. National and global stillbirth rates, numbers and trends are updated, with a focus on intrapartum stillbirths and comparative risk factor analysis of priority conditions to address. Direct and indirect costs associated with stillbirths are estimated, including psychological impact and loss of quality of life, and the effectiveness of interventions for bereavement support assessed. Progress in and challenges of further reducing stillbirth rates in high-income countries are reviewed, with attention to disparities, risk factors, and bereavement care. Situating stillbirth within the continuum of women’s and children’s healthcare, a renewed call for action is presented, emphasizing leadership, an increased voice for women, and implementation of high-impact interventions for quality care, particularly high quality antenatal and obstetric care, which is especially in the domain of obstetricians and midwives.

FIGO played a key role in the launch of the 2011 Lancet Stillbirth series, co-authoring a commentary, helping in dissemination, and hosting a session at the 2012 FIGO World Congress in Rome. With obstetricians and their national societies in a position to play a critical role in stillbirth prevention both via provision of clinical care but also engagement with national policies and programmes, the session will provide a key forum to share recent developments and new opportunities to accelerate progress toward ending preventable stillbirths by 2030.

S112. Long-Acting Reversible Contraception (LARC)
S112.2
CURRENT AND FUTURE INTRA-UTERINE CONTRACEPTIVE DEVICES AND SYSTEMS
J. Vajpayee, India

The intrauterine device (IUD) is one of the most effective, safe, and economical methods of contraception today. Over 168 million women use IUDs of which China alone accounts for 108 million users.
The hormonal IUD called levonorgestrel IUS reduces menstrual bleeding and boosts hemoglobin levels, likely reducing iron-deficiency anemia. Several new IUDs are under development or in the early marketing phase. These devices contain various modifications designed to facilitate easier insertion and removal, to decrease the rates of accidental expulsion, and reduce complaints of pain or bleeding (responsible for 30 to 50% of discontinuations). For example, some copper IUDs used in China are devoid of rigid surfaces and release a non-steroidal anti-inflammatory drug (indomethacin) to reduce bleeding and pain. A Belgian company developed a frameless product (GyneFix®) that affixes to the fundus of the uterus to keep it in place; in addition, this frameless technology eliminates the potential incompatibility between the size of a uterine cavity and the presence of a rigid plastic frame. A company in Israel has developed a spherical and compressible copper IUD (Intrauterine BallTM) that conceivably has superior fit in the uterine cavity and thus may cause fewer side effects. The Bill & Melinda Gates Foundation is supporting work in India to modify the release rate of copper ions from an existing IUD. All of the above design changes will hopefully mitigate common side effects and pave the way for feasible, practical solutions as a matter of choice for women in all countries.

**S112.3**

**HORMONAL VOYAGES: DELIVERY SYSTEMS FOR HORMONAL CONTRACEPTION – IMPLANTS, INJECTABLES, MICROSPHERES AND MORE**

P. Steyn, South Africa/Switzerland

Long acting reversible contraceptive (LARC) methods are highly effective and safe methods. Expanding LARCs have the potential to reduce unintended pregnancies because they are highly effective as they do not rely a great deal on compliance and correct use. A lot of time and resources have been dedicated to increase access to LARC methods. Despite the obvious advantages they remain underutilized despite being more cost effective than other modern methods. However, they do require access to medical care that have implications for care in low-resource settings such as administering and removal of some methods. In some cases the currently available methods still do not meet the women's needs or are unaffordable. Research in the past has been devoted to develop longer-acting methods by either developing new chemical entities with a longer duration or increase the dosage without increasing side effects, or by improving the delivery system. This approach uses advanced technologies to control the rate of drug release to achieve a longer duration of efficacy. It may also reduce the current dosage of existing active chemical and have the possibility to extend the release of the contraceptive hormone to achieve a longer duration of action. Some different delivery systems include subcutaneous contraceptive implants, biodegradable implants or capsules, injectable microspheres and vaginal rings. In microspheres the duration of the rate and release of these contraceptive hormones are modified through the nature of the polymer composition and molecular weight, the microsphere particle size and amount of API loaded into the microspheres.

**S114. The PRE-EMPT (Pre-eclampsia and Eclampsia Monitoring, Prevention and Treatment) – Lessons to Date**

P. von Dadelszen, G.J. Hofmeyr, M. Vidler, H. Bracken, L. Magee, S. Mundle, B. Payne, University of British Columbia, Canada; University of Witwatersrand, South Africa; Gynuity Health Projects, United States of America; Government Medical College, Nagpur, India

**Background:** Pre-eclampsia remains a leading cause of maternal and perinatal morbidity and mortality. Of the 5–600,000 maternal and perinatal lives lost to pre-eclampsia annually, more than 99% are lost in less-developed countries. The PRE-EMPT initiative is endeavouring to reduce that unacceptable burden of loss.

**Methodology:** We are using discovery science and clinical research, meta-analysis, randomised controlled trials, health services research and knowledge translation methods, strengthened by advocacy and community engagement, to address the burden of death and damage related to pre-eclampsia, in Africa, South America, South Asia, and Oceania.

**Results:** To date (5 of 7 years completed), we have determined: (i) impact of low-dose calcium replacement to prevent pre-eclampsia in the existing literature; (ii) effect of low-dose calcium replacement of the blood pressure of non-pregnant, calcium-deficient women; (iii) ability to provide precise risk estimates to women with pregnancy hypertension, and the role of pulse oximetry in improving precision; (iv) socio-cultural contexts of women, their communities and their caregivers as they relate to pregnancy complications; (v) ability of mHealth-supported community care providers to direct hypertensive women to receive hospital-based care; (vi) feasibility of oral methyldopa, labetalol and nifedipine use to treat severe pregnancy hypertension; (vii) best evidence for pre-eclampsia prevention and treatment; and (viii) gaps in advocacy tools.

**Conclusions:** Through a cross-methodological approach, we are beginning to observe improvements in health outcomes for women at risk of, and with, pre-eclampsia. New knowledge is directed towards providing mHealth-supported precise medicine to women wherever they reside. This approach should be generalizable to other pregnancy complications and for newborns.

**S116. Institutionalization of Immediate Post-Partum IUD Services**

H. Senanayake, U.D.P. Ratnasiri, P. Muganyizi, P. Chaudhary, H. Divakar, P. Fatima, B.O. Elly, Sri Lanka; Tanzania; Nepal; India; Bangladesh; Kenya

Many countries have achieved increasing rates of institutional deliveries; however, the proportion of postnatal women leaving facilities without receiving a contraceptive method remains high. The PPIUD initiative seeks to address this gap in the continuum of maternal health care by institutionalising the practice of offering immediate Post-Partum Intra-Uterine Device services (PPIUD) in teaching hospitals in Sri Lanka, India, Kenya, Tanzania, Nepal and Bangladesh. Long-acting reversible contraception such as the IUD enable a woman to space her pregnancies which helps improve her health and that of her baby, allows more time to look after her child and provides time for her to be more productive. This initiative, a partnership between National Societies and FIGO, aims to increase the capacity of health care professionals to offer PPIUDs; training community midwives, health workers, doctors and delivery unit staff, and institutionalising the practice of counselling for the use of PPIUD during the antenatal period. A research component, conducted by Harvard School of Public Health in collaboration with FIGO and the National Societies in Sri Lanka, Nepal and Tanzania, will study both the impact of the initiative and the extent to which the initiative leads to the institutionalization of PPIUD Services. The session, delivered by the National Coordinators from the six participating countries, aims to explore the global need and evidence-base for PPIUD services, presenting multi-country results, experiences, challenges and lessons learnt. Piloting since 2013, an in-depth Sri Lanka case study will be presented. The research protocol will be presented in the Tanzania context.
The possibilities of assisted reproduction have rapidly developed over the 35 years since the birth of the first child after in vitro fertilization (IVF) and embryo transfer in the year 1978. New possibilities have been developed, such as intracytoplasmic sperm injection (ICSI), preimplantation genetic diagnostics, ovarian stimulation with GnRH antagonists and gonadotropins. This has led to the fact that in 2010 worldwide 5.2 million children were born with the help of IVF and embryo transfer for couples whose desire for children would have been very difficult or even impossible to fulfil without this option. In this lecture new possibilities for improving pregnancy rates after assisted reproduction will be presented and critically assessed especially under the German legal situation, such as single embryo transfer, preimplantation genetic diagnostics and genetic screening and vitrification. Furthermore, developments in the preservation of fertility for cancer patients and in the field of time-lapse imaging of early embryonic development will be discussed.

S120.4 OBSTETRIC AND PERINATAL STRUCTURES IN GERMANY

B. Seelbach-Göbel, Klinik und Poliklinik für Frauenheilkunde und Geburtshilfe, Krankenhaus Barmherzige Brüder Regensburg, Klinik St. Hedwig, Regensburg, Germany

In Germany more than 98% of the children are born in clinical settings, one third of the remaining 2% at home and two thirds in midwife led units. Only few clinics (6%) have more than 2000 births per year, 70% have less than 1000. Nevertheless, more than half of the existing 763 obstetrical units had – in connection with a NICU – been declared perinatal centers level I and II by the regional governments. According to the German Common federal Committee (GBA) 4 Levels of obstetrical and neonatal care are classified. The highest standard of care is provided by so called perinatal centers I allowed to treat preterm births <29 gestational weeks or neonates below 1250g, high-grade multiple gestations <33 weeks and any maternal and fetal anomalies. Level II centers treat preterm deliveries above 29 weeks, women with pregnancy-induced morbidities and severe fetal growth retardation (IUGR) and maternal IGDM. Level III and IV care about deliveries of at least 32 resp. 36 weeks and moderate IUGR. Level IV units don’t provide special neonatal care. Generally all obstetrical units treat women according to actual national guidelines. The numbers of newborns below 1500g treated in each perinatal center I or II vary between 2 and about 200 neonates per year. In order to enhance quality several attempts have been made to reduce the number of Level I centers with only few preterm. The actual GBA guideline defines Level I in dependence of a 1:1 nurse care in the NICU. This is a great personal and financial challenge for the majority of the currently existing Level I centers and raises the question of feasibility.

S121. Community Perspectives and Human Rights of Women Living with HIV

T. Crone 1, F. Anam 2, L. Thomas 3, C. Chung 1, M. Tholanah 4. 1United States of America; 2Nigeria; 3Puerto Rico; 4Zimbabwe

The WHO Guideline on Sexual and Reproductive Health of Women Living with HIV/AIDS: Guidelines on Care, Treatment and Support for Women Living with HIV/AIDS and their Children (WHO, 2006) needs updating because of changes in both the bio-medical and political aspects of the HIV response, and the internal processes relating to production of technical guidelines within WHO. As a first step in the Guideline development process, the WHO Department of Reproductive Health and Research commissioned a global community survey of values and preferences among women living with HIV. This represents a unique example of placing the voices of the community and the end-user upfront in the WHO guideline development process. Networks are consistently left in a position of having to respond – often negatively and retrospectively – to policies and Guidelines which patently do not reflect their values or preferences. The development and implementation of this survey acknowledges the tremendous contribution of the community of women living with HIV as social mobilization and advocacy by the community has resulted in real success in the field of HIV. This unique process involved the participation of 945 women from 94 countries, ranging in age from 15 to 72 years and resulted in the largest global survey on sexual and reproductive health and human rights of women living with HIV to date.

S122. Innovations in First and Second Trimester Medical Abortion Services

E. Raymond 1, B. Winikoff 1, S. Hajri 2, D. Abbas 3, H. Bracken 1

1United States of America; 2Tunisia; 3Pakistan

A number of recent innovations in medical abortion provision have the potential to improve women’s access to and satisfaction with services while simultaneously streamlining services and reducing costs. This panel will present new research on several innovations, followed by a discussion of their implications for service delivery and accessibility. The panel will begin by highlighting new service delivery strategies that simplify medical abortion by reducing the number of visits required of women. The first presentation will summarize the findings and implications of a number of international studies demonstrating the feasibility of an at-home urine-based semi-quantitative pregnancy test in lieu of in-clinic visits for medical abortion follow-up. Similarly, data will also be shared on the safety and feasibility of eliminating the initial in-clinic mifepristone visit based on recent research in the US and elsewhere. Findings from large multi-center trials on the safety and efficacy of medical abortion regimens in the 10th week will be presented along with data from recent pilots in Vietnam and Tunisia of the feasibility of the most commonly used single dose regimens for outpatient medical abortion in the 11th and 12th week. The panel will conclude with findings on the implication of route of misoprostol administration in the second trimester, as well as new evidence on the interval between mifepristone and misoprostol and its effect on time to expulsion. Research will also be shared on the advantage of adding mifepristone to a misoprostol regimen to treat first trimester missed abortion and intra-uterine fetal death (IUFD).

S126. Basics of Breast Health and Breast Cancer

S126.2 PRECANCEROUS LESIONS OF THE BREAST AND BREAST CANCER

M.W. Beckmann, Frauenklinik, Universitätsklinikum Erlangen, CCC Erlangen-EMN, Erlangen, Germany

The number of cancer cases is increasing continuously. Breast cancer is the most common cancer in women in industrial nations. The detection rate of breast cancer at an earlier stage is increasing by the introduction of the mammography screening. On the other hand clinicians are confronted with more facilitative and obligate precancerous lesions of the breast. For the pretherapeutic assessment of suspicious lesions the stereotactic core needle or the vacuum biopsy is rec-
ommented. Non-malignant, but atypical, or indeterminate breast lesions detected on core needle biopsy are classified as lesions of uncertain malignant potential (B3). They exhibit varying risks of associated malignancy, which might not be represented in core needle biopsies, and should be verified by lumpectomy. The ductal carcinoma-in-situ (DCIS) should be treated by complete excision and radiotherapy. In case of invasive breast cancer, the improvement in cure rates could be achieved by adjuvant systemic therapies. The indication is more and more based on the tumor biology and less on classic factors such as tumor size and lymph node involvement. Actual, breast cancers are classified into four molecular subtypes which are associated with the expression of hormone receptors, HER2/neu status, grading and proliferative activity: Luminal A and B tumors are hormone receptor positive and HER2 negative. Luminal A tumors proliferate slowly – usually eligible for endocrine therapy. Luminal B tumors present a higher proliferation rate and require additional chemotherapy. The HER2/neu positive breast cancers are suitable for an anti-HER2-treatment in combination with chemotherapy. Triple negative tumors are hormone receptor and HER2/neu negative; they have a poor prognosis and targeted therapies are still missing. Quality-assured pathological diagnostics and a fundamental knowledge about the relevance of histopathological results are essential for the interdisciplinary and individual therapy decision.

S126.4 THERAPY OF BREAST CANCER

S. Becker, Germany

This talk will give a brief introduction to obstetricians and gynecologists interested in the basics of breast cancer care – as could be provided by our specialty. The first steps of therapy based on disease stage will be discussed. The first (surgical) treatment axis of mastectomy vs. breast conserving treatment will be analysed as well as the second (conservative) treatment axis of adjuvant (post-surgical) vs. neoadjuvant (primary) systemic treatment. Different breast cancer subtypes will be described as well as the consequences for different targeted therapy strategies such as endocrine treatment and HER2-targeted treatment. Aspects of plastic surgery will be addressed and techniques such as tumor reduction mammoplasty and skin/nipple-sparing mastectomy, including reconstruction with implants (heterologous) or pedicle vs. free flaps (homologous) will be briefly described. Within the context of the above mentioned treatment stratification, the role of adjuvant radiation therapy will be explained. At the end of the session, the participant should have a good overview over modern breast cancer treatment, surgical, systemic and per irradiation.

S128. Infertility as a Global Disease – Session 1

S128.3 ASRM’S INITIATIVES ON INFERTILITY AS A GLOBAL DISEASE

R.Z. Sokol, Keck School of Medicine, University of Southern California and the American Society for Reproductive Medicine

The ASRM’s initiatives on infertility as a global disease align with the Mission of the ASRM to advance reproductive medicine through education, research and advocacy. In keeping with the goals of the 2014 ASRM Strategic Plan, the Board of Directors of the ASRM is making Access to Care a primary campaign of the Society. Our goal is to enhance the ability of infertile couples to obtain affordable, successful care, first within the US and then globally. As part of our global outreach, the ASRM has established an NGO relationship with the WHO. The ASRM is committed to our joint collaboration in the development of: 1) online educational training for professionals and the lay population in low-resource settings, with translation of modules into a number of languages; 2) joint symposia at the ASRM Annual Meeting and other events; and 3) fertility prevention and environmental reproductive health initiatives. The ASRM is strengthening collaborations with other Reproductive Medicine organizations globally to provide the best reproductive care possible and develop research partnerships. The ASRM, with VirtaMed, has developed a simulator for training in ultrasound guided and unguided Embryo Transfer and IUI. We anticipate that the Simulator will improve training, outcomes and access to care globally. In September, the ASRM sponsored an Access to Care Summit held in D.C. International professionals with expertise in Reproductive Health gathered to identify access to care barriers, to summarize what interventions have been successful, and to develop actionable strategies for ASRM to move the field forward for patients both in the US and globally.

S129. Chronic Pelvic Pain as We Understand It Today: What a Gynecologist Should Know about Chronic Pelvic Pain beyond Endometriosis

S129.2 WHAT THE GYNECOLOGIST SHOULD KNOW ABOUT MUSCULOSKELETAL DISORDERS ASSOCIATED WITH CHRONIC PELVIC PAIN

K. Witzeman, United States of America

Every OB/GYN or Women’s Health practitioner has had the experience of seeing a woman with chronic pelvic pain and/or sexual pain that seems to not be from any identifiable reproductive cause. This 20 minute talk will help the participant identify the common but often underappreciated and missed diagnosis of pelvic myofascial pain. Common clinical case scenarios will be used to illustrate a straightforward approach to determining when the musculoskeletal system is involved with chronic pelvic pain. Pelvic floor muscle and core anatomy will be briefly reviewed and exam techniques described. Musculoskeletal disorders of the abdomen and pelvis may be either a primary cause or a secondary contributor to chronic pelvic pain. Development of an individualized treatment regimen that is problem-based should focus on all contributing factors to the patients’ pelvic pain symptoms. Treatment regimens described will focus on a multidisciplinary approach to care of the woman with chronic pelvic pain, including incorporating a Women’s Health Physical Therapist into the care team.

S129.4 TO CUT OR NOT TO CUT: THE UTILITY OF HYSTERECTOMY FOR TREATING CHRONIC PELVIC PAIN

S. As-Sanie, Department of Obstetrics and Gynecology, University of Michigan, Ann Arbor, MI, USA

Chronic Pelvic Pain (CPP) affects 15-20% of women in the United States. Currently, hysterectomy is often considered the definitive treatment for pelvic pain, with over 100,000 hysterectomies performed for CPP in the United States each year. Despite the assumption that hysterectomy will be curative, approximately 25% of women with CPP continue to experience pelvic pain after hysterectomy. Factors that predict such treatment failure remain essentially unknown, likely due to our limited understanding of the mechanisms underlying the pathogenesis of pain in this complex and heterogeneous condition. This presentation will focus on clinical research studies that examine the incidence and predictors of persistent pelvic pain following hysterectomy. We will also review the utility of oophorectomy when considering hysterectomy for the treatment of pelvic pain.
S136.3 Essential Interventions in Maternal Newborn Care

C. Kyobutungi, Kenya

Rapid and unplanned growth of urban centers in Africa has resulted in the growth of slums at a faster rate than overall urban growth rate. Urban populations are growing at a faster rate than the rate of infrastructural growth resulting in overstretched health care services, serving two sets of populations: those in the planned settlements for whom the services were intended and populations in surrounding unplanned informal settlements. Because of structural and legal reasons, slums are rarely served by public healthcare facilities. The gap left by the near-absence of the public sector healthcare services has been filled by private providers operating in a poor regulatory environment and with little oversight on standards. These private providers, their poor standards notwithstanding, are the first point of call for majority of slum residents in need of maternal, newborn and child health (MNCH) services. Strengthening infrastructure in such settings therefore entails working with both public and private healthcare providers. We developed a service delivery model for very low resource settings – slums settlements – that works with private providers by strengthening their facility infrastructure, and building networks with local health managers, community resources and emergency services for the provision of high quality, accessible and convenient MNCH services. Strengthening infrastructure contributes to improved quality but is also a mechanism for the private providers to access financial and other support from the public sector. The model has significantly increased access to high quality MNCH care. Lessons learnt and future prospects will be presented.

S136.4 Adolescence, Preconception and Maternal Nutrition

M. Hanson, Institute of Developmental Sciences, University of Southampton and NIHR Southampton Biomedical Research Centre, University Hospital Southampton NHS Trust, Southampton, UK

At this Congress, the FIGO guidelines on Adolescent, Preconception and Maternal Nutrition are launched. This document is directed at a range of stakeholders, to highlight the central role of nutrition on adolescent, maternal and infant wellbeing. This is an area that has traditionally been of low priority but which has major implications for girls and women’s health as well as the health of their offspring. FIGO aims to create a global framework for action to improve the nutritional care and support of adolescent girls and women through their pre-pregnancy, pregnancy, post-pregnancy and interpregnancy periods of life. FIGO proposes that these guidelines should be widely disseminated among health care providers of all types, health care delivery organizations, professional organizations, teachers/educators, and women and their families. The key messages in the guidelines are:

- In many societies women and adolescent girls are poorly nourished, in terms of the level and balance of both macro- and micronutrients in their diet. This is detrimental to their current and future health and that of their children.
- Good health and nutrition before conception is key to a mother’s ability to meet the nutrient demands of pregnancy and breastfeeding, and vital to the healthy development of her embryo, fetus, infant and child.
- The continuum of poor maternal health and poor infant and childhood development contributes substantially to the global burden of disease and disability, affecting the way that individuals respond to a number of environmental challenges ranging from infections to an obesogenic lifestyle.
- Health care providers need to “think nutrition first” – focusing on optimizing adolescent and maternal nutrition and health, starting in the preconception years. This approach will have considerable positive benefits for ensuring women’s health and that of their children, as well as securing the health, productivity, life expectancy and well-being of future generations.

S136.5 WHO Recommendations on Postpartum Haemorrhage

V. Diaz, Argentina

The primary goal of this presentation is to provide a foundation for the implementation of interventions shown to have been effective in preventing and treating postpartum hemorrhage (PPH). Besides, learn the process on how WHO guidelines were written. This guideline includes 32 recommendations for prevention and treatment of PPH based on 22 Cochrane Systematic Reviews. For PPH prevention, strong recommendations were made for the use of uterotonics during the third stage of labour in all births, being oxytocin the drug of choice. When oxytocin is unavailable other injectable uterotonics or oral misoprostol are recommended. Oral misoprostol is the treatment of choice when skilled birth attendants are not present and oxytocin is unavailable. Late cord clamping is recommended unless the neonate is asphyxiated and needs to be moved immediately for resuscitation. Control cord traction (CCT) is not recommended for vaginal deliveries in settings where skilled birth attendants are unavailable, but CCT is the recommended method for removal of the placenta in caesarean section. For treatment of PPH, intravenous (IV) oxytocin alone is the recommended uterotonic drug. If IV oxytocin is unavailable, or if bleeding continues, the use of IV ergometrine, oxytocine-ergometrine or misoprostol is recommended. The use of isotonic crystalloids is recommended for the initial intravenous fluid resuscitation of women with PPH. Postpartum abdominal uterine tonus should be assessed for all women to identify uterine atony, and uterine massage initiated for initial treatment of PPH. If bleeding does not stop, surgical interventions, according to skills and feasibility, are recommended.

S138. Hot Topics in Contraception

S138.1 Is There Still a Need for Permanent Contraception?

O. Heikinheimo, Department of Obstetrics and Gynecology, University of Helsinki and Helsinki University Hospital, Helsinki, Finland

The cultural and geographical differences in contraceptive use continue to be significant. According to United Nations, intrauterine devices and female sterilization remained the two most widely used contraceptive methods globally both in 1990 and 2011 (www.un.org/en/development/desa/population/publications/pdf/popfacts/ popfacts_2013-9.pdf). More than half of contraceptive users globally female rely on these two methods. Female sterilization remains highly prevalent in Asia, Caribbean, Latin America and North America, and in these regions constitutes approximately 25 to 35% of all contraceptive use among married or in-union women. The use of female surgical sterilization has declined sharply in several European countries. This has been attributed mainly to postponing childbearing and high prevalence of long-acting reversible methods of contraception (LARC) use among women aged 30 or more. Surgical sterilization continues to be an effective, relatively cheap and permanent method of contraception. Additionally, female surgical sterilization significantly reduces the risk of epithelial ovarian cancer. Communicating appropriately about sterilization and identifying the optimal women for this method of contraception remains a challenge.
S138.2 CONTRACEPTION IN YOUNG AND NULLIPAROUS WOMEN
K. Gemzell-Danielsson, Karolinska University Hospital, Stockholm, Sweden

Access to effective and affordable contraceptive methods have a fundamental impact on women, their families, and society. Unplanned pregnancy can have a detrimental impact on their physical, psychological, economic, and social status especially in adolescents. Adolescent pregnancy is influenced by a number of factors, including; non-use or inconsistent use of contraception; imperfect compliance with the use of condoms and oral contraceptives (OCs); and perceptions that, if contraception is required, condoms are the only option. Furthermore, misperceptions among health care providers regarding the suitability of contraception for young and nulliparous women may influence contraceptive use. Lack of access to contraception and sexual health services can also be an issue in some countries. While the pearl index (PI) for combined contraceptive pills is reported to be below 1–2 for perfect use among adult women the figure in adolescents is far higher, above 13. In contrast the PI for long acting reversible contraception (LARC) including intrauterine contraception and implants show no differences in efficacy depending on age, BMI or parity. Unintended pregnancy rates among adolescents could be substantially reduced through more widespread use of LARC because these methods are highly effective and do not depend on user compliance. Furthermore, studies have shown that LARC methods are acceptable to adolescents. However several myths regarding contraception and barriers to access to LARC for young and nulliparous women remain to be removed especially with regard to intrauterine contraception.

S138.3 THE AFTERMATH OF THE PROGESTOGEN CONTROVERSY
J. Bitzer, Department of Obstetrics and Gynecology, University Hospital, Basel, Switzerland

Introduction: Based on several registry based and case control studies the European Agency of Medicine (EMA) has issued a summary of evidence indicating a higher risk for Venous Thromboembolism in users of Combined Hormonal Contraceptives which contain newer progestogens (Desogestrel, Gestodene, Drospirenone) compared to those containing Norethisterone, Norgestimate and Levonorgestrel. (first and second generation progestogens) Prescribing physicians should inform patients about these differences.

Objectives: Finding answers to the following questions: (a) Did the EMA information lead to a reduction of COC use in general eventually followed by an increase in unwanted pregnancies? (b) What was the impact on differential COC prescription and use in different countries? (c) What do studies show after the EMA communication?

Results:
Ad (a) Controversial results regarding COC use and incidence of unwanted pregnancies in different countries.
Ad (b) No systematic studies but different reports indicating that LNG containing COCs are the first choice in healthy women without special indications for newer progestogens. Separate reports stating considerable differences between countries. No data about the percentage of women continuing use of new preparations.
Ad (c) Very few studies are available after the EMA communication. One published study which started before the EMA communication did not report the claimed risk differences.

Conclusion: Lack of studies looking into the impact of the EMA statement and recommendation on a) Change in prescribing pattern across European Countries and their impact on the incidence of VTE. b) Physicians have to continue to balance risk and benefits in each individual woman including consideration of tolerability and additional benefits and continuation rates.

S138.4 POTENTIAL BENEFITS OF CONTRACEPTIVE PROGESTINS IN NEUROLOGIC DISEASE
G. Merki, Klinik für Reproduktions-Endokrinologie, Universitätsklinik Zürich, Switzerland

Progestins, in addition to its well-known role in reproduction, also exerts marked influences on the nervous system. Desogestrel has been shown to decrease significantly the frequency and intensity of migraines with and without aura. The effect is so strong that its role is beyond that of many prophylactic agents. The mechanisms underlying this observation have not been clarified, however modulation of cortical spreading depression might be involved. Progestosterone and nestorone decrease neuro-inflammatory responses and promote the repair of severe chronic demyelinating lesions. For women with multiple sclerosis therefore these are well- tolerated promising candidates for future therapies. In addition progesterone has neuroprotective effects after brain injury. In animal studies the size of lesions after experimental stroke is smaller and motoric recovery is better in progesterone-treated rats. To what extend these data will apply to new progestins which are used in contraception and daily life of women needs further investigation.

S142. Benign Breast Diseases

S142.1 CONGENITAL ABNORMALITIES OF THE BREAST
S.Y. Brucker, M. Hahn, Universitäts-Frauenklinik Tübingen, Tübingen, Germany

Congenital abnormalities of the breast and the chest wall are seen in breast disease centers as well as in pediatric and plastic surgery clinics. These abnormalities can cause psychological and functional problems in particular during puberty and adolescents. Embarrassment, unsatisfied sexuality and breast-feeding dysfunction are just a few aspects to mention. The distribution of congenital abnormalities is widespread and affects the nipple, the gland, the pectoral muscle as well as the thoracic wall. In general it can be distinguish between a missing, an accessory or an asymmetric variation. This presentation gives an overview about the most common congenital abnormalities of the breast and describes the treatment possibilities for accessory and missing nipples and glands, nipple inversion, asymmetric and tubular breast deformities, Poland’s syndrome and funnel chest.

S142.2 INFLAMMATORY DISEASES OF THE BREAST
K. Friese1,3, W. Janni2, B. Rack3. 1Klinik Bad Trissl GmbH & Co. KG, Oberaudorf, Germany; 2Frauenklinik, Universitätssklinikum Ulm, Germany; 3Frauenklinik, LMU-München, München, Germany

Much concern is given to malignant lesions of the breast, as breast cancer is the most common female cancer worldwide. However, the vast majority of breast lesions are benign. The fast and correct discrimination between benign and cancerous lesions is essential to avoid unnecessary anxiety in many patients and initiate the correct treatment as soon as possible. Inflammatory diseases of the breast can be caused by infectious diseases, but may also be local reactions to systemic disorders or classified as idiopathic. Acute mastitis is frequent in breast-feeding women, especially in the first three months post partum. Emptying of the breast and antibiotic therapy are recommended. When abscesses occur, a surgical approach might be necessary. Recurrent non-puerperal mammary abscesses are caused by squamous metaplasia of lactiferous ducts probably induced by smoking. Abscess
It is important to master benign breast disease. In order to ease patients with benign tumors in their breasts, pathological diagnosis is not always possible due to the small size of the lesion. Therefore the b-classification is part of this presentation. After core or vacuum assisted minimal invasive biopsies. A precise b-classification, which is important to discuss making and biopsy techniques as well as management of benign breast lesions of uncertain malignant potential, diagnosis (imaging and biopsy techniques) as well as management of benign breast lesion (removing vs. observation). This presentation also focuses on the b-classification, which is an important tool for discussion making after core or vacuum assisted minimal invasive biopsies. A precise pathological diagnosis is not always possible due to the small size of tissue cylinders. Therefore the b-classification is part of this presentation. In order to ease patients with benign tumors in their breasts, it is important to master benign breast disease.

S142.3
BENIGN LESIONS OF THE BREAST

M. Hahn. Universität-Frauenklinik Tübingen, Tübingen, Germany

Benign lesions of the breast are a very heterogeneous group of lesions including epithelial and stromal proliferations, neoplasm as well as inflammatory diseases. Some of them are asymptomatic, some are just detected on imaging. Benign lesions can cause pain, anxiety and some of these proliferation have an elevated risk to develop cancer in the future. This presentation is about classification (b-classification, benign and lesions of uncertain malignant potential), diagnosis (imaging and biopsy techniques) as well as management of benign breast lesion (removing vs. observation). This presentation also focuses on the b-classification, which is an important tool for discussion making after core or vacuum assisted minimal invasive biopsies. A precise pathological diagnosis is not always possible due to the small size of tissue cylinders. Therefore the b-classification is part of this presentation. In order to ease patients with benign tumors in their breasts, it is important to master benign breast disease.

S142.4
MICRO- AND MACROMASTIA

M.P. Lux. Frauenklinik, Universitätssklinikum Erlangen, CCC Erlangen-EMN, Erlangen, Germany

There is almost no organ which presents a similar diversity in development and characteristics as the female breast. Even the aesthetic ideal varies from culture to culture. While the Central European women prefer the “little C”, North Americans tend to the larger breast shape and South American women like relative small and tight breasts. Accordingly, the transitions to pathological conditions are fluid.

Gynecologists are the specialists of diseases of women and should be able to recognize pathological conditions of the breast form and size as well as to inform women seeking advice about treatment options. Macromastia can have far-reaching consequences for affected women. In addition to clinical symptoms, such as constrictions by bra straps, eczema of the lower breast, paravertebral myalgia, chronic spinal pain, mastalgia, malposition with rotation of the shoulders, and psychological stress with the sensation of the breast as a disfigurement and social impairments are possible. Macromastia is often associated with obesity. By this, weight loss is the primary goal (body mass index <30 kg/m²). In case of therapy resistance psychosomatic support and surgical therapies are a further option. The T-incision technique with a cranial, medial or caudal nipple-skin pedicle and pure vertical techniques are possible options with good cosmetic results.

Regarding the micromastia, there is a smooth transition from small breast to hypoplasia to aplasia, and thus also from normality to malformation. Here, a significant mental burden and a reduction of quality of life are possible. Surgical options are diverse, ranging from the direct augmentation to the primary dilatation of the upper breast by an expander in combination with transposition of the nipple.

Patients have to be informed in detail about the advantages and disadvantages of each option. The risks and complications should be known and manageable.

S143. AOFÖG 2015 – From Rome to Vancouver – New Stars Shining

S143.1
PUZZLEMENT IN MANAGEMENT OF PRETERM LABOR

T. Fujii. Department of Obstetrics and Gynecology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

As uterine contractions are the most commonly recognized symptoms of preterm labor, many medicines have been used to suppress uterine contractions, such as beta-adrenergic receptor agonist, ritodrine. However, recent evidences support the use of first-line treatment with ritodrine only for short-term prolongation of pregnancy less than 48 hours to allow for the administration of antenatal steroids or for the transfer of the women to high-functional hospitals. However, to improve the mortality and morbidity rate of newborn babies, neonatal care for premature babies is essential as well as prolongation of pregnancy. Infant mortality rate under 1 year is less than 10 in 1000 live births in some Asian-Oceanian countries, but is more than 40 in some other Asian-Oceanian countries. In such high infant mortality rate countries, many of these countries with very poor neonatal care facilities, we can consider the long-term use of tocolytic medicines to prolong pregnancies. In Japan, long-term use of tocolytic medicines such as ritodrine is common. Dosage is different between in Japan and in US, maximum 200 micro-g/min and 350 micro-g/min, respectively. The incidences of side effects in Japan are much lower than in US. Cumulative prolongation rate of pregnancy is significantly improved in long-term ritodrine-use group compared to unmedicated group. Although this study was performed retrospectively and more studies are needed, low-dose long-term use of tocolytic medicines might be effective to improve neonatal mortality and morbidity rate in very early weeks (less than 26 weeks) of pregnancy or in high infant mortality rate countries.

S143.2
AUDIT OF CERVICAL CANCER MANAGEMENT AT THE COLONIAL WAR MEMORIAL HOSPITAL; A RETROSPECTIVE STUDY; 1st JANUARY 2010 TO 31st DECEMBER 2012

N. Sikiti. Fiji

Objectives:
• To review the demographic profile of the study sample.
• To identify stages of cervical cancer at presentation on those women diagnosed from 2010 to 2012. To identify stages of cervical cancer at presentation on those women diagnosed from 2010 to 2012.
• To assess the timeliness of the treatment (ideally within one month of diagnosis).
• To assess the appropriateness of the treatment given in comparison to the standard management (FIGO).

Methods: A retrospective review of case notes was done on those women diagnosed with cervical cancer from 2010 to 2012. A total of 134 names of women listed in the cervical cancer registry at the CWMH Gynecology clinic of which 110 names truly have cervical cancer. A total of 78 case notes were retrieved (71% of retrieval rate). These names were entered into a Microsoft excel and given codes in which these codes were entered into the main database on epi-info and analyzed according to demography, diagnosis, management type and current status.
Results: The majority of those diagnosed with cervical cancer in the 3 study years are I-taukees (70%). A significant proportion of those diagnosed were less than 40 years (21%) however the majority (42%) was more than 50 years. Most of the women (90%) presented because of symptoms such as abnormal bleeding, abdominal pain, post coital bleeding and so forth. Only 25% of women presented at a treatable stage. Half of the women in the study claim that they had their cervix examined and in 36% this was done within 1 year of presentation. The majority (75%) of women in the study sample did not get the advised treatment or did not complete it. Of the 41% of the women were advised on chemo radiotherapy overseas, 72% did not access it. On the current status, 46% of the women diagnosed with cervical cancer from 2010 to 2012 have been loss to follow up with only 16% are still attending clinic and 38% have been documented to have died. Of those deceased 47% died within six months of presentation.

Conclusion: The findings from this study conclude that Fijian women with cervical cancer presents late. Most of the women were advised on appropriate treatment but unfortunately a large number did not access it and timeliness in accessing operating services was a problem.

S143.3
IS THE FRIEDMAN’S CURVE OR PARTOGRAM OBSOLETE?
W.W. Sumpaico, AOFOG Secretary General, Philippines

In 1985, the World Health Organization prescribed an ideal Cesarean Section Rate of 10–15%. But there has been a dramatic increase sometimes exceeding 30% in some regions. Robson (2001) formulated a classification which has shown that previous term cesarean delivery constituted the highest ranking of the 10 groups studied. It is logical to ask what then were the indications for the primary CS? In response, Zhang et al (2010) and Barber et al (2011) have reported that up to 50% of primary cesarean sections were due to labor arrest disorders.

The Consortium on Safe Labor (2010) published a landmark article on “Contemporary Patterns of Spontaneous Labor with Normal Neonatal Outcomes”. Their final sample of 62,415 patients were studied for overall CS rate in the future.

Conclusion: Robson Groups 5 and 1 were the largest contributors to the cesarean rate of this group were Robson Groups 1, 5 and 3 (multiparous (excluding previous CS) single cephalic, ≥37 weeks in spontaneous labor).

Comparing both groups, there were significant differences between the CS rates in Groups 1, 2 (nulliparous, single cephalic ≥37 weeks, induced or CS before labor), 3 and 10 where a greater proportion underwent cesarean section in the Private Division. In terms of the contribution made to the over-all CS rate, Groups 1 and 5 of the private division contributed more to the group’s CS rate.

Conclusion: Robson Groups 5 and 1 were the largest contributors to the CS rate in our institution and is relatively the same as studies done in other countries. From these findings, strategies can be formulated to prevent primary caesarean section in order to decrease the rate of a repeat caesarean section in subsequent pregnancies. With these findings, the Robson Classification can be utilized by our institution to compare CS rates over time, investigate the appropriateness of the indications and in effect, result in a significant reduction in the overall CS rate in the future.

S143.4
EVALUATION OF THE CESAREAN SECTION RATE OF A TERTIARY REFERRAL HOSPITAL USING THE ROBSON TEN GROUP CLASSIFICATION SYSTEM
G.P. Cayabyab, W.W. Sumpaico. Philippines

Objective: To identify and compare the leading cause of Cesarean Section among patients admitted as service and private patients in a tertiary referral hospital based on the contribution made by each group classified according to Robson’s 10- group classification system.

Methods: This is retrospective, cross-sectional study of all patients who delivered in a tertiary referral hospital from January 1, 2012 to December 31, 2013. Charts were reviewed and the following variables were recorded for each pregnancy: parity, plurality, history of previous cesarean section, course of labor, presentation and gestational age at delivery. The Robson 10-Group Classification for Cesarean Section was used to classify each indication for cesarean section. Results were tallied and compared using the chi-square test.

Results: There were a total of 2,505 deliveries with an over-all CS rate of 45.79%. The greatest contributors to the over-all CS rate were Groups 1 (nulliparous, single cephalic ≥37 weeks, in spontaneous labor), 5 (previous CS, single cephalic ≥37 weeks) and 10 (all single cephalic ≤36 weeks including previous CS). The cesarean section rate in the service division was 38%. The 3 groups that contributed most to the group’s CS rate were Groups 5, 1 and 10.

For the Private Division, the CS rate was 49.88%. The top 3 groups that contributed to the cesarean rate of this group were Robson Groups 1, 5 and 3 (nulliparous (excluding previous CS) single cephalic, ≥37 weeks in spontaneous labor).

S143.6
COMPARISON OF PERIPARTUM MATERNAL AND FETAL OUTCOMES IN CERVICAL RIPENING IN RELATION TO THE METHOD OF INDUCTION
C.D. Wasalathilaka, G.H.K.K. Gunawardana. Teaching Hospital Kandy, Sri Lanka

Introduction: The rate of labor induction is rising throughout for a variety of reasons. Maternal as well as fetal conditions that lead to increased risk of prolonging the pregnancy to both mother and fetus are not infrequent. Cervical ripening prior to the induction of labour plays a vital role in modern obstetrics. We did this randomized controlled trial to compare the effectiveness and peripartum outcomes in relation to induction of labour with the Foley catheter and with the Prostaglandin E2 gel. South Asians setting peripartum outcomes in relation to method of induction were not adequately addressed in controlled studies.

Objective: To study the efficacy and the peripartum maternal and fetal outcomes of cervical ripening in relation to the method of induction of labour, namely Prostaglandin E2 gel vs Foley catheter.

Design: An open label prospective randomized controlled trial.

Setting: Ward 05 Teaching Hospital, Kandy, Sri Lanka.

Method: Uncomplicated primips with singleton pregnancies who underwent induction of labour at 40 weeks+5days were randomized to receive intra cervical Foley catheter or intra cervical application of PGE2 gel as a method of pre-induction cervical ripening. Change in mean Modified Bishop’s Score (MBS) and maternal and fetal peripartum outcomes (uterine hyper-stimulation, postpartum hemorrhage
and maternal fever, meconium at membrane rupture, APGAR at 5 minutes and SBU admission) between the two groups were compared.

**Results:** Mean pre-cervical ripening mean MBS for PGE2 group was 4.14 (N=71), 95% CI (4.08–4.40) and of Foley group was 4.33 (N=70) 95% CI (4.45–4.81) difference was statistically not significant. Mean post cervical ripening modified bishops score for PGE2 group was 8.47 (N=72), 95% CI (8.45–9.22) and of Foley group was 9.01 (N=73) 95% CI (8.76–9.31) and difference was statistically not significant. There was no statistically significant difference in maternal or fetal side effects between two study groups. Intervention to delivery time was significantly higher in Foley catheter group than in Prostaglandin group.

**Conclusions:** Both PGE2 and Foley catheter insertion are equally effective for pre-induction cervical ripening in primips, however PGE2 was associated with higher incidence of uterine hyper stimulation, though it was not statistically significant. There was no significant difference in fetal side effects. Intervention to delivery time was significantly longer in Foley group than in PG group. Most of the findings of our study were in accordance with other studies published elsewhere.

**S144. Infertility as a Global Disease – Session 2**

**S144.1  TRENDS IN GLOBAL IVF**

**G.D. Adamson. ICMART, United States of America**

**Introduction:** The International Committee Monitoring ART (ICMART) has collected and analyzed global ART data since 1991 and now reports annually on access, effectiveness and safety of ART.

**Materials and methods:** ICMART data focus on:
1. Access to ART: number of clinics, number of different types of ART services and cycles;
2. Effectiveness of ART: clinical pregnancy and live birth rate per cycle start, per oocyte retrieval, per frozen/thaw embryo transfer and per oocyte donor cycle for age groups <35, 35–40 and >40 for both in vitro fertilization (IVF) and intracytoplasmic sperm injection (ICSI); and
3. Safety of ART: percentage of twins and triplets or more. Preimplantation genetic diagnosis/screening (PGD/S), gestational surrogacy and cross border reproductive care are also documented. Annual results are compared across regions and countries, and trends over time are analyzed.

**Results:** Data collected between 1991 through 2011 are reported. Trends, differences among regions and countries, reasons for both, and number of babies born, are presented.

**Conclusion:** ART access is highly variable globally for cost and cultural reasons. ART is effective but applied with highly variable protocols because of socioeconomic and cultural differences. New technologies are rapidly implemented. ART is generally safe but multiple pregnancy remains a major concern in many countries. ICMART’s World Reports help increase quality of ART services globally. Collection of quality data has continued to improve but remains challenging.

**S144.4  DEVELOPMENT AND STATUS OF LOW-COST IVF**

**I.D. Cooke. University of Sheffield, United Kingdom**

A low cost approach to IVF for low resource economies was put forward at WHO in 2001 with a recommendation that research is needed on innovative, low-cost ART procedures that provide safe, effective, acceptable and affordable treatment for infertility. This was incorporated into WHO policy in 2004 and the Low Cost IVF Foundation was created independently in 2007. Protocols were developed and tested in established labs; staff were trained in Sweden and a clinic set up in Khartoum. Although IUI was extensively used, the clinic was closed before IVF could be actioned. Subsequent efforts in Tanzania and South Africa were unsuccessful. Low cost IVF was discussed in the IFFS educational programme in various low resource countries. Discussions in Uganda supported patient advocacy and planning for a national programme.

WHO has developed a Rapid Assessment Tool for a country to evaluate the resources required to establish a national infertility management programme. The Brocher Foundation has held meetings to guide policy development on achieving pregnancy for HIV serodiscordant couples and on the social, ethical and legal implications of ART, both including low cost IVF. Currently a sustainable programme is being developed in Zambia with support from the Ministry of Health and the University Hospital in Lusaka and options are being explored in Ethiopia. Although some cycle data have been produced in the literature, there are none on a sustainable national programme. The problems and new approaches to achieve that will be presented.

**S148. PPH Panel 1: Misoprostol and Other Uterotonics in the Management of PPH: New Evidence to Guide Clinical Practice**

**H. Anger 1, M. Balki 2, R. Pacagnella 3, S. Miller 1, B. Winikoff 1. 1United States of America; 2Canada; 3Brazil**

Post-partum hemorrhage (PPH) remains an important contributor to maternal deaths worldwide and uterotonic therapy is a key first-line tool for managing PPH. This session, delivered by FIGO and Gynuity Health Projects, examines new evidence and discusses important concerns regarding management of PPH using uterotonics, such as:

- What is PPH and when should we intervene? The universal definition of 500ml of blood loss may have limited clinical utility and other indicators such as shock index may play a role in identifying women most in need of intervention.

- Given wide use of oxytocin in early stages of labor, what is the effect on rates of PPH and the efficacy of subsequent doses? Does repetitive use of oxytocin decrease the effectiveness of oxytocin when it is most needed for PPH? Are we making PPH harder to treat?

- Oxytocin is the uterotonic of choice for prevention of PPH, but does its effectiveness differ by route of administration? Evidence comparing intramuscular and intravenous administration has considerable implications for clinical practice guidelines.

- Strong evidence supports the safety and efficacy of misoprostol for PPH management in settings where oxytocin is not a feasible option, but how can misoprostol best be utilized in these settings? We present research comparing the universal use of misoprostol for “primary prevention” of PPH versus selective use as “secondary prevention”, which pre-emptively treats women with above-average blood loss.

- What do findings from an analysis of PPH deaths in community-based studies tell us about the gaps in quality of PPH care?

**S149. PPH Prevention and Treatment in Low-Resource Countries**

**S149.6  STRATEGIES FOR LOW RESOURCE COUNTRIES**

**J. Liljestrand. Sweden**

With the current emphasis on facility births, there is an increased potential for reducing mortality and morbidity from PPH. The biggest challenge is probably how to control severe PPH in health centers or
small hospitals without CEmONC resources. Effective control of PPH needs a separate strategy in a country, since the timeline is different from eclampsia, obstructed labor or sepsis. Basically, the strategy should build on prevention and management of PPH. Facility based strategies should include the following.

**Prevention** includes anemia control, planning for hospital births for women with risk factors for PPH, careful AMTSL, and careful monitoring of bleeding postpartum.

**Management** of manifest PPH at this level is crucial, and the clinical interventions are limited to aorta compression, balloon tamponade and non-pneumatic anti-shock garment, NASC. These methods can “buy time” that permits referral to a CEmONC facility.

**Referral chain** management should also include long term efforts to strengthen collaboration between the CEmONC unit and lower level facilities.

**Training** of staff, based on local guidelines, should be regular, include simulated cases, and group work in teams. Strategic refreshers are necessary.

**S150. Unmet Needs in Contraceptive Provision**

**S150.1 HIV – PROTECTING THE USER**

D. Money, Canada

This talk will involve a review and discussion including the following issues: Contraception provision for HIV positive women is a complex and important issue globally. From a women’s centric perspective it is critical to understand the intrinsic and extrinsic factors that affect fertility desires and to ensure that adequate and appropriate contraception is available for women who wish to prevent pregnancy or space pregnancies. Barriers to this access are broad and extensive including provider attitudes, cultural limitations to requesting or using effective contraception, costs for adequate contraception variably covered in different jurisdictions. Contraceptive choice needs to include consideration of HIV status, type of antiretroviral therapy, personal choice, acceptability, and community and cultural context.

Impact of contraception on risk of progression of HIV needs to be considered as well as potential impact of contraception on risk of acquisition or transmission of STI’s. Other co-morbidities associated with contraceptive use need to be considered in the context of HIV as a chronic disease.

Finally, the use of contraception is a key strategy in the prevention of mother to child transmission of HIV as preventing unplanned and unwanted pregnancies are key to adverse sequelae for mother and infant due to pregnancy complications and/or HIV transmission in situations where optimal vertical transmission strategies are not available.

**S150.3 CHALLENGES IN LOW RESOURCE SETTINGS**

Z. M. van der Spuy. Department of Obstetrics and Gynaecology, University of Cape Town, South Africa

It is recognized that unintended pregnancies have a significant negative impact on mothers and their offspring. Demographic Health Surveys from around the world have demonstrated a high unmet need for contraception during the first post-partum year. In Sub-Saharan Africa (SSA) this is estimated at 74% and exceeds the estimates from Latin America and Asia.

The achievement of planned pregnancies and correct timing of births has a very positive impact on women’s health which is recognized in the MDG 5B. SSA has particular challenges with half of all countries reporting a contraceptive prevalence rate of below 20%. In addition the lack of access to legal TOP may result in women accessing unsafe practices with the resultant morbidity associated with unsafe abortion.

Often women are offered limited options of contraception and follow up is suboptimal. Newer contraceptive methods such as the levonorgestrel IUS may not be affordable in many health services. Women often have inadequate information about their choices and are unaware of their reproductive rights. The impact of HIV in SSA and many other countries has added an additional challenge to contraceptive counselling and decisions about the methods recommended.

The provision of adequate contraceptive services requires the commitment of local health authorities, the availability of modern methods of contraception and suitable provision of consumer education. Reducing unintended and adolescent pregnancies will have a major global impact on the wellbeing of women and their families.

**S150.4 THE ECONOMIC IMPACT OF MEETING UNMET NEED FOR MODERN CONTRACEPTION**

J. Trussell, United States of America

Managing rapid population growth and spurring economic growth are among the most pressing policy challenges for Sub-Saharan Africa. We discuss the links between them and investigate the potential of family planning programs to address these challenges. Specifically, we estimate the impact of family planning programs on income per capita that can arise via the demographic dividend (DD), a boost to per capita income that operates through a chain of causality related to declining fertility. We develop a model to determine the impact of “meeting unmet need” (MUN) for modern contraceptive methods on fertility and hence on the population age structure in the coming years. We also estimate empirically the DD that has been observed in other countries, using a cross-country regression with panel data covering 40 years. Using the age structure projected by MUN and the empirical estimates of the DD, we estimate the potential for additional economic growth in Kenya, Nigeria, and Senegal. We find that in 2030, these countries can enjoy an increase in per capita income of 8–13% by meeting one-third of their unmet need for modern contraception and can enjoy a 31–65% higher income per capita by meeting all of the unmet need. By 2050, these ranges become 13–22% and 47–87% respectively. We discuss the policy implications of our findings.

**S151. C Section in Low-resources Settings: From Access to Quality Assurance**

**S151.1 EPIDEMIOLOGY OF CESAREAN SECTION IN LOW AND MIDDLE INCOME COUNTRIES**

M. Mathai, Department of Maternal, Newborn, Child & Adolescent Health World Health Organization, Geneva, Switzerland

This presentation will review the epidemiology of caesarean section in low and middle income countries. Patterns of assisted births in these countries have been changing. Caesarean births have been rising in comparison to static or falling rates of instrumental vaginal deliveries. While caesarean rates have sharply increased in urban settings for varying reasons, women in many rural settings still do not have access to timely caesarean section when required. The presentation will discuss the links between caesarean rates and maternal and perinatal outcomes in low and middle income countries and suggest alternate methods to assess practices around operative births.
S151.2
ACCESS TO C SECTION IN LOW RESOURCES COUNTRIES
O. Kadavyci, Turkey

Maternal deaths in Chad and Somalia are over than thousand per 100,000 LB. This number is less than 5 in Estonia, Greece and Sweden, and 13.7 in Turkey. This big difference comes from lack of availability of the facilities in poor countries. In Turkey one strategy used was to maximize the use of facilities as well as minimize the use of the reusable and disposable surgical materials. In order to reach this aim Michael Stark’s “Method of C Section” was introduced all over Turkey. After that change use of operating rooms and beds in the hospitals was multiplied by 3. This has also led to the doubling of the OB/GYN departments’ contribution to the hospitals’ incomes. This presentation will show the approach taken in Turkey, which is regarded as low resources country for C section and reports from hospitals will also be presented.

S151.3
TRAINING LOW RESOURCES SETTINGS PROVIDERS IN EVIDENCE BASED C SECTION TECHNIQUE
M. Stark, The New European Surgical Academy, Berlin, Germany

In developed countries as well as in countries with limited resources it is of utmost importance to constantly evaluate the different steps of any surgical procedure for their necessity, their optimal way of performance and costs. In caesarean section, the modified Joel-Cohen method results in a shorter incision to delivery time, lower rate of febrile morbidity compared to other methods. Opening the peritoneum using bi-digital stretching rather than sharp instruments proved to be safe. One layer uterine closure results with stronger scars. Leaving both peritoneum layers open reduces adhesions. The fascia being sutured continuously with first knot underneath the fascia prevents irritation in the sub-cuts. This combination of steps has been evaluated by dozens of studies which will be presented. All showed various advantages of this method: shorter operation time, shorter hospitalization, quicker mobilization, less blood loss, lower rate of febrile morbidity, lower costs, and less need for painkillers, but not less important, the need of only 10 instruments and three suture materials, which results not only with better outcome, but also with low costs. This operation is recommended as universal routine method for caesarean section and its principles should apply to all surgical disciplines. This method was introduced by the NESA in cooperation with FIGO to countries with low resources like Burkina Faso and Ethiopia where it was implemented with enthusiasm. Details about the mode of teaching and results will be presented.

S151.4
INSTITUTING ROUTINE MONITORING OF SURGICAL SITE INFECTIONS (SSIS) FOLLOWING CESAREAN SECTION: EXPERIENCE FROM TANZANIA IPC PROGRAM
A. Komba1, C. Ruparelia1, V. Msechu1, J. Hokororo2, E. Eliudi2, E. Mwama2, K. Curran1. 1Jhpiego – An Affiliate of Johns Hopkins University; 2Ministry of Health and Social Welfare, Tanzania

Background: The ongoing expansion of emergency obstetric care services has led to a substantial increase in access to C-section procedures in sub-Saharan Africa (SSA). However, this increase has not been accompanied with establishment of robust systems for monitoring the quality and safety of the procedures. Data from SSA region show that post-operative Surgical Site Infections (including those following C-section) are the most common healthcare associated infections (HAIs). Due to this, the need to institutionalize the monitoring of post-C-section Surgical Site Infection (SSI) rates in routine obstetric care services cannot be overemphasized.

Objectives: To pilot a standardized system and tools for monitoring post-C-section SSIs in 6 Tanzanian government hospitals supported by Jhpiego (through CDC/PEPFAR) in collaboration with the Ministry of Health and Social Welfare (MOHSW), and use the lessons learned to inform national scale-up.

Methodology: In each of the hospitals, a Surgical Care Infection Prevention and Control (SCIPC) teams comprised of 4 members (i.e. clinician performing C-section, operating theatre nurse, maternity nurse, and Quality Improvement Team Member) was established and oriented on the SSI case definitions and the SSI monitoring tools. The latter were adapted from the CDC National Safety Health Network (NHSN).

Results: During the period of October 2014–March 2015, a total of 218 out of 5,732 (4%) post-C-section SSI cases were identified across all the 6 hospitals. Of these 117 (54%) were superficial, 74 (34%) deep, and 27 (12%) were organ/space. Currently all the hospitals are implementing routine SSI data audits as a strategy to determine the potential causes of infections and hence inform the development of corrective measures. The next step is to standardize the tools and develop a C-section safety package, the latter of which will include adapting the WHO surgical safety checklist for maternity cases. Thereafter, MOHSW will roll-out the package nationwide, starting with hospitals providing comprehensive emergency obstetrics and newborn care (CemOnc) services.

Conclusion: Integrating post-C-section SSI monitoring as a component of routine continuous quality improvement process is an important strategy to institutionalizing SSI surveillance at health facility level. In order to increase the chances of success, SSI surveillance definitions and tools need to be contextualized and made simple. For long-term sustainability, SSIs monitoring need to be integrated into pre-service training.

S151.5
DEVELOPMENT AND IMPLEMENTATION OF PERFORMANCE STANDARDS FOR QUALITY C SECTION
B. Dao1, H. Camara2, B. Dem2, Y. Hyjazi2. 1Jhpiego, Baltimore, United States of America; 2Jhpiego, Conakry, Guinea

There is increased access to C section in many low resources settings through the implementation of comprehensive emergency obstetric and newborn care programs. Ensuring quality at the same time is also critical as poor quality C section can have a negative impact on both the mother and the newborn.

Working with the ministry of health in Guinea, Jhpiego developed performance standards for quality C section during the implementation of the USAID flagship maternal and child health (MCHIP) project. The performance standards include 7 areas:• Indications for C section• Assessing the availability of the equipment and supplies before the surgery• The preparation of the client (before she enters the operating room) and the surgeon• The preparation of the client in the operating room• The surgical technique• Post-operative tasks.

Each area includes number of performance standards, where each standard has its own verification criteria. The performance standards were applied in 20 hospitals between April and May 2015. Eight hospitals met 86% of the standards (cut off of 80%). The most common unmet standards were the assessment of the availability of equipment and supplies and the C section technique itself.

Lessons learned and challenges will be discussed.
S152. On Forced Sterilization: FIGO Guidelines Meet Human Rights

1Human Rights Activist and Researcher, United States of America; 2People First, Canada; 3Canadian Association for Community Living, Canada; 4International Community of Women Living with HIV, Kenya; 5African Gender and Media Initiative Trust (GEM), Kenya; 6Global Action for Trans Equality, Argentina

FIGO’s 2011 revised Guidelines for Female Contraceptive Sterilization set a professional standard which contributes to eliminating the practice of forced and coerced sterilization and aligns with human rights standards. This session will address both the standard-setting aspect of these guidelines and their impact on communities.

In this dialogue, key standards from FIGO’s guidelines (most notably: free and informed consent is a prerequisite for all women, with no exception; sterilization for the prevention of future pregnancy is not an emergency procedure and cannot depart from the norm of informed consent; and information about sterilization must be given in an accessible format appropriate to the woman’s needs) will be compared with the World Health Organization’s 2014 interagency statement on “Eliminating forced, coercive and otherwise involuntary sterilization”. The WHO statement addresses all affected constituencies, including women and girls with disabilities, women with HIV/AIDS, women of ethnic minorities and in poor communities, and transgender and intersex people (the latter which have not been addressed in FIGO’s guidelines).

While WHO’s statement provides important guidance, there is space for strengthening it, in particular closing loopholes through which forced sterilization affects women with disabilities. Implementation of both FIGO’s guidelines and WHO’s statement requires confronting and demystifying social prejudices and assumptions about agency and capacity. Representatives of various affected communities will invite the audience to an honest and open conversation about assumptions, norms and realities on the way to eliminating forced sterilization. Ways in which FIGO members can deepen implementation of the guidelines will also be explored.

S153. Advances and Controversies in Pelvic Floor Medicine: International Perspectives

S153.2 CURRENT OPTION: CESAREAN ON DEMAND?

D. Richmond, President Royal College of Obstetricians and Gynaecologists, United Kingdom

This talk will describe the present situation of caesarean section on demand defined as primary pre-labour caesarean delivery for maternal request in the absence of maternal or fetal indications. There is much debate about the concept, the advantages or disadvantages of such a decision and the outcomes for mother and baby. Some national colleges and societies have position statements (eg ACOG and NICE, UK). It is difficult to ascertain the true contribution of maternal request to overall caesarean section rates but is probably about 2% of all births. This is at a time where there is increasing scrutiny of the rising caesarean section rates year on year. Suffice to say that with smaller family size, reduction in maternal and infant mortality choice of the mode of delivery has become a topic of relevant debate for some mothers who wish to determine the time and mode of delivery and relevant available staff rather than consider the potential unpredictability of normal labour. The short and longer term consequences for the mother and fetus will be presented as well as consideration of the autonomy of the individuals concerned.

S153.4 PELVIC PAIN: A REVIEW OF DEFINITIONS AND CLASSIFICATIONS

J.D. Villegas-Echeverri, Unidad de Laparoscopia Ginecologica Avanzada y Dolor Pelvicó, ALGIA, Clinica Comfamiliar, Pereira, Colombia

Chronic pelvic pain (CPP) in women is a commonly occurring and poorly understood condition. Little consensus on the definition of the condition exists, with the duration of pain noted in published studies varying from three to greater than six months and the location of pain and pathology largely unspecified. The American College of Obstetrics and Gynecology (ACOG) defines CPP as non-cyclical pain of at least six months duration that appears in locations such as the pelvis, anterior abdominal wall, lower back, or buttocks, and that is serious enough to cause disability or lead to medical care. The causes of CPP are not well understood and may be associated with gynecologic and non-gynecologic conditions. Diagnosis of a primary cause is complicated as pain is rarely associated with a single underlying disorder or contributing factor. There are over 60 diseases/conditions associated with CPP. Frequently diagnosed etiologies include endometriosis, adhesions, irritable bowel syndrome, and interstitial cystitis/painful bladder syndrome; however, a definitive diagnosis is often not made. This lecture pretends do a review of definitions and classifications on chronic pelvic pain.

S154. Diagnosis of Gynaecological Cancers

S154.1 MOLECULAR FEATURES OF GYNECOLOGIC CANCERS AND HOW THEY MAY BE IMPLEMENTED IN THE FIGO STAGING

D.G. Mutch, Department of Obstetrics and Gynecology, Washington University School of Medicine, St Louis, Missouri, United States of America

The purpose of cancer staging is to stratify cancers into groups that reflect survival. Uniform staging allows prediction of survival and effect of treatment between institutions and different geographic locations. Historically, staging of gynecologic cancers is based on anatomic and histologic data that reflect extent and the aggressiveness of the cancer. While these features of a cancer have been the focus of staging in the past and have been predictive of recurrence and survival, molecular features that reflect the genetic make up of these cancers has not been utilized for the purpose of staging gynecologic cancers. These molecular tumor characteristics are becoming better understood and are often reflective of tumor behavior and are very predict aggressiveness, response to treatment and prognosis. This presentation will focus on the molecular features both genomic and proteomic of these cancers that may be used to predict aggressiveness of specific cancers and hence may be used as surrogates that could be included in the staging of cancers in the future. These features may even be substituted for the current anatomic and histologic staging utilized at this time. This presentation will discuss which molecular features may become part of the traditional staging of gynecologic cancers and how this could be implemented.

S154.2 IMAGING FOR GYNECOLOGICAL CANCERS

S.I. Lee, United States of America

Ultrasound, MRI, CT and FDG PET-CT play central and complementary roles in gynecologic cancer care. Ultrasound evaluation of endometrial thickness in postmenopausal women with abnormal uterine bleeding is used to screen for those requiring further workup with biopsy for cancer. Screening for ovarian cancer with transvaginal ultrasound is not recommended, as several large trials have demonstrated no survival benefit. Failure to achieve a clear shift in stage
distribution in screening studies suggests that the window between cancer visualization and dissemination is short, limiting the time-frame for detecting ovary-confined disease. Ultrasound is used to characterize symptomatic and incidental adnexal lesions as a simple cyst, mixed solid and cystic, or completely solid and can localize some lesions as extra-ovarian. MRI serves to characterize many adnexal lesions as definitively benign, thereby sparing asymptomatic patients resection. CT detects ovarian cancer and, in advanced disease, identifies candidates for neoadjuvant chemotherapy. In treatment planning for uterine endometrial and invasive cervical cancers, MRI and FDG PET-CT are used to define extent of tumor spread. MRI delineates tumor in central pelvic soft tissue (e.g. uterus, bladder, rectum, vagina, urethra and anus). FDG PET-CT is the most accurate modality for detection of lymphadenopathy and distant metases (e.g. lung, bone).

S154.4 PATHOLOGIST’S ROLE IN GYNECOLOGICAL CANCER DIAGNOSIS

J. Prat, Spain

Pathology reports of gynecological cancers should include not only histopathological diagnoses but also specific information relating to prognosis and treatment; thus, pathologists must have sufficient familiarity with the staging classification, other prognostic parameters, and the management of gynecological cancers to assure that their report communicates clinically relevant information. Conversely, full comprehension of the pathology report by the gynecological oncologist requires familiarity with the terminology used in gynecological pathology. In this presentation, modern classifications of endometrial and ovarian carcinomas, according to their clinical, pathologic, and molecular genetic features, will be discussed. For over 30 years, endometrial carcinoma has been classified into two different types: estrogen-related endometrioid carcinomas (80%), and estrogen-unrelated nonendometrioid carcinomas. The Cancer Genome Atlas has expanded this dualistic classification to four distinct molecular subgroups: ultramutated POLE, hypermutated microsatellite unstable; copy-number low/microsatellite stable; and copy-number high/serous-like subgroups. POLE mutations predict favorable prognosis. Patients with endometrioid tumors that are serous-like at the molecular level might benefit from treatment that favors endometrioid-like tumors. Treatment options in the context of a right to have a family, and therefore a corresponding duty for practitioners to help women to achieve this. There is still a difference in the international nomenclature between “reproductive rights” and a “right to reproduce”, translated in medical practice into a right to fertility treatment. For instance the “right to family life” in Europe does not mandate such active help. Major international differences are outlined, particularly between high and low resource countries, with their consequences to access to fertility treatment, and the social implications of being childless.

Furthermore, the different modes or restrictions of access to fertility treatments worldwide are important factors in the phenomenon of cross border reproductive care. This will be discussed in the context of access not only of incoming patients to (often) low resource countries, but also the local patients and health care system.

References:

S155.2 ETHICS IN ART/LOW INCOME COUNTRIES

G.I. Serour, Egypt

Bioethics is the study of ethical, social, legal, philosophical and other related issues arising in health care and biological sciences. The Universal Declaration of Bioethics and Human Rights included 15 ethical principles. Disparities in access to ART is so huge between North and South and in country between the rich and the poor. ART should never be transferred, renounced or denied for any reason based on race, age, language, religion, national origin, political opinion or economic conditions. Patients have the right to the highest attainable standard of health care for their infertility treatment including ART.

The principle of autonomy implies that couples themselves should be able to choose when to reproduce, and what method they would use. Informed consent, Privacy, confidentiality and non stigmatization should be insured. Justice requires that all be treated with equal standard irrespective of the socioeconomic status and have equal access to ART without discrimination, coercion or catastrophic expenditure. However, when resources are limited provision of life saving health services and tackling public health problems take precedence to provision of expensive ART.

Respect for cultural diversity and pluralism has to be given due course without infringing on basic human rights. ART, varied markedly in different parts of the world based on religious, cultural and legislative influences. This lead to cross border reproductive tourism, resulting in discrimination against and exploitation of the needy and disadvantaged women particularly in developing countries.

If the physician is unwilling to provide a desired medical service in ART based on conscientious objection he/she has an ethical obligation to appropriate referral of the patient. Health care providers should ensure patient’s access to ethically acceptable, quality ART in a patient’s friendly facility which ensures patient’s confidentiality satisfaction and non stigmatization.

S155.4 REGIONAL LIMITATIONS CONDITIONING ACCESS AND RESULTS OF FERTILITY TREATMENTS

A. Manzur, Past President of the Latin American Association of Reproductive Medicine (ALMER), Head of the Human Reproduction Unit, Pontificia Universidad Católica de Chile

Infertility has become a major issue globally, since maternity has been consistently postponed for several reasons. In fact, aging women is the main variable conditioning the results in every fertility treatment.
treatment, affecting both quantity and quality of oocytes. However, access to assisted reproductive technologies (ART) is unevenly distributed among the world, which brings back several consequences if we compare procedures offered in developed versus undeveloped countries. In other words, regions where treatments are covered by their government or insurance companies have a higher chance of achieving a singleton viable pregnancy, while self-covered regions, particularly poor ones, have both, a lower take home baby rate and a higher proportion of multiple gestations.

Along my presentation I will demonstrate how limiting access to ART does affect the outcome, analyzing the impact of certain regional examples that have modified their access to ART in their population. Finally, as we accept that the number of embryos transferred is the major variable associated with multiple gestations, we will understand why a higher multiple pregnancy rate is directly related to limited ART access, as many of those infertile couples can only afford a single treatment cycle.

S156. Optimal Surgical and Endocrinological Know-how and its Distribution


1United States of America; 2Italy; 3Russia; 4Turkey; 5Germany; 6Italy

As in all NESA conferences, the NESA session starts with novelties in basic science. The Preimplantation Factor, a unique non-species specific peptide which orchestrates the beginning of life and has great potential for clinical use, will be presented.

FIGO and NESA signed a Memorandum of Understanding concerning distribution of update knowledge. The activities which were derived from this cooperation will be presented.

For more than 10 years the NESA promoted an evidence-based Cesarean Section, the so called Misgav Ladach Method, which results in lower rate of febrile morbidity and complications. It is now in use all over the world. However, the NESA propagates the reduction of the Cesarean Section rate. The Russian NESA representative introduced the surgical principles behind this technique as well as the need to reduce its rate. This followed discussions resulted in the “Moscow Declaration for Optimal and Well Indicated Cesarean Section” which is supported by opinion leaders from several countries. This declaration will be presented.

The optimized surgical methods presented by the NESA were adopted by several university hospitals in Turkey. Their influence on hospital routines will be discussed.

The NESA scientifically supported the development of an EU telesurgical system, the TELELAP Alf-x. The system description and first clinical results in the Gemelli university hospital in Rome, under the leadership of Prof. Giovanni Scambia. The parameters examined were:

1. Use of the instruments
2. Tactile force transmission
3. Safety, reliability, ergonomics
4. The 3D Stereo Vision system
5. Docking time
6. Cost-effectiveness

Results of the pre-clinical studies: The pre-clinical studies took place in the Veterinary Hospital in Lodi. The operation time for total nephrectomy of 70 minutes in the first case, was reduced to 18 minutes in the 10th case. The average time for cholecystectomy was 31.75 minutes (30–35), compared to 91 minutes in a conventional system.

Conclusions: This system proved to be efficient, reliable and useful. No single failure occurred and no technical problem occurred throughout the pre-clinical studies. Its use and further development promise added value to the traditional endoscopic operations.

S156.3

THE JOINT NESA/RSOG STANDARDIZED CESAREAN SECTION, “MOSCOW DECLARATION FOR OPTIMAL AND WELL INDICATED CS”

O.A. Mynbaev. Professor, Peoples’ Friendship University of Russia

Many Cesarean Sections are performed based on local traditions instead of scientific evidence. The aim of the joint NESA- RSOG Declaration is wide standardization of the cesarean section based on evidence. There are scores of studies showing that the presented method results in better outcome compared to other methods concerning short and long term outcomes and costs.

1. We, the undersigned members of The New European Surgical Academy (NESA) and the Russian Society of Obstetrics and Gynecology (RSOG), believe that the birth process is a natural event and cesarean section should be performed just for valid maternal or fetal indications.
2. Cesarean section, when performed, should be standardized based on evidence, as conceived by Michael Stark (Table 1).
3. Only the necessary instruments and suture material should be used in order to avoid unnecessary costs and avoiding electrosurgical coagulation and the use of argon beam.
4. The optimal surgical method: right handed surgeon stand on the right side of the parturient, laparotomy with modified Joel-Cohen method, avoiding abdominal towels, transverse incision in the lower segment of the uterus, suturing the uterus with one continuous suture, leaving peritoneum layers open, closing fascia continuously and suturing skin only with few sutures.
5. Promoting early hydration and mobilization as well as supporting bonding of the baby to its mother.

Principles of this declaration have several times been discussed at meetings in Moscow (2014/2015) and NESA Days 2015 in Berlin and the joint NESA- RSOG Declaration will be presented at the NESA session during the FIGO world congress in Vancouver, Canada, October 2015.
S156.6
THE NEW ROBOTIC TELELAP ALF-X IN A GYNECOLOGICAL SURGERY
G. Scambia. Politecnico Universitario Agostino Gemelli, Italy

Background: We tested the feasibility and safety in a minor invasive gynecologic procedure like adnexal surgery, in a major procedure like hysterectomy till to analyze 146 heterogeneous series of gynecologic procedures. We started by assessing the necessary training to use this new platform.

Methods: Between September 2013 and May 2014, 146 patients were enrolled.

Results: Median age was 52 years (range 19–79), median BMI was 23.7 (range 17.3–34.0 kg/m²). Sixty-two patients (32.5%) underwent to salpingo-oophorectomy or cyst removal (Group A), 4 patients (2.7%) myomectomy (Group B), 46 patients (31.5%) total hysterectomy (Group C), and 34 (23.3%) endometrial cancer staging (Group D). Median docking time was 7 min (range 3–36). Median OT was 35 min (range 17–145) in the Group A, 40 min (range 10–50) in the Group B, 133 min (range 58–320) in the Group C, and 160 min (range 69–290) in the Group D. Reduction in OT over the study period for hysterectomy (p<0.001) and adnexal surgery (p<0.002) was observed. All patients conveyed complete satisfaction with early postoperative pain control. One patient (2.17%) of the Group C was readmitted in another hospital during the early postoperative period because of severe vaginal bleeding.

Conclusions: We report first series of novel robotic approach. When performed by experienced minimally invasive surgeons, TELELAP ALF-X is feasible and safe. Further studies are mandatory to define the benefits, advantages, and costs with respect to other minimally invasive approaches.

P. Melchert. United States of America

Simulation technologies are widely used in the training of medical professionals across the developed world. Globally, there is a great need for improved medical education and capacity building. Application of simulation technologies in the developing world presents unique challenges as well as great opportunities. In this session we will discuss the use of computer-based simulation to enhance implementation of FIGO’s “Global Competency-Based Fistula Surgery Training Manual” and supplement the hands-on training at certified fistula centers.

S161. Abnormal Invasive Placenta 1: Prenatal Diagnosis, Monitoring and Surgical Validation
J. Hamer 1, J. Palacios-Jaraquemada 3, L. Sentilhes 2, F. D’Antonio 3.
1Argentina; 2France; 3Italy

There is an agreement that prenatal diagnosis reduces a possibility of complications in cases of abnormal placentation. This prenatal analysis allows planning the surgery with specialist and resources; taking a special consideration in diagnosis and also to determine the topography of invasion. However, not all diagnostic methods have the same accuracy to delineate the invasion anatomy. During the session, specialists analyze specific points about diagnosis by ultrasound, Doppler and magnetic resonance imaging. Expert in this field presents the more significant diagnostic signs and other ones, which could imply doubts or needs an additional analysis. Due to the differences between prenatal and pathologic diagnosis, during the session, there is a specific topic about the surgical validation of prenatal diagnosis. This knowledge allows reducing the possibility of false positive diagnosis, which could end in unnecessary hysterectomies or procedures. It also included a specific talking about monitoring of placenta in situ and its common complications and management. Depending of objective signs, they can be solved by medical or surgical controlling. Urological management in relation with abnormal placentation is also discussed, especially because the close relation between the anterior abnormal placentation and the bladder. It is highly recommendable that obstetricians, and not only specialist, can manage the most common urological problems. Speakers will talk specifically about how to avoid complications, and also how to diagnose and manage expected and unexpected problems. All these subjects are analyzed according to specific educational objectives, which are focused in the latest and current information to make decisions.

S162. Implementing Interventions to Reduce Global Maternal Mortality
A. Brown 1, P. von Dadelszen 2, S. Miller 3. 1United Kingdom; 2Canada; 3United States of America

In the last few months of the Millennium Development Goal-era, focus is shifting towards the Sustainable Development Goals (SDGs) and the growing need to prioritise women’s health for global action. The last 15 years has emphasised the need to implement high and equitable coverage of interventions proven to reduce maternal mortality. Now the target of reducing the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 has been set. In this workshop we will discuss a variety of approaches to tackle this ambitious SDGs target.

1. Maternity Worldwide – An integrated approach to reducing maternal mortality drawing on the three delays model, through health promotion, improving economic status of women, primary care outreach projects and improving referral systems.

2. PRE-EMPT – Community-based prevention, monitoring and treatment of pre-eclampsia programme, including a model to aid clinical decision-making by community healthcare workers and a community-level evidence-based interventions package of care.


Conclusions: A number of interventions aiming to improve maternal health globally have been discussed and results are becoming available. Delivery of these interventions must be equitable if they are to be universally beneficial, through policy, health system and financial support.

S164. What’s New with the Family Planning Training Resource Package, An Online Resource for Materials
M.P.R. Festin 1, D. Downing 2, J. Cachan 3, C. Lew 3. 1Switzerland; 2France; 3Italy

The Family Planning Training Resource Package (TRP) is comprehensive set of instructional materials and curricular components to design, implement, and evaluate training. It provides organizations with essential resources for trainers and program managers, for pre-service and in-service training, both public and private sectors (www.fptraining.org). It is used by instructors and curriculum developers for high-quality training and customized to meet needs of specific audiences. Regular updates will incorporate new materials and comply with the latest technical changes in content considering:

• Designing and implementing training interventions
• Using and adapting the TRP
• Acquiring core FP knowledge and skills for health care providers, and EC for pharmacists.

Each module includes session plans and training schedules; facilita-
tor’s guide; presentation slides; interactive group and self-study activities, and case studies; job aids, learning guides, knowledge and skills evaluations; and references. 13 modules are in English, with new modules on Emergency Contraception (for FP providers and pharmacists) and Standard Days Method. Many key documents are translated into French, with Spanish translations planned. SDM module provides tools on three main counselling tasks: (1) screening for medical and behavioral criteria; (2) explaining the method using job aids; and (3) couple communication and supporting how users negotiate unprotected sex on fertile days. Modules of the TRP were rolled out in countries: Afghanistan (implants) and Malawi (EC). Guided facilitation on using modules for pre-and in-service training curricula were conducted in Tanzania. Both approaches were implemented with training of trainer model, to create a sustainable cadre of trained providers and trainers.

S166. The FIGO Fertility Tool Box™

S166.3 TOOL 2 & 3 OVERCOMING PERSONAL AND SOCIETAL BARRIERS
F. Zegers-Hochschild, Chile

Many personal barriers prevent people from getting the health care they need, especially in low resource settings. For infertile women and men, the barriers are even greater than for other health conditions such as fertility regulation or cancer. It is imperative for infertile persons, and healthcare providers to learn how to approach personal and societal barriers and device strategies to deal with them. Many of these barriers have to do with cultural, religious and family values that limit access to care. Overall, women suffering from infertility are more vulnerable to social recognition and sense of belonging. This causes instability and lack of support from the family and community network, especially in religious communities where having many children is a blessing from God. Similarly, there are a number of societal barriers that prevent women and men access appropriate health care. The first and most important is the reluctance to recognize infertility as a disease and neglect the suffering of people living different forms of reproductive disabilities. Especially in low resources settings, from developing or developed countries, infertile persons need to discover how to travel through the health care network. After being diagnosed with infertility at the primary health care (PHC), protocols need to be developed in order to refer them to other facilities where both diagnostic and therapeutic interventions can be provided. This transition from PHC to tertiary health care is often difficult to overcome. The FIGO Fertility Tool Box™ helps patients and health care providers, identify and deal with personal and societal barriers.

S166.5 TOOL 6 & 7: REFER/RESOLVE – PREVENTION
P.C. Wong, Singapore

Tool 6: How to refer and/or resolve infertility consists of 6 action points.
1. Providers self-learn about referral resources, including adoption
2. Follow up treatment outcomes and reassess prognosis
3. Perform ongoing assessment of self and fertility services
4. Refer for further fertility treatment
5. Refer for management of other medical and social problems
6. Provide ethical closure counselling.

Tool 7: How to prevent infertility consists of 10 action points.
1. Educate about reproductive health and age
2. Educate about sex and birth control
3. Educate about healthy lifestyle
4. Educate and practise ethically
5. Prevent HIV and STIs
6. Refer for safe abortion
7. Promote safe pregnancy
8. Promote healthy baby and mother care
9. Use contraception
10. Reduce infertility prevalence by prevention and education.

S169. Heavy Menstrual Bleeding

S169.3 EFFECTIVE TREATMENT FOR HEAVY MENSTRUAL BLEEDING
S. Heliovaara-Peippo, Finland

Menorrhagia is a common health problem, affecting nearly one-third of women at some point of their reproductive years. Menorrhagia causes distress and ill health in women worldwide and in addition major health care costs and therefore need to be treated. Essential menorrhagia can be treated medically or surgically. Medical treatments include oral medication and levonorgestrel-releasing intrauterine system (LNG-IUS). Surgical options include endometrial ablation (EA) and hysterectomy. The choice of treatment depends on personal choice of the woman, desire for future pregnancy and general health status. In addition, efficacy, safety, cost and availability of different treatment modalities affect which treatment is chosen. Hysterectomy has been a preferred treatment option for menorrhagia due to its immediate effectiveness and definitiveness. However, less invasive treatment options, such as LNG-IUS and EA, have become increasingly popular. Compared with hysterectomy, EA has a shorter operation time and hospital stay, quicker recovery and fewer postoperative complications. Of the medical treatment modalities, LNG-IUS is well tolerated and most effective in reducing menstrual blood loss (MBL). It has been reported to reduce MBL by 80–97% after three months. Other medical therapies used in the treatment of menorrhagia are tranexamic acid, non-steroidal anti-inflammatory drugs, progestins and combined oral contraceptives. Both hysterectomy, LNG-IUS and EA have high satisfaction rates among menorrhagia patients and the effects on quality of life are comparable. Medical treatment is usually preferred as first-line treatment of menorrhagia by women and professionals.

S169.4 COST EFFECTIVENESS OF TREATMENT MODALITIES OF HEAVY MENSTRUAL BLEEDING
R. Hurksainen, Finland

Perception of heavy menstrual bleeding (HMB) is subjective and management is multifaceted. The choice of treatment depends on several factors, such as intensity of bleeding, pain, symptoms of amenorrhea, desire for future fertility, health status. Medical treatment options include oral medication and a hormone-releasing intrauterine system (LNG-IUS). Surgical options include conservative surgery (uterine resection or ablation) and hysterectomy. Despite HMB is a globally recognized problem, there is lack of information on the impact of HMB on the healthcare system. A handful of studies have reported healthcare costs, work loss costs, and resource use associated with HMB. Furthermore, it is difficult to compare these studies, because they use different outcomes, cost sources and designs. The health economic studies as far show that HMB is associated with increased direct and indirect costs. Half of the cost difference between the HMB and control cohorts is based on indirect costs. Hysterectomy, LNG-IUS and endometrial ablation are the most effective treatment modalities for HMB. Although hysterectomy is a definitive treatment, it does not appear to improve overall quality of life significantly more than the intrauterine system or ablation and it can
cause serious complications. It is less cost-effective than the two others though after the LNG-IUS and ablation there may be need for further treatment.

**S170. Controversies and Updates in Pelvic Floor Medicine**

**S170.4 HOW DOES A VAGINAL MESH OPERATION SURVIVE?**

T.-S. Lo, Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital, Keelung Medical Center/Chang Gung University, Taiwan

High recurrence rate with pelvic organ surgery has prompted surgeons to seek for a more durable treatment to augment prolapse repairs. At the year of 2010 in the USA, FDA has reported that approximately 300,000 women underwent prolapse surgery where one out of three pelvic organ prolapse (POP) surgeries used mesh, and three out of four of the mesh procedures were done transvaginally. In contrast, FDA has received more than 1,000 reports of complications that were associated with mesh device in the past 3 years since 2008. Therefore, FDA sent out alert to public on serious complications associated with transvaginal placement of surgical mesh for pelvic organ prolapse. Further update information was kept on releasing to the public on the hazer of the transvaginal mesh. The information on the mesh issue has been aware by health authority in Taiwan. Similar alert was sent out to the society and public at the same time of FDA notification put up. However, the respond from society, surgeon involved and public has not over react over the issue. Instead, all have look into the issue rationally and thoroughly. Studies were carried out to evaluation the rational for the use of transvaginal mesh in pelvic reconstructive surgery as well as complications related to the surgery in the island. New publications on the efficacy and safety on the usage of mesh in transvaginal pelvic reconstructive surgery was released continuously and showing to be a good outcome. Retrospective study on long term efficacy of the mesh usage on pelvic reconstructive surgery over no mesh usage has been carried out as well and showing with significant good cure on prolapse. The prevalence on the mesh related complications was reevaluated after performing and showing with an acceptable low rate on the skillful surgeon.

Based on studies carried out, we are very sure that mesh has its significant role on the pelvic reconstructive surgery for pelvic organ prolapse. After the consensus on mesh usage for Urogynecologist has been concluded, the influence on the conclusion has reflected on the total number of patient who used the mesh in past few years. The total number of patient who received mesh has not decreased but on the other hand, it has increased steadily over past few year. We can not say out situation could apply to others. But we are very sure that what has happen is US on the mesh issue is wrong. And, we may say that we have found our own way of going for the pelvic reconstructive surgery for our future.

**S171. Prediction, Prevention and Treatment of Hypertensive Disorders of Pregnancy**

**S171.3 PREVENTION OF RECURRENT PREECLAMPSIA**

L. Costa, Brazil

Women with a prior history of preeclampsia are at increased risk of preeclampsia, other adverse pregnancy outcomes and future development of hypertension and cardiovascular disease. The nonphysical consequences of complications related to pregnancy and childbirth on the woman and her family also need to be addressed and counseling on recurrence of a hypertensive disease in future pregnancies is key and challenging. The exact determination of recurrence rates is difficult with studies varying from 10 to 65%; mostly depending on considered time of the disease onset, severity and presence of pre-existing medical conditions. A recent individual patient data (IPD) metaanalysis, with 99,415 women with a subsequent pregnancy, obtained an overall recurrence rate of hypertensive disorders of pregnancy around 21% and 14% of recurrence manifested as preeclampsia. This study also reported that for the majority of the recurrences, the disease was milder. Counseling should consider interventions starting pre-conception, aiming to control underlying medical disorders and known risk factors, especially obesity (weight loss). Many interventions have been studied, during pregnancy, in the attempt to identify supplementations or medications that could be beneficial, however, the use of fish oil, antihypertensives and vitamin C and E were not effective. The benefit of calcium supplementation is still unclear and the use of low dose aspirin for the prevention of recurrent preeclampsia has been extensively studied and should be recommended, if history of previous preterm preeclampsia or recurrent preeclampsia. During prenatal care, these women need close surveillance and more frequent visits, for adequate clinical and fetal monitoring.

**S171.4 PRE-ECLAMPSIA AND GESTATIONAL HYPERTENSION ARE LESS COMMON IN HIV INFECTED WOMEN**

D. Hall, S. Gebhardt, G. Theron. 1Department of Obstetrics & Gynecology, Stellenbosch University and Tygerberg Hospital; 2Department of Obstetrics & Gynecology, Paarl Hospital

**Objective:** To determine whether pre-eclampsia and gestational hypertension are less common in HIV infected women.

**Methods:** This prospective cohort study was performed in the Western Cape province of South Africa. HIV negative and positive pregnant women without chronic renal or chronic hypertensive disease were continuously recruited. During the study period HIV positive patients received either mono- or triple (HAART) antiretroviral therapy for prevention of vertical transmission or maternal care. Only routine clinical management was performed. The development of hypertensive disease during pregnancy was recorded.

**Results:** 1093 HIV positive and 1173 HIV negative cases were identified during pregnancy and evaluated again after delivery. Significantly fewer cases of pre-eclampsia n=33 (3.2%) were recorded in the HIV positive group compared to the HIV negative group (p=0.012; OR 0.49 95% CI 0.29–0.85). Multiple logistic regression analysis confirmed the significant less cases of gestational hypertension recorded in the HIV positive group compared to the HIV negative group (p=0.026; OR 0.53 95% CI 0.30–0.94). Multiple logistic regression analysis confirmed the reductive effect of HIV on pre-eclampsia and gestational hypertension.

**Conclusion:** Pre-eclampsia and gestational hypertension are less common in HIV infected women being managed with mono- or triple anti-retroviral therapy.

**S172. Abnormal Invasive Placenta 2: Current Alternatives in Treatment, Management, Advantages and Disadvantages**

J.-C. Shih, G. Kayem, J. Palacios-Jaraquemada, F. D’Antonio, C.J. Yoon, 1Taiwan; 2France; 3Argentina; 4Italy; 5Korea

After perform a diagnosis of abnormal invasive placentation, it is quite important to decide how the better treatment. This choice must include invasion extension and topography, desire of future pregnancy, skills and hospital resources. All techniques have advantages and disadvantages, which could be evaluated to present all possible alternatives before to decide which one is better for the patient. Although hysterectomy is considered for some groups a gold standard surgery, this is not an easy or safe procedure in all cases. Especially...
features that include anatomy distortion, tissue adhesion and variable growing of newly vascularization could turn the hysterectomy in a nightmare. For this reason, to left the placenta in situ could be an initial solution to avoid further dissection or bleeding. But, we need to be aware about possible short term and late complications of this approach. Resective conservative procedures, such as one-step conservative surgery solve all problems associated with the abnormal placentation in one surgical act. However, this procedure needs supervised training and strictly medical management to be effective and safe. Nevertheless is a procedure with a lowest rate of recurrence and habitually chosen by women with desire of future pregnancy. Interventional radiology is one of the most common methods to reduce bleeding during surgical procedures in cases of abnormal placentation, but its accuracy could be variable depending of multiple factors. As other procedures in medicine, it is necessary to know advantages and limitations to avoid complications. Finally, it is presented a general overview of all available methods which include the main advantages and disadvantages.

S173. Advances in Fetal Diagnosis and Therapy

S173.1 ADVANCES IN FETAL IMAGING
A. Borrell, Spain

Ultrasound is the primary method for imaging fetal anatomy and has been used throughout pregnancy to assess fetal viability, number, gestational age, placental location and the amount of amniotic fluid. From its introduction about 40 years ago, image quality and resolution have improved progressively, allowing for a 80% diagnosis of major fetal structural defects in prenatal screening. Three-dimensional ultrasound, either in real time scanning (4D) or by navigating previously acquired volumes, provides a more realistic image to parents, but has a limited value as an additional diagnostic tool over conventional 2D ultrasound. Specialized ultrasound examinations include first trimester scanning, Doppler ultrasound, fetal echocardiography and fetal neurosonography. First trimester examination, routinely performed in some countries, integrates nuchal translucency measurement, the best marker of trisomy 21, to an early anomaly scan and the assessment of additional aneuploidy markers. Doppler ultrasound has been found to be particularly useful in fetal growth restriction surveillance. Dedicated fetal echocardiography allows for detecting prenatally most of major cardiac defects. Detailed fetal neurosonography assesses the anatomic integrity of central nervous system. Fetal magnetic resonance imaging (MRI) increases the diagnostic potential of prenatal sonography by providing better visualization of the fetus when ultrasound is limited by maternal or fetal factors. While it offers a better tissue contrast and larger field of view than ultrasound is limited by maternal or fetal factors. As other procedures in medicine, it is necessary to know advantages and limitations to avoid complications. Finally, it is presented a general overview of all available methods which include the main advantages and disadvantages.

S174. Realidad de la Obstetricia y Ginecología Venezolana

In the past few years in Venezuela there have been a series of political, economic and social changes that have affected the health of our women and their children. In Venezuela, the medical education and training in both undergraduate and postgraduate level is continuous, based on the evidence, and acquisition of skills to achieve accurate diagnosis and treatment. In our section we will present four major conferences regarding sexual and reproductive health, such as the reality of preterm delivery and its impact on neonatal morbidity and mortality; the incidence of maternal mortality, which remains significantly high despite the training and education provided to the health personnel; the reality of HPV infection in a country that does not count with the vaccine resulting in an increased prevalence of it; and finally the technological updates in the local management of endometrial ADC via hysteroscopy. All these topics represent the difficulties that the health system goes through in Venezuela despite the interest in applying the updates of modern medicine due to all the economic and social issues that are happening nowadays.

S175. Understanding and Dismantling Stigma and Discrimination as Barriers to Accessible and Quality Abortions for All Women
C. Tatua1, N. Sheriar2, K. Avnonn3, K. Gillum4. 1Kenya; 2India; 3Benin; 4United States of America

The stigma surrounding abortion plays a critical role in the social, medical, and legal marginalization of abortion care around the world. Stigma shames and silences women seeking abortions and providers; it is a major contributor to unsafe practices, as well as judgmental and stigmatized experiences for women. The impact of stigma is far-reaching and pervasive; it contributes to the criminalization of a medical procedure, the separation of abortion from other reproductive health services, and the isolation that women and service providers often experience. Enacted stigma, or discrimination, undermines women’s human rights and undermines the accessibility, acceptability, availability and quality of abortion services. This panel, moderated by Leila Hessini and cohosted by the International Network for the Reduction of Abortion Discrimination and Stigma and the International Planned Parenthood Federation (IPPF) will examine abortion stigma across the different levels of the socio-ecological model and in various contexts. A conceptual framework of
abortion stigma will lay the foundation for this panel followed by the sharing of formative research and analysis of the manifold ways in which stigma manifests itself, and is contested, by adult and young women. The roles of laws and policies in perpetuating or challenging abortion stigma will be discussed and critiqued and panelists will present approaches by providers and health systems staff to tackle and reduce abortion-related stigma and discrimination and promote women-centered and quality abortion services. A practical toolkit – developed by inroads members – to address and mitigate abortion stigma at the service delivery level and among health care professionals will be introduced.

The four panelists will cover:

1. **Encountering Stigma at the Health Care System: Exploring Barriers to Accessibility, Acceptability, Availability and Quality Care**: The manifestations of stigma across women’s reproductive and sexual lives affect women’s use of services as do the stigmas present at the service delivery site. Our research shows that the links between stigma and the accessibility, acceptability, availability and quality of abortion care are experienced and managed differently by women and providers across various contexts. Research and results from interventions in Kenya and Uganda to identify and mitigate this stigma and improve quality of care will be shared. (Speaker: Dr. Caroline Tatua, Ipas Alliance, Kenya)

2. **Providers as Advocates in Understanding and Mitigating How Abortion Stigma Manifests itself for Different Women**: This presentation will use a human rights framework to frame clinical care and abortion provision and will discuss the way that gendered norms and myths influence abortion policies and practices that affect women seeking care and health professionals who provide services. The stigma that providers experience as well as their role of providers as advocates in challenging stigma and supporting non-discriminatory practices will be discussed (Speaker: Dr Nozer Sheriar, Secretary General of the Federation of Obstetric and Gynecological Societies of India)

3. **Supporting Stigma-free Services for Youth Women**: Young people seeking abortion services may face compounded stigma for being identified as being sexually active outside of formal unions, having become pregnant and for expressing their human right to having become pregnant and for expressing their human right to control, bone metastasis, brain metastasis, ascites, lymphocysts. The role of surgery in palliation will be discussed in different circumstances: bowel obstruction, pleural effusions, hemorrhage, pain control, and shorter schedules are found to be just as effective as protracted techniques in radiation therapy have reduced morbidity of treatments and shorter schedules are found to be just as effective as protracted

4. **Practical steps to improving quality of care and reducing stigma in abortion provision: Launching the inroads provider stigma toolkit**: To counter the stigma and discrimination that affect the experience of providing, choosing, and receiving abortion services globally, inroads members have developed tools and scales to measure and evaluate stigma mitigation efforts. Inroads staff will present a toolkit that has been piloted with network members consisting of three interrelated tools: a health systems service audit, a user-developed framework for quality of care, and a stigma reduction training for healthcare professionals and office staff. This toolkit will be coupled with the preliminary results from an opinion polling of attendees at the FIGO conference about their experiences of stigma. (Speaker: Katie Gillum, Inroads Engagement and Communication Advisor, U.S.)

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**S179. Palliative Care in Gynaecological Cancers**

**S179.1 PALLIATIVE CARE IN GYNAECOLOGICAL CANCERS: OVERVIEW**

**I.F. Adewole**, Gynecological Oncology Unit, Faculty of Clinical Sciences, College of Medicine, University of Ibadan, Nigeria

**Background and objectives**: As a key component of multidisciplinary care for women with gynaecological cancer, palliative care is an important speciality that is rapidly evolving to facilitate the provision of comprehensive women care. The goal of this presentation is to review current palliative care strategies within health systems, identify opportunity for research, integration and sustainability, and recommend feasible options for developing countries.

**Methods**: Published protocols, guidelines, original research and review articles from different databases will be reviewed.

**Results and conclusion**: The presentation will focus on cancer care as continuum, highlight the importance of palliative care and compare palliation protocols by settings and types of gynaecological cancer, identify emerging research opportunities, and disparity between high and low-middle income countries (LMIC). The presentation will also attempt to set agenda for a sustainable palliative care in gynaecological oncology practice and research in LMIC. The presentation will also discuss role of social support in palliation service as an effective but untapped intervention.

**S179.2 ROLE OF SURGERY IN PALLIATION OF GYNAECOLOGICAL CANCERS**

**A. Bermudez**, Argentina

The decision to undergo major palliative surgery for advanced gynaecologic malignancy is among the most difficult encounter by patients and doctors. Most women in this setting have undergone multiple therapies, are now refractory to treatment, and are facing very limited life expectancies. However, when severe symptoms and major disease complications obviate what little quality of life remains, major surgery for palliation becomes a serious option.

The role of surgery in palliation will be discussed in different circumstances: bowel obstruction, pleural effusions, hemorrhage, pain control, bone metastasis, brain metastasis, ascites, lymphocysts. Palliative pelvic exenteration will be analyzed.

The decision for palliative intervention in end-stage gynaecologic cancers is among the most difficult decisions that a patient, her family, and a gynaecological oncologist will face. There is no right or wrong answer.

**S179.3 PALLIATIVE RADIOTHERAPY FOR GYNAECOLOGICAL TUMORS**

**V. Vanderpuye**, Ghana

In spite of recent achievements in improving early diagnosis of gynaecological tumors, most of the developing world still record a high volume of late stage cancers at first diagnosis. Early stage diseases also recur or fail initial therapies in the advent of newer and more effective therapies prolonging their lives. These patients require adequate palliation to improve quality of life and occasionally prolongation of life. Surgical interventions may not be appropriate or may be combined with radiation treatments and systemic therapies including targeted therapies to obtain maximal control. For many decades radion therapy remains one of the most cost effective means of palliating symptoms of locally advanced or metastatic gynaecological cancers with a 50 to 100% improvement in symptoms. New delivery techniques in radiation therapy have reduced morbidity of treatments and shorter schedules are found to be just as effective as protracted
S179.4  PSYCHOSEXUAL CONSEQUENCES OF GYNAECOLOGICAL CANCERS  
S.V. Carr, Australia

More than 50% of women with gynaecological cancer worldwide will experience a sexual problem, caused by the impact of the cancer, or its treatments. Surgical menopause, chemo and radiation therapy can all have sexual side effects, and the emotional impact of all of this can be devastating. Sexuality is a key component in Quality of Life, and should not be ignored.

Although many treatment strategies can be offered, these problems are frequently not even mentioned due to a variety of cultural, social and professional barriers. Many professionals feel unable to approach the topic of sexuality with their patients, often due to lack of training, despite patients wishing they would do so. People remain sexual beings throughout their lives, even to the palliative phase, still one of the most confronting areas for clinicians.

The ideal treatment is to take a combined biopsychosocial approach, as any difficulty related to sex will impact on the emotions, and will have an effect on relationships. There are a variety of therapeutic approaches, which can be tailored to individual needs, and in which staff can be trained.

Treating sexual difficulties in women with gynaecological cancer at all stages of the cancer journey should be an integral part of her care.

S179.5  PAIN MANAGEMENT IN CANCER PATIENTS  
L. Denny, University of Cape Town/Groote Schuur Hospital

Pain is a frequent experience in women with gynaecological cancers, either at presentation, related to treatment or in the palliative care setting. Pain requires careful assessment and an understanding of the multiple contributing factors that may relieve or increase pain. There are different types of pain e.g. visceral pain, neuropathic, no-coceptive and differentiating pain aetiology is an essential part of pain management. Adverse emotional and psychological factors may exacerbate pain and the need for the addition of adjunctive therapy such as anti-depressants should be evaluated. Spiritual dis-ease, alienation, loneliness, fear are all factors that exacerbate the experience of pain. Pain is often a presenting symptom as is pain related to treatment, particularly surgical complications and side-effects to chemotherapy and radiation, all modalities used in various combinations for the management of gynaecological malignancies. In prescribing analgesia, the dose and drug should be appropriate for the type and level of pain the patient is experiencing. There are only 11 countries in sub-Saharan Africa that offer oral morphine for the treatment of severe pain, and many women are denied adequate pain control, leaving them in a debilitated state. There is a great fear of morphine and addiction which is unfounded in the setting of cancer pain, where relief of pain should be paramount to ensuring a decent quality of life. Pain management requires careful attention to detail, listening and interpreting the patient’s experience as well as close follow up to ensure ongoing relief and adaption to changing circumstances.

S180. Basic Science and Translational Research in Pre-eclampsia  
S180.2  MOLECULAR TRIGGERS OF SPIRAL ARTERY REMODELLING IN EARLY HUMAN PREGNANCY  
G.E. Lash, Reproductive and Vascular Biology Group, Institute of Cellular Medicine, Newcastle University, Newcastle upon Tyne, NE2 4HH; Guangzhou Women’s and Children’s Medical Center, Guangzhou, China

Remodelling of the uterine spiral arteries is one of the key events in the establishment of pregnancy. Failure of this process being associated with the pathogenesis of pre-eclampsia, fetal growth restriction and late miscarriage. While the morphological features of the remodelling process are well described less is known about the molecular mediators of these changes. It is becoming clear that spiral artery remodelling requires the co-ordinated action of several different cell types including uterine natural killer (uNK) cells, uterine macrophages and extravillous trophoblast cells (EVT), as well as the cells of the vasculature, in particular the vascular smooth muscle cells (VSMCs). Data from my laboratory demonstrates that decidual leukocytes surround the vessels prior to remodelling and initiate VSMC morphological changes, via proteases and angiogenic growth factors, especially angiopoietin 2. The uNK cells then attract EVT towards the vessels, which in turn attract the VSMCs away from the vessel wall into the decidual stromal where they interact with a number of cell types, undergo apoptosis and are phagocytosed by decidual macrophages. Indeed, even prior to apoptosis VSMCs can prime decidual macrophages into a more phagocytic phenotype by inducing expression of LRP-1, a receptor for signals expressed by cells undergoing apoptosis that require phagocytic clearance. Only by fully understanding the molecular mediators of this process will we be able to develop interventions for the treatment of various pregnancy complications.

S180.3  ECLAMPSSA – NOVEL INSIGHTS INTO ITS PATHOPHYSIOLOGY AND TREATMENT OPTIONS  
H. Liu, Department of Obstetrics, Guangzhou Women and Children’s Medical Center, Guangzhou Medical University, Guangzhou, China

Eclampsia, generalised tonic-clonic seizures superimposed on a background of preeclampsia, continues to be a major cause of maternal and perinatal morbidity and mortality worldwide, especially in underdeveloped nations. Its clinical features and pathophysiology have been studied extensively in recent decades. Cerebral vasospasm, hypertensive encephalopathy (from cerebral overperfusion), excitation of brain receptors, and hyperactivity of the sympathetic nervous system have all been implicated in the pathogenesis of eclampsia. Cerebral imaging in eclamptic patients can show evidence of local lesions (vascular thromboses or haemorrhages) as well as generalised brain edema and features indicative of posterior reversible encephalopathy syndrome (PRES), which is also found in hypertensive encephalopathy. Electrophysiologically, the seizure activity of eclampsia represents neural network super-synchronous electrical activity. This is influenced by inflammation, especially neuroinflammation, the presence of which has been shown to decrease the threshold for seizures in a preeclampsia animal model. Such data suggest regulation of inflammatory mediators might be a pathway relevant to eclampsia prevention. Magnesium sulphate (MgSO4), which has long been used clinically in the management of severe preeclampsia-eclampsia, has been shown to modulate the expression of the N-Methyl-D-Aspartate Receptor (NMDAR), which plays a key role in cerebral excitatory neurotransmission, and to also regulate inflammatory mediators. These studies provide novel insights into strategies for optimizing the prevention and treatment of eclampsia.

S180.4  NEUROMODULATION IN ECLAMPSSA: THE FUTURE  
K. Zhou, Department of Obstetrics and Gynecology, Xijing Hospital, PLA University of Science and Technology, Xi’an, China

The diagnostic and therapeutic options for preeclampsia and eclampsia are limited, and the current management mainly focused on symptom relief. Although magnesium sulphate (MgSO4) is an effective treatment for eclampsia, numerous cases of magnesium toxicity are reported. Seizure prophylaxis is currently based on empirical guidelines that are often difficult to apply to the clinical setting. Seizure prophylaxis for eclampsia is complicated by the challenge of achieving adequate drug levels while avoiding toxicity. Although there are limited data evaluating the use of magnesium in women presenting with eclampsia, the evidence is strong that magnesium sulphate is mostly safe and beneficial for seizure prevention. In recent years, research has shown that the use of neuromodulation is a promising non-pharmacological approach that could be used in the prevention and treatment of severe pre-eclampsia and eclampsia as well as other neurological disorders. Further research in this area is required to evaluate the potential efficacy of neuromodulation in the prevention and treatment of pre-eclampsia and eclampsia.
S182. Role of Shock Index for Predicting Maternal Outcomes in Obstetric Hemorrhage

S182.1 SHOCK INDEX AND MATERNAL CARDIOVASCULAR DYNAMICS
A. Pinheiro, J.G. Cecatti, R.C. Pacagnella. CAISM University of Campinas, São Paulo, Brazil

Cardiovascular changes begin around the sixth week of pregnancy, leading to a 45% increase in blood volume, reaching a maximum volume of 4700–5200 mL at about 32 weeks. Cardiac output increases by about 50% during pregnancy: increasing from 4.6 L/min to 8.7 L/min on average and reaches its peak between 25 and 35 weeks then remains stable until delivery. The heart rate increases from the fifth week of gestation and is up to 15–20 bpm higher at around 32 weeks. Both systolic and diastolic blood pressures fall from the 12th week onwards due to the decrease of peripheral resistance because of the placental circulation bypass. From 24 weeks gestation on there is a gradual return to pre-pregnancy levels or higher due to increased blood volume of blood pressure.

For Postpartum haemorrhage (PPH) diagnosis, WHO recommends visual estimation of blood loss. There are studies suggesting that visual methods underestimated blood loss. In the majority of healthy pregnant women, physiologic compensatory mechanisms inhibit decreases in blood pressure and increases and heart rates until >1500 mL has been lost.

Although the use of conventional clinical signs may lack accuracy in the assessment of hypotension, the shock index (SI) may potentiate the effect of isolated clinical signs to identify women at risk of shock due to obstetrical causes. The shock index is calculated as heart rate divided by the systolic blood pressure. Even considering the changes in cardiovascular response at the end of pregnancy, SI still appears to be useful to early predict shock.

S182.2 POSTPARTUM HEMORRHAGE AND TRIGGERS FOR INTERVENTION: THE RELATIONSHIP BETWEEN SEVERITY OF BLOOD LOSS AND OTHER CLINICAL SIGNS AND SYMPTOMS
J. Durocher1, I. Dzuba1, G. Carroli2, B. Winikoff1. 1Gynuity; 2Centro Rosarino de Estudios Perinatales (CREP), Argentina

Background: Uncertainties remain about the quantities of postpartum blood loss that are of greatest importance in triggering intervention and predicting severe maternal outcomes for women with excessive bleeding. There is a need for evaluation of new clinical indicators that could facilitate early diagnosis and management of postpartum hemorrhage (PPH). Shock index, a calculated variable of heart rate to systolic blood pressure, has been identified as a promising clinical parameter for evaluating the severity of PPH.

Methods: Prospective research will explore which physiological conditions and/or blood loss quantities are the best and most feasible indicators to alert providers to treat women for primary PPH. Independent of PPH diagnosis, consenting women with vaginal births in 3–4 Latin American hospitals will have their postpartum blood loss, pulse, and blood pressure systematically measured (every 15 minutes during the first hour post-delivery), as well as other clinical signs and symptoms recorded (e.g. pallor, mental status, palpitation, etc.). The relationship between postpartum bleeding patterns, clinical signs/symptoms and hemodynamic changes during the immediate postpartum period will be analyzed.

Results and conclusions: The internationally recognized definition of PPH (>500 ml of blood loss) may have limited clinical utility while other indicators may better identify women most in need of intervention. Preliminary analyses will be shared to explore this hypothesis. We anticipate that the results from this prospective trial will help to clarify the potential role of shock index as an early identifier of severe hemorrhage.

S182.3 VITAL SIGN PREDICTION OF ADVERSE MATERNAL OUTCOMES IN WOMEN WITH HYPOVOLEMIC SHOCK: THE ROLE OF SHOCK INDEX
A.M. El-Ayadi1, H.L. Nathan2, P.T. Seed2, E.A. Butrick1, N.L. Hezelgrave2, A.H. Shennan2, S. Miller1. 1Bixby Center for Global Reproductive Health, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, USA; 2Women’s Health Academic Centre, King’s College London, London, UK

Objective: To determine the optimal vital sign predictor of adverse maternal outcomes in women with hypovolemic shock from obstetric hemorrhage; to develop thresholds for referral/intensive monitoring/intervention to inform a vital sign alert (VSA) device.

Methods: Secondary analyses of dataset of pregnant/postpartum women with hypovolemic shock in low-resource settings (n=958). We evaluated, using receiver-operating curves, predictive abilities of pulse, systolic blood pressure (SBP), diastolic blood pressure (DBP), shock index, (SI) mean arterial pressure (MAP), and pulse pressure (PP) for death, severe maternal outcome (SMO), combined SMO and critical interventions: SMO + intensive care admission, blood transfusion ≥5 units, emergency hysterectomy. Two threshold parameters for rule-in/rule-out were selected by sensitivities, specificities, and positive/negative predictive values (PPV/NPV).

Results: SI was consistently among the top predictors of adverse outcomes; discriminatory abilities were significantly better than pulse for mortality (p<0.05 and p<0.01), DBP for SMO (p<0.01), and $/$DBPs, and MAP for SMO and critical interventions (p<0.01). SI threshold ≥0.9 maintained high sensitivity (100.0) with clinical practicality, ≥1.4 balanced specificity with NPV, and ≥1.7 further improved specificity without compromising NPV.

Conclusions: SI was consistently a strong predictor of adverse outcomes. In lower-level facilities in lower resource settings, we recommend SI threshold of ≥0.9 for referral; ≥1.4 for urgent intervention in tertiary facilities and ≥1.7 as high association with adverse outcomes. All thresholds will be prospectively validated and clinical pathways for action appropriate to setting established prior to clinical implementation of the VSA.

S182.4 HOW AND WHEN CLINICAL SIGNS SHOULD BE CONSIDERED FOR PPH IDENTIFICATION AND TREATMENT?
R.C. Pacagnella. Faculty of Medical Sciences, University of Campinas, Brazil

Introduction: There is currently no definitive evidence on the distribution of normal blood loss during postpartum period and the classical definition from WHO may lack high quality evidence to be supported. Considering that the definition of PPH is based on the amount of blood loss, diagnosis is dependent upon reliable measurement; however, visual methods tend to underestimated blood loss. Other strategies as the use of conventional individual vital signs, (Pulse and Systolic Blood Pressure) also lack accuracy in the assessment of hypotension, but other measures may be useful to identify hypovolemic shock, as the shock Index (SI).

In this talk we will discuss the role of clinical signs in the early identification of PPH. We will present data on the relationship of traditional clinical signs and blood loss and discuss the use of other approaches using clinical signs in identifying and managing PPH as the Shock Index, ECG and oximetry analysis. This data may be useful to discuss possible redefinition of PPH and hypovolemic shock in Pregnancy.
S182.5
UTILITY OF SI THRESHOLDS TO IMPROVE MATERNAL HEALTH IN LOW RESOURCE SETTINGS

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Introduction: In LMICs, deaths from obstetric haemorrhage occur as a result of poor recognition of hypovolaemic shock, inadequate equipment and training, and referral delays. We developed and evaluating a vital signs device (Microlife CRADLE VSA) for use in pregnancy in LMICs, that incorporates a traffic-light warning system for hypertension and shock. We compared the predictive value of shock index (SI) with conventional vital signs in post-partum haemorrhage (PPH), and developed two thresholds: “amber”, indicating need for higher level care facility referral; and “red”, identifying patients requiring urgent action.

Methods: Retrospective cohort study of women with PPH ≥ 1500ml (n=233). Conventional vital signs and SI were measured within the first hour following PPH. Area under receiver operating characteristic curve (AUROC) for each parameter, used to predict intensive care unit admission and other adverse outcomes, was calculated. Sensitivity, specificity and negative/positive predictive values determined thresholds of the best predictor.

Results: SI has the highest AUROC to predict ICU admissions (0.75 for SI [95% CI 0.63–0.87] compared with 0.64 [95% CI 0.44–0.83] for systolic BP). SI ≥ 0.9 had 100% sensitivity (95% CI 73.5–100) and 43.4% specificity (95% CI 36.8–50.3), and SI ≥ 1.7 had 25.0% sensitivity (95% CI 5.5–57.2) and 97.7% specificity (CI 94.8–99.3), for predicting ICU admission.

Conclusion: SI compared favourably with conventional vital signs in predicting PPH adverse outcomes; SI <0.9 provides reassurance, whereas SI ≥ 1.7 indicates a need for urgent attention. In low-resource settings this simple parameter could improve outcomes.

S183. Fertility Enhancing Gynecological Endoscopy

S183.4
SURGICAL MANAGEMENT OF ADENOMYOSIS

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Adenomyosis is a benign uterine disease characterized by ectopic endometrial glands and stroma within the myometrium. It usually affects premenopausal women, mainly with symptoms of menorrhagia, dysmenorrhea, and infertility. Adenomyosis can either be diffuse or localized (focal), depending on the extent of myometrial invasion. Earlier the management of adenomyosis was used to be hysterectomy but with the trend of delayed childbearing, adenomyosis is diagnosed more frequently in fertility clinics. So minimal access surgery techniques and organ preserving surgery is a parallel trend that characterizes modern gynecology. It is of utmost important to preoperatively ensure the definite diagnosis of adenomyosis, and assess the location and the size of each adenomyotic focus. Magnetic resonance imaging assists in the achievement of both of these preoperative goals and helps the surgeon to remove each focus of adenomyosis completely.

Many uterus-sparing surgical techniques have been developed to treat adenomyosis. Adenomyorectomy has been considered as the first-line approach to treat adenomyosis, particularly focal adenomyosis while partial adenomyorectomy including wedge resection of the uterine wall, transverse H incision technique, and asymmetric dissection of uterus to treat diffuse adenomyosis have been described in literature with variable rates of recurrence. The complete excision of adenomyosis by employing several techniques, such as overlapping flaps and triple-flap method to treat diffuse adenomyosis have also been described but the data about the long term outcome of these techniques is still suboptimal and there is no strong evidence to indicate a technique that secures the best clinical and reproductive performance.

S185. A Solution Pathway for Preterm Birth: Accelerating a Priority Research Agenda

E. Lackritz, L. Muglia, C. Engman, J. Murray. United States of America

Worldwide, preterm birth (PTB) is the leading cause of under-5 mortality and a leading cause of severe childhood neurological disability. Despite this high global burden, little information is available on how to prevent PTB, and in low- and middle-income countries (LMIC), how best to scale up evidence-based strategies for intrapartum and newborn care. An organized and prioritized research action agenda is needed, across the spectrum of discovery, development, and delivery science, to achieve innovative solutions to the global problem of PTB. Recent advances in science and technology, as well as revitalized global initiatives such as the Every Newborn Action Plan, collectively make this a unique time to accelerate a coordinated research response. To forge a roadmap for this PTB research agenda, the Bill & Melinda Gates Foundation, Global Alliance to Prevent Prematurity and Stillbirth (GAPPs), Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), and March of Dimes convened a group of experts in the fields of PTB, reproductive biology, genetics, epidemiology, and implementation science. The panel will provide an overview of the “Solution Pathway” that was developed, summarizing novel technologies and computational methods needed for the study of complex biological processes of pregnancy, and the implementation research needed to improve survival of preterm infants in LMIC. Information on the new Global Coalition to Advance Preterm Birth Research (G-CAPR) will be presented, outlining how organizations that fund MNCH research have come together to foster innovation, collaboration, and processes to accelerate this cohesive research agenda for health impact.

S186. Antenatal Steroids for Women at Risk of Preterm Birth – Where Are We Now?

O. Oladapo1, F. Althabe2, J. Vogel1, A. Malata3. 1Switzerland; 2Argentina; 3Malawi

The recently published ACT trial has raised concerns about the appropriateness of antenatal steroids as an intervention to prevent complications of preterm birth in low resource settings. At the same time policy makers and clinicians remain very concerned about the burden of morbidity and mortality from preterm birth globally and especially in lower-resource countries. For high resource countries there may be unanswered questions about the impact of interventions. This session will review the status of available interventions and current programme initiatives in the light of current guidelines and research evidence, so as to put steroids in context with other available interventions and with a focus on practical implications for provision and measurement of services at country level, especially in low resource settings. Funding from the Antenatal Steroids Working Group of the UN Commission on Life Saving Commodities has helped to make this session possible.
S187. New Developments for Enhanced Knowledge Transfer in Women's Medicine

S. Arulkumaran 1, D. Bloomer 1, S. Deganus 2, P. Bloomer 1, E. Jauniaux 1, R. Adanu 2. 1United Kingdom; 2Ghana

Since the enhancement of medical care for women depends, to a considerable degree, on the application of the best current clinical knowledge this session focuses on recent developments in the techniques that are now available for communicating medical knowledge effectively. New technologies are having a revolutionary effect on knowledge transfer and this session examines some of the latest initiatives in obstetrics and gynecology that are already making a significant impact.

S188. Introducing the New and Updated WHO Guidelines on Contraceptive Use and Programming

S188.1 UPDATE ON THE WHO MEDICAL ELIGIBILITY CRITERIA FOR CONTRACEPTIVE USE (2015 EDITION)

P. Steyn, South Africa/Switzerland

The Medical eligibility criteria for contraceptive use (5th edition) presents current World Health Organization guidance on safety of various contraceptive methods for use in the context of specific health conditions and characteristics. The safety of each contraceptive method is determined by several considerations in the context of the medical condition or medically relevant characteristics; primarily, whether the contraceptive method worsens the medical condition or creates additional health risks, and secondarily, whether the medical circumstance makes the contraceptive method less effective. The safety of the method should be weighed along with the benefits of preventing unintended pregnancy.

The document covers low-dose (≤35μg ethinyl estradiol) combined oral contraceptives, combined patch, combined vaginal ring, combined injectable contraceptives, progestogen-only pills, depot medroxyprogesterone acetate, norethisterone enanthate, levonorgestrel and etonogestrel implants, emergency contraceptive pills, copper-bearing intrauterine devices, levonorgestrel-releasing IUDs, copper-IUDs for emergency contraception, progesterone-releasing vaginal ring, barrier methods, fertility awareness-based methods, lactational amenorrhoea method, coitus interruptus, and female and male sterilization.

For each medical condition or medically relevant characteristic, contraceptive methods are placed into one of four numbered categories. Depending upon the individual, more than one condition may need to be considered together to determine contraceptive eligibility. These conditions and characteristics include, among others: age, weeks/months postpartum, breastfeeding status, venous thromboembolism, superficial venous disorders, dyslipidaemias, puerperal sepsis, past ectopic pregnancy, history of severe cardiovascular disease, migraines, severe liver disease, use of CYP3A4 inducer, repeat use of ECPs, obesity, increased risk of sexually transmitted infections, high risk of HIV infection, living with HIV, use of antiretroviral therapy.

S188.2 ENSURING HUMAN RIGHTS IN CONTRACEPTIVE SERVICES AND INFORMATION

R. Khosla, World Health Organization

Unmet need for contraception remains high in many settings, and is highest among the most vulnerable in society: adolescents, the poor, those living in rural areas and urban slums, people living with HIV, and internally displaced people. The latest estimates are that 222 million women have an unmet need for modern contraception, and the need is greatest where the risks of maternal mortality are highest. International and regional human rights treaties, national constitutions and laws provide guarantees specifically relating to access to contraceptive information and services. In addition, over the past few decades, international, regional and national legislative and human rights bodies have increasingly applied human rights to contraception information and services. They recommend, among other actions, that states should ensure timely and affordable access to good quality sexual and reproductive health information and services, including contraception, which should be delivered in a way that ensures fully informed decision making, respects dignity, autonomy, privacy and confidentiality, and is sensitive to individuals’ needs and perspectives.

The panel will highlight different aspects of this approach and WHO’s guidelines and recommendations related to this.

S188.3 WHO GUIDELINES ON TASK SHIFTING/SHARING TO IMPROVE ACCESS TO CONTRACEPTION

J. Kiarie, M. Festin. World Health Organization

The task sharing for contraceptives guidelines were part of WHO guideline on Optimizing health worker roles to improve access to key MNH health interventions. These followed the prescribed procedures of the WHO Guidelines Review Committee, including preparation of systematic reviews on safety and effectiveness, critical appraisal, GRADE system, and convening a technical consultation to finalize recommendations. There were limited studies with high quality evidence for the guidelines. The key recommendations include:

• Community health workers can effectively provide specific contraceptive services such as oral contraceptives, condoms, and hormonal injectables (under close monitoring).
• Auxiliary nurses, nurses and midwives can effectively provide contraceptive services such as oral contraceptives, condoms, hormonal injectables, contraceptive implants, and IUDs.

Policy and programmatic recommendations were prepared in a technical consultation of experts to facilitate implementation of the guidelines. Among the policy recommendations were:

• Implement sound strategies to increase the number of skilled health workers trained and allowed to provide FP services.
• Adapt WHO guidelines in developing and implementing locally appropriate task shifting policies for family planning counselling and services.
• Adopt and strengthen public-private partnerships to optimize the capacity of health workers in the non-governmental sector and transfer skills rapidly across the health system.

Among the recommended programme actions include:

• Undertake standardized, competency-based training of health workers to provide quality FP services, with adequate supervision and monitoring, and referral protocols.
• Emphasize quality of care through counselling by all cadres of providers.
• Trained health workers providing family planning services should receive appropriate recognition, support and remuneration.

S188.4 PROGRAMMING STRATEGIES FOR POSTPARTUM FAMILY PLANNING

P. MacDonald 1, M.L. Gaffield 2. 1USAID; 2WHO

Nearly all postpartum women in low and middle income countries want to postpone their next birth for at least two years, yet over two-thirds are not using an effective method of contraception to achieve this goal. The unmet need for contraception among postpartum women through the first year after giving birth is two to three
times greater than among the general population of women of reproductive age.

During pregnancy, birth, and infant health, immunization and nutrition visits, postpartum women have contact with the health system, and yet their reproductive health needs are often overlooked, or they may be denied contraception because of postpartum amenorrhea. The World Health Organization and partners published and launched the “Programming Strategies for Postpartum Family Planning” in 2013, and in 2015 the WHO released updated medical eligibility criteria (MEC), with significant implications for the use of progestin-only methods by postpartum breastfeeding women.

This presentation will provide an explanation of the updated MEC for postpartum breastfeeding women, share evidence of the need for postpartum family planning in low and middle income countries, highlight sub-populations with the greatest unmet need, and describe systematic approaches that are highly effective at reaching postpartum women with life saving contraception.

S190. The Art and Science of Operative Obstetrics

S190.2 UTERINE COMPRESSION SUTURES

S.N. Pandit. India

Postpartum Haemorrhage (PPH) remains a significant contributor to maternal morbidity and mortality both in developing countries and developed countries. In India 25.6% of maternal deaths are due to PPH. Atonicity of uterus if occurs can be treated with medical and surgical management. If medical management fails surgical intervention is required. Traditionally the various surgical modalities included packing of the uterus, stepwise devascularisation of uterus, internal iliac artery ligation and if these fail, subtotal or total obstetric hysterectomy. The possibility of using compression sutures (B-lynch suture and its modifications) have added a new modality in the hands of the treating obstetricians before proceeding to obstetric hysterectomy. Conservative approaches should be tried first, followed, followed by more invasive. For example, compression sutures may be attempted first and, if that fails, uterine, uterine-ovarian and hypogastric vessel ligation may be tried. The B-Lynch technique or its modifications (Hayman & Arulkumaran, Cho sutures & U-shaped sutures) seems to be the most commonly reported procedure with success rates of 89% to 100%. Selective artery ligation has success rates of 62% to 100%. If life-threatening bleeding continues, subtotal or total hysterectomy should be performed.

Uterine compression sutures (Brace sutures, B-Lynch sutures & its modifications): In 1997, B-Lynch et al. described the use of transmural uterine compression sutures to uterine atony in five cases of massive obstetric haemorrhage. The objective of this technique is to compress the uterus without occluding either the uterine arteries or the uterine cavity. Several subsequent publications reporting six more cases have attested to its efficacy. Key points in the technique are:

- The abdomen is opened via a Pfannenstiel incision (although a Modified Joel Cohen's procedure would be just as appropriate).
- Bimanual compression is applied to check that this arrests bleeding, before the suturing is performed. A lower-segment incision in the uterus is made or re-opened to allow the suturing to be performed.
- The uterine cavity is not crossed. Specific manner of suturing is employed in such a manner Delayed absorbable sutures are used. The suture must be pulled tight to achieve appropriate apposition
- Richard Hayman and Professor S. Arulkumaran in Derby modified this procedure of B-Lynch suture where there is no need to open the uterine cavity. Uterus is manually compressed to check if it is reducing the blood loss.

A straight needle is used to transfix the uterus from the front to back, just above the reflection of the bladder half an inch below medial to uterine angle on both the sides & is then tied at the fundus of the uterus. More than one suture can be used if uterus is particularly broad, and requires adequate compression.

If only two sutures are needed, there is sometimes a tendency for the suture to slide off the uterus, like the braces off a round-shouldered man. To prevent this, the simplest technique is to tie the knots at the top of uterus and then tie the loose ends together or take a stay suture to prevent slippage. If the uterus in between the two lateral sutures still appears to be in need of further compression, then side-to-side ties can be inserted in between the lateral sutures (This shows that modified B-Lynch suture should be tried in all cases of atonic PPH before proceeding to stepwise devascularisation of uterus and obstetric hysterectomy.

The advantages of B Lynch suture are Cost effectiveness & ease of learning to perform.

On review of literature, only 1200 cases of B-Lynch suture were reported. In few cases of these partial necrosis and sloughing of uterine wall was noted. Some authors also reported erosion of uterine wall. Compression of an already ischaemic uterus due to excessive bleeding and prolonged labour may further aggravate necrosis and infection varying from 15–50%. to treat cases in absence of a LSCS incision.

B-Lynch Brace suture Vs Modified B-Lynch Brace suture: B-Lynch suture requires expertise and re-opening of uterine incision or an incision over lower uterine segment. It is time consuming and there is bleeding from uterus due to multiple bites. However, uterine reopening is avoided with modified B-Lynch brace suture. Cervical stenosis, haematometra, partial necrosis and sloughing of uterine wall have been documented by various surgeons as a complication of the original B-Lynch brace suture. There is an easy learning curve.

Since the modified B Lynch suture is a newer technique, and most of the studies are based on case reports, more controlled studies are required. Uterine compression with U-sutures also has been tried and is a highly effective and straightforward emergency procedure which conserves the uterus in these patients.

Conclusion: Our study of 97 patients with atomic PPH revealed that Modified B-Lynch brace suture was successful in controlling PPH and averting obstetric hysterectomy in 93.56% of cases.

1 3.22% (one patient) required obstetric hysterectomy after the modified B-Lynch suture;
1 3.22% (one patient) required selective devascularisation of uterus in addition to B-Lynch suture.

We have been using this modification for several years now and feel it is necessary to train young postgraduate doctors and medical officers dealing with obstetrics. Conservative approaches to management of PPH should be tried first, followed, followed by more invasive procedures. The complications of uterine compression sutures are probably more common with the B-Lynch and Cho techniques, and therefore a simple U-shaped sutures appears to be the method of choice. Early identification of PPH and immediate treatment by both conservative and surgical procedures such as uterine compression sutures are the key to successful treatment and prevention of hemodynamic shock and its consequences.

S190.3 SAFE VACUUM EXTRACTION

H. Murray, Department of Obstetrics & Gynaecology, John Hunter Hospital, United Kingdom

Vacuum extraction has long been considered to be a safe option in the second stage of labour. Its safety however relies on adherence to strict protocols and guidelines and abandonment of the procedure in favour of caesarean section where delivery does not occur in an appropriate time.

Guidelines should include:- An appropriate indication for an assisted delivery, gaining consent from the mother before commencement of

the application of the ventouse cup, and an abdominal palpation to ensure no more than one fifth of the fetal head is above the brim of the pelvis. Where greater than one fifth of the fetal head is felt above the brim then the procedure should be abandoned.

Vaginal examination should include an assessment of cervical dilatation, presentation and position of the fetal head, the descent of the head, and an assessment of the degree of moulding. An appropriate moulding score measured at both the sagittal and lamboid sutures is an appropriate marker of the possibility of cephalopelvic disproportion.

The third component of safe vacuum delivery involves the placement and the use of the vacuum itself. The cup should be placed over the point of flexion on the fetal head. As the vacuum is generated, the fetal head should be recorded. Descent of the head should be assessed with a finger on the fetal scalp with each pull on the cup. If delivery of the head is not imminent after three pulls then the process of vaginal delivery should be abandoned in favour of an abdominal delivery.

The strict adherence to guidelines for a ventouse delivery is mandatory for the ventouse to be used safely.

S190.4

USE OF ROTATIONAL FORCEPS IN THE 21ST CENTURY

P.P. Fogarty, Consultant Obstetrician & Gynaecologist, RCOG Senior Vice President, United Kingdom

Rotational Forceps such as Kiellands have been used in Obstetrics for over 100 years but their use is in decline because of patient an obstetric staff fears. Is this fear and the subsequent decline justified? The rational for the use and decline of rotational forceps will be analysed. The presentation will look at the Incidence, indications, complications of rotational forceps delivery. If rotational forceps are abandoned then what are the consequences and are there any innovations or alternatives which would help to manage delivery in the presence of a malposition? Lastly the presentation will look at the continued role of rotational forceps in the modern labour ward and the implications for the training of our trainees and future specialists.

S192. What the INOSS Can Tell Us about Causes of Maternal Morbidity and Mortality

S192.1

BENEFITS OF MULTICOUNTRY STUDIES OF SEVERE OR RARE MATERNAL MORBIDITIES


1United Kingdom; 2The Netherlands; 3Belgium; 4United States of America; 5Canada

The International Network of Obstetric Survey Systems (INOSS) is a multi-country collaboration which was formed to facilitate studies of uncommon and severe complications in pregnancy. Collaborations such as INOSS offer many added benefits to the study of rare and severe complications in pregnancy. The use of robust case definitions, common data sets, specifically collected detailed data, and prospectively agreed comparative and combined analyses all add to the validity of studies and their utility to guide policy and clinical practice. Such multinational collaborations thus allow for the conduct of robust studies less subject to many of the biases attributed to typical hospital-based observational studies. For very rare conditions, such collaborative studies may provide the only route to high quality evidence to guide practice, since randomised controlled trials and nationwide observational studies can be extremely challenging simply because of the rarity of the conditions. Differing approaches include specific data collection, for instance national surveillance systems as used in several European countries, Australia and New Zealand, or studies using national perinatal registries and surveillance or hospital discharge data such as in the United States, and the Perinatal Network approach in Canada. Examples of collaborative studies which will be presented include identifying differences in incidence of peripartum hysterectomy across Europe and Australasia, a comparison of the incidence of eclampsia in the UK and the Netherlands, examination of the variation in mode of delivery across different European countries, and a multi-country study of uterine rupture which has allowed investigation of uterine rupture of the unscarred uterus, preterm rupture, rupture of the non-labouring uterus and recurrent uterine rupture.

S194. Management of Complications of Trans-Vaginal Mesh

S194.2

TREATMENT OUTCOMES

D.J. Quinlan, Canada

Treatment outcomes of mesh complications related to mid-urethral slings for urinary stress incontinence and trans-vaginal mesh placement for pelvic organ prolapse will be discussed. The main focus will be problems related to mesh erosion and extrusion, with or without pain, or with pain alone. The results of non-surgical management will be assessed. The outcomes of a variety of surgical approaches will be highlighted.

S194.3

ALGORITHM FOR THE TREATMENT OF TRANS-VAGINAL MESH COMPLICATIONS

J.A. van Rensburg, South Africa

Aim and objectives: The use of synthetic mesh for the treatment of stress urinary incontinence has become standard practice since the introduction of the polypropylene retro-pubic TVT in 1996. The standardized repair with the trans-vaginal mesh was introduced in France and after their published data in 2004 became common practice worldwide. However once it was recognised significant complications occur with the performance of TVM procedures the FDA released their first document in 2008 followed by the 2nd in 2011. The FDA document made surgeons aware of the surgical complications and provided specific recommendations. The FDA did not include sub-urethral polypropylene synthetic sling material in these recommendations where it is still recognized as a safe and effective procedure for the treatment of stress urinary incontinence.

Once it was recognized more complications occurred with TVM than initially anticipated medical litigation followed as a consequence. This contributed to the decision of Ethicon to withdraw some products in 2012.

No clear guidelines are currently available to treat and manage these complications of trans-vaginal mesh procedures. The complications include bleeding, infection, extrusion of mesh, organ injury, pelvic pain syndromes and dyspareunia.

The IUGA/ICS joint report on terminology and classification of complications related directly to the insertion of prostheses and grafts in female pelvic floor surgery viewed the complications with the following view point: i) local complications, ii) complications in surrounding organs and iii) systemic complications. They introduced a classification system which includes a category, time frame and site of the complication.

The Dindo classification referred to the degree of the surgical complication involved. The aim of this presentation will be to provide the delegate with an
evaluation and treatment algorithm for the complications of mesh extrusion, pelvic pain syndrome and dyspareunia based on the best current evidence.

**S195. Outpatient Management of Early Pregnancy Loss (EPL) Including Incomplete Abortion**

K. Culwell 1, M. Magwentshu 2, S. Prager 3, J. Steinhauer 4, 1Woman Care Global, San Diego, CA, USA; 2Woman Care Global, South Africa; 3University of Washington, Seattle, WA, USA; 4University of California, San Francisco; Bixby Center for Global Reproductive Health, San Francisco, CA, USA

Management of first trimester EPL or incomplete abortion has conventionally involved two options: expectant management or procedures such as electric vacuum aspiration (EVA) or dilation and curettage (D&C) in the operating room. Expanded options in the outpatient setting provide women with alternatives that can be less expensive and performed in more private settings. This session will provide an overview of the data regarding safety of outpatient treatment of EPL, present clinical guidelines for outpatient treatment of EPL and present two initiatives aimed at increasing outpatient management of EPL in the United States: the TEAMM initiative from University of Washington and an innovative video-based online curriculum from the Bixby Center for Global Reproductive Health at the University of California, San Francisco.

**Objectives:** By the end of the session, learners will be able to:

- Understand the current clinical guidelines for management of early pregnancy loss or incomplete abortion.
- Name the essential elements of post-abortion care (PAC) in settings where unsafe abortion is common
- Identify the training, tools, and skills needed to offer all EPL management options in an outpatient setting.
- Describe the appropriate dosing for use of misoprostol for treatment of early pregnancy failure or incomplete abortion.
- Describe the Training, Education and Advocacy in Miscarriage Management (TEAMM) project’s primary strategies to mainstream education and training in outpatient miscarriage management.
- Identify interactive video-based modules, simulation tools, online curriculum and open-source educational resources to train learners in patient-centered EPL care.
- Describe how to use online video-based modules for innovative teaching techniques such as team-based learning and the flipped classroom approach.

**S196. Les Mutilations génitales – Session 2**

**S196.1 GENITAL MUTILATION: MEDICO-LEGAL ASPECTS**

L. LeGrand Westfall, Canada

Female genital mutilation is of rare occurrence in Canada. The Canadian medical protective association (CMPA) is a not-for-profit, mutual defense association which is governed by a council of physicians representing members from across Canada. The Association provides advices and assistance when medico-legal difficulties arise to more than 92,000 physicians members in Canada. The CMPA is also providing risk management resources while promoting safe medical care. The CMPA will present an overview on the medico-legal risks to physicians related to female genital mutilation. We reviewed our database and will discuss the issues that might arise in these unique circumstances. The analysis is intended to physicians practicing in Canada and will outline issues related to Criminal Code offences, medical regulatory authority (College) positions, Human rights violations, duty to report and Civil liability. Each province and territory has specific legislations and the Colleges may have explicit policies related to female genital mutilation. The presentation is to raise awareness to the participants of the medico-legal matters for physicians providing care in Canada.

**S197. Innovations in Cervical Cancer Screening and Prevention Globally**

V. Tsu 1, J. Jeronimo 1, G. Ogilvie 2, S. Mitchell 2, J. Byamugisha 3, L. Elit 4, 1United States of America; 2Canada; 3Uganda

Despite advances in primary prevention with the HPV vaccine and options for secondary prevention with effective screening, cervical cancer remains one of the most common cancers among women in low- and-middle income countries (LMIC). Access to affordable and appropriate interventions remains one of the biggest barriers to implementation. In this session, global experts will explore innovations in cervical cancer prevention including reduced dosing for the HPV vaccine, self collection based HPV testing for cervical cancer screening, and strategies to improve access to screening in low resource settings, and to women living with HIV. Speakers will present findings on cervical cancer prevention programs and research, and discuss challenges and implementation in LMIC. The goal is to guide program planning and decision making around cervical cancer prevention globally.

Sponsor: ASPIRE Project – University of British Columbia.

**S199. The Importance and Feasibility of Providing Permanent Methods in Low-Resource Countries – And How FIGO Members Can Help**

R. Jacobstein 1, B. Sebikali 2, P. Biswas 3, P. MacDonald 4, 1IntraHealth International and the University of North Carolina, United States of America; 2IntraHealth International, Rwanda; 3Marie Stopes International, India; 4United States Agency for International Development, United States of America

Demand for limiting births among married women exceeds demand for spacing or delaying births in all regions of the world except West and Central Africa – and even there, demand for limiting is rising. The reproductive intention to limit will increasingly predominate as the small family norm becomes a universal norm. Not all women with the reproductive intention to limit will choose a permanent method to achieve this reproductive intention. But many will: Female sterilization is the most widely-used modern contraceptive method in the world, and vasectomy is also widely chosen in high-resource countries. However, in many countries of the Global South neither permanent method is widely available. As a consequence, millions of women and men have limited contraceptive choice. This panel consists of donors, implementing agencies, trainers and service providers from sub-Saharan Africa, the United Kingdom and the United States. Panelists will address drivers of demand for limiting, dimensions of use of the two permanent methods, and innovative and successful service delivery approaches in low-resource countries using non-conventional pain management approaches. Topics that will be addressed include task-shifting, mobile service provision, use of dedicated providers, and the role that FIGO and its members can play in increasing access to these important methods. Ample time will be allowed for dialogue with the audience.

**S202. Treatment of Gynaecological Cancers**

**S202.1 ADVANCES IN TARGETED THERAPY**

J.A. Ledermann, UCL Cancer Institute, London, United Kingdom

In the last decade it has become clear that progress using conven-
tional cytotoxic drugs has reached a plateau leading to a major research initiative to develop molecularly targeted therapies that exploit pathways regulating tumour growth. Clinical trials with inhibitors of angiogenesis, an important driver of ovarian growth have shown significant clinical benefit in ovarian, cervical and endometrial cancers. However, little is known about the factors that predict response, making selection of patients likely to benefit difficult. In this regard, there has been greater progress using PARP inhibitors, a class of drug that inhibits DNA repair. PARP inhibitors are particularly active in patients with BRCA mutated ovarian cancer as these tumours have homologous recombination deficiency (HRD) resulting in defective DNA repair. HRD is found in 40–50% of all high-grade serous cancers, opening the way for an expanded use of PARP inhibitors. Recent data suggest that the combining a PARP inhibitor with an antiangiogenic drug may lead to an additive effect, producing good tumour control, without using conventional cytotoxic chemotherapy. Genetic and signalling pathway abnormalities have also been found in rarer ovarian tumours, such as low grade, clear cell and small cell cancers, and endometrial carcinoma, which respond poorly to cytotoxic chemotherapy, potentially opening new avenues for treatment. However, for ovarian cancer it is now clear that we have already entered a new era of treatment. Conventional cytotoxic therapy continues to have an important role but molecular therapies targeting angiogenesis and DNA repair are assuming an ever-greater importance.

S202.2
TREATMENT OF GESTATIONAL TROPHOBLASTIC NEOPLASIA
H. Ngan, Department of Obstetrics and Gynaecology, University of Hong Kong, Queen Mary Hospital, Hong Kong

Treatment of gestational trophoblastic neoplasia (GTN) is mainly by chemotherapy. Different regimens were used depending on the FIGO stage. A risk score of 6 and below is classified as low risk and above 6 is considered high risk. Patients with low-risk GTN should be treated with either methotrexate or actinomycin D. The recent Cochrane review showed that actinomycin D (Act-D) appeared to be superior to methotrexate (MTX) with less treatment failure however with more toxicity. Change to the alternative single agent is indicated if the hCG level plateaus during treatment or toxicity. If there is an inadequate response to the initial single agent or progressive disease, multi-agent chemotherapy as for high-risk disease should be initiated. The overall complete remission rate is close to 100%.

Multiple agent chemotherapy regimens are used to treat high-risk GTN. The most commonly used is EMA-CO, though the Cochrane Database review failed to conclude what combination was best. The complete remission rate was about 85% and the 5-year overall survival rate was 75–90%.

For those with massive disease, starting with standard chemotherapy may cause severe marrow suppression leading to bleeding, septicemia and even multi organ failure. This may be avoided by starting with lower dosage and a less intensive regimen.

For those patients with liver or brain metastasis or a very high risk score, EP/EMA or another more intensive chemotherapy regimen, may yield a better response and outcome. Such regimens can also be used in treating relapse or progressive disease while on first-line chemotherapy.

Surgery may have an important role in management of GTN, mainly for control of bleeding and removal of isolated drug-resistant tumour. Radiotherapy has a limited role in GTN, except in treatment of brain metastasis, although its efficacy compared to intrathecal methotrexate is controversial.

S202.5
MODERN MANAGEMENT OF VULVAR CANCER
N.F. Hacker, Royal Hospital for Women and University of New South Wales, Sydney, Australia

There are two types of vulvar cancer. The commonest occurs in older women, usually on a background of lichen sclerosus or differentiated VIN. The less common type occurs in younger women (under 60 years), is commonly associated with HPV infection and smoking, and is often associated with warty or basaloid VIN. The incidence of HPV related vulvar cancer is about 40%, and is increasing. Before treatment, a histological diagnosis must be made. Modern management requires individualized treatment of both the primary lesion and the groin lymph nodes. For the primary lesion, vulvar conservation is appropriate for almost all unifocal vulvar cancers. Radical local excision with surgical margins of at least 1cm is the treatment of choice. Any associated VIN should be superficially excised. Adjuvant radiation should be considered for surgical margins <5mm if they cannot be re-excised. With respect to the groin lymph nodes, lesions up to 2cm in diameter with up to 1mm of stromal invasion are at virtually no risk for lymphatic spread. All other lesions require at least an ipsilateral inguinal femoral lymphadenectomy for optimal management. Sentinel node biopsy carries a small but definite risk of recurrence, and the majority of women are not prepared to take a 1% risk of death from recurrence in an undissected groin.

S203. Report of FIGO/March of Dimes Collaborative Working Group to Identify Best Practices to Prevent Preterm Births
J.L. Simpson, United States of America

Preterm (<37 weeks gestation) is a global public health problem, 15 million preterm babies born each year. Prevalence rates range from approximately 5% to over 15%.

Even in high income countries the understanding of risk factors and thus potential benefit of preventive interventions is poor. Important differences in preterm birth rates exist across high income countries but again the causes of these wide variations are unknown. The Working Group has assessed the contributions of the known risk factors of preterm birth, and also estimated how variations in preterm birth rates across select high-income countries could be explained by differences in known preterm birth risk factors.

We analyzed patient-level data on 4.1 million singleton pregnancies from four countries (Sweden, New Zealand, Czech Republic, Slovenia) and one comparator U.S. state (California) to determine the unique contribution (adjusting for confounding effects) of 21 individual risk factors. We were interested in both individual preterm birth risk as well as population preterm birth rates. We sought to predict based on available tools and knowledge.

We will identify the strongest individual risk factors of preterm birth and confirm or challenge other purported associations. In addition to individual risk factors that can be predictive for an individual pregnancy through this analysis we sought to identify other risk factors having the highest impact on population preterm birth rates, given high prevalence despite low odds ratios. We conclude knowledge gaps remain high and would encourage further research in this area. Working Group members will be covering selected aspects of discoveries made and recommended.
S204. PPH Panel 2: Misoprostol for PPH Management: Service Delivery Strategies to Address PPH Where Options Are Few

1Senegal; 2Egypt; 3United States of America; 4Nepal

Uterotonics such as misoprostol are effective for prevention and treatment of post-partum hemorrhage (PPH), the leading cause of maternal mortality in low-resource countries. This session, delivered by FIGO and Gynuity Health Projects, explores strategies to optimize the availability and use of this technology for managing PPH at all levels of the healthcare system including home births. We will examine the following questions:

- Universal administration of oxytocin or misoprostol reduces the incidence of PPH, but the two technologies have different programmatic implications to consider. Research from Senegal compares the use of misoprostol to oxytocin in Uniject and suggests that misoprostol has important programmatic advantages.
- While hospital-based evidence shows misoprostol to be safe and effective treatment for PPH, how can these findings translate to the community level? Research from Egypt shows that misoprostol as “first aid” can facilitate timely treatment for women who experience PPH after home deliveries.
- What do we know about the safety and effectiveness of misoprostol for treatment in women who already received it prophylactically? Research from Pakistan and Afghanistan shows this approach to be feasible and safe.
- Drawing from a wealth of research expertise, we ask how to address missed opportunities to manage PPH at different levels of care and how we can integrate a diverse set of tools into a continuum of PPH care that moves beyond the false dichotomy of prevention and treatment.
- What can we learn from national scale-up experiences of community-based distribution programs of misoprostol for PPH prevention? Findings from a comprehensive evaluation in Nepal reveal some gaps and strengths.

S205. Gender-based Violence Working Group Seminar

1Switzerland; 2Argentina; 3Mexico; 4India; 5Spain

Gender based violence is a topic that came to the forefront towards the end of the 20th century, when it received organizational attention by international agencies such as the UN and WHO. Gender based violence is not limited to unexpected sexual assault by strangers forcing unwitting women, but is part of an unspoken or unconscious collective view in different areas of the world (Dr. García Moreno). It involves others rendered equally defenseless due to their status, assimilated to those of women. The effect of sexual abuse and violence (on the family, on the community or on society at large) has marked and hurt women (and children), often physically (e.g., genital mutilation in several Eastern and African countries – Dr. Shah), always psychologically (Dr. Galimberti). Medical doctors (schooled to treat only organic illnesses) and other health practitioners, social workers and even teachers are in a position to pinpoint the existence of abuse and violence, its lowering the quality of life or destroying it, the shame in reporting it and the difficulties and challenges arising from dealing with it (Dr. Castelazo Morales). Health practitioners need to be specifically trained (Dr. Cabero-Roura) in overcoming this situation.

The speakers in this session will, each in turn, cover aspects derived from the existence of sexual abuse and gender violence in different countries, propose ways of overcoming them and action plans to carry this out.

S205.4 FEMALE GENITAL MUTILATION, SLICED AND SCARRED FOR LIFE

D. Shah, India

A recent UNICEF report states that, more than 130 million girls and women alive have undergone Female Genital Mutilation (FGM) and 2 million continue to undergo FGM annually. FGM includes procedures involving partial or complete removal of or an injury to the external female genitalia, for cultural and non-therapeutic reasons. African countries are among the countries with the highest prevalence of FGM. In December 2012, the UN General Assembly banned the practice of FGM. It is being seen as a serious violation of human rights of women and there is a strong international advocacy for its eradication. The intention of FGM is usually to deprive a girl/woman of sexual pleasure and to subdue her sexual urges.

The country of origin is the most important factor for undergoing FGM. Besides the psychological scarring of the victim, there are various complications arising from FGM, including infections like HIV and hepatitis, septicaemia, hemorrhage, retention of urine, severe pain and even death. Late complications include dyspareunia, arepareunia, anorgasmia, chronic pain, post traumatic stress disorder, pelvic infections, obstructed menstruation, etc.

More than 65% of FGM procedures are performed by non-medical personnel. However, the role of doctors and para-medical staff cannot be entirely ruled out, due to the demand for the procedure in certain cultural groups. Keeping in mind the rights of the women and the complications involved it’s imperative to create awareness on the subject and force laws banning the procedures globally.

S206. Methodologies to Improve Quality in Women’s Reproductive Healthcare – Safe Abortion, Contraception and LARC in Countries with a High Rate of Unsafe Abortion

S206.1 A UNIQUE PROGRAM SUPPORTING HEALTHCARE PROVIDERS TO IMPROVE QUALITY OF REPRODUCTIVE HEALTHCARE, SAFE ABORTION, CONTRACEPTION AND LARC IN KENYA AND SOUTH AFRICA

K. Culwell, Woman Care Global, San Diego, California, United States of America

Woman Care Global (WCG) began the Maximizing Healthcare Provider Performance (MAX) program in June 2012 in Kenya and South Africa to support practitioners to provide high-quality abortion services and long-acting reversible contraception (LARC) post-abortion. The WCG MAX project employs an innovative strategy to identify current and future abortion providers in the community, assess the needs of these providers and barriers getting in the way of delivery of high quality services and to deliver a series of personalized interventions. The MAX field representatives employ a combination of techniques including: provision of technical updates, identifying and meeting training needs, assisting with supply chain and other logistical barriers, assessing business practices, responding to legal threats, stigma and marginalization and providing much needed moral support and encouragement. This comprehensive and personalized approach is likely more important for improving the delivery of abortion services than for any other sector of healthcare given the complex psychosocial and legal environment that surrounds abortion in most contexts.

In October 2013, WCG contracted with the Center for the Study of Gender Equity and Health at University of California, San Diego to conduct rigorous analysis of the data collected by the MAX reps. Data points including demographic information about the providers, num-
bers of clients seen, proportion of patients provided with a post-abort- tion contraception method and interventions provided by the MAX reps have been collected on a monthly basis and analyzed to identify trends in provider behavior and key drivers of behavior change. Results of the latest analyses will be presented along with implications of the results for future programming.

S206.2 IMPROVEMENT IN ABORTION AND CONTRACEPTION LED BY DATA-DRIVEN DECISIONS IN GAUTENG PROVINCE, SOUTH AFRICA
S. Masilela, Gauteng Provincial Department of Health, South Africa

Introduction/Background: By monitoring trends, identifying barriers to effective service provision, and providing customized support to health providers, the MAX (Maximising Quality in Reproductive Health) Programme helps to enhance care and improve access to these important services for women.

Objectives and purpose:
• To provide data for evidence-based decision making;
• To improve the quality of termination of pregnancy services; and
• To improve the uptake of highly-effective contraception.

Method: The Study was conducted in hospitals in Gauteng Province, South Africa at – hospitals. Accurate data collected from health providers and analyzed by the MAX Programme. The quality improvement programme is called MAX (Maximising Quality in Reproductive Health). MAX representatives (reps) visit TOP providers monthly and collect data about many aspects of TOP services on iPads. The data uploads to a secure network when the representative has internet connection. In this pilot, there were 12 providers working at 10 facilities.

Results: Only 37% of participating providers trained to insert IUDs or implants. Providers who were trained to insert LARC were not actually inserting immediately post-TOP. High referral rate of clients seeking 2nd trimester TOP services. 23% of clients were in the 2nd trimester, 70% of those clients were referred to a secondary facility for TOP services. 65% of participating facilities staffed only one TOP provider which resulted in inconsistent TOP services.

Conclusion: While uptake of LARC post-abortion increased after initial training, IUD uptake is steadily declining but implant uptake is increasing and uptake of less-effective contraception (i.e. injectable) very high. It noted that some providers have 100% LARC uptake in certain months. That contraception are not provided regularly will affect confidence of the community in the health system.

S206.3 REPRODUCTIVE HEALTH NETWORK, KENYA: A SUPPORT ORGANIZATION THAT CREATES A LEGAL AND PROFESSIONAL SAFETY NET FOR ABORTION PROVIDERS IN KENYA
J. Nyamu, Kenya

Reproductive Health Network is a Kenyan society of over two hundred private health providers of safe abortion among other reproductive Health Services. The network works closely to provide capacity building, legal and security advice to members and caters for members’ welfare in general. The network’s mission is to provide evidence-based information and quality comprehensive reproductive health services in Kenya. Membership is drawn from many professional associated in Kenya. Through capacity building, training in safe abortion, provision of security and legal advice for members and providing a platform for information sharing among members, RHN aims to contribute to the reduction of maternal morbidity and mortality due to unsafe abortion in Kenya.

Key projects and collaborations of RHN will be presented including the Community Based access to Misoprostol project, the Maximizing Health Provider Performance (MAX) Project with Woman Care Global and the Staff Welfare Project. In addition, program challenges and lessons learned will be discussed as well as thoughts about duplicating the RHN model in other countries/contexts.

S208. Abnormal Invasive Placenta 3: Unwanted, Uncommon and Unexpected Complications
M.M. Chou1, I. Höesli2, G. Kayem3, P. Olofsson4, L. Sentilhes3, V. Stefanovic5, J.-C. Shih1, 1Taiwan; 2Switzerland; 3France; 4Sweden; 5Finland

Although abnormal invasive placentation is itself a condition which have a high morbidity, some complications are uncommon and potentially life threatening. Unfortunately there is little information available about these unexpected complications, mainly because most cases end in catastrophic consequences. What to do and how to do is essential during special circumstances, because wrong decisions could end in serious complications. Unexpected placenta accreta or percreta during cesarean is a big challenge, which needs a cold decision, especially for beginners in this situation. In other cases, placent a accreta is suspected during placental detachment by evident massive bleeding, event that requires stopping the hemorrhage before to make a definitive solution. Parametral invasion is not common complication is some countries, but when it is not prenatally diagnosed or when is unexpected discovered during the cesarean, it could be very difficult to solve. This condition suggests a completely different approach with ureteral identification and dissection in a narrow space. Uterine rupture is infrequent in abnormal placentation, but is cause of hemorrhage, shock and intensive pain in upper perametral involvement. Discussion of different alternatives is in direct relation with resources and skills, but some complications like this, it must be solved without any delay. Although macroscopic hematuria is also uncommon, when it is present, it is habitually consequence of trigon invasion. The especial type of vascularization between the trigon and the anterior part of the cervix implies a different surgical strategy to avoid increase the bleeding. All of these complications be exposed and discuss by expert panel with wide experience in this condition.

S209. Pelvic Anatomy – Revisited

S209.2 HURDLES IN GIRDLE (BONY PELVIS)
S. Sud, India

Bony pelvis is usually studied as a pelvic girdle which poses major hurdles for the fetus while negotiating the birth passage. It is a key skeletal structure for the obstetricians and gynaecologists. An articulated pelvis in standing posture is tilted forward giving an angle of inclination. High inclination is due to sacralisation of 5th lumbar vertebra and it has got obstetric significance because it favours occipito-posterior position, delay in engagement and difficulty in descent of the head due to long birth canal and flat sacrum interfering with internal rotation. Female pelvis is classified into four basic shapes although intermediate types of pelvic shapes are more common than pure versions. Of the four, Gynecoid and Anthropoid pelvis have favourable labour outcome. Clinical assessment of the pelvis is receiving less emphasis in current obstetric practice, probably the best test of cephalopelvic relation in a patient is her conduct of labour. From Gynaecological point various anatomical landmarks of bony pelvis have important role with respect to different surgical approach. One of the important landmarks is ischial spine and it is considered as the light house of the pelvis. Surgical procedures like sacrospinous fixation, transobturator tape fixation etc. needs thorough knowledge of pelvic anatomy.

Knowledge of clinical Pelvimetry is important & should not be a for-
S209.3
TRICKY HAMMOCK (PELVIC FLOOR)
K. Kedar, India

Pelvic Floor is the most integral part of female anatomy. It is important in providing support for pelvic viscera. It facilitates birth & navigate fetus through the pelvic girdle. It helps maintaining optimal intra-abdominal pressure. Damage to the pelvic floor during childbirth contributes to urinary incontinence & pelvic organ prolapse. Pelvic ligament & pelvic fascia helps in maintaining the normal position of the uterus. During pregnancy the pelvic joints & ligaments which are relaxed, tightened up again, to its original efficiency after child birth. Prolonged labour or difficult instrumental delivery may lead to ligament or fascia injury.

Evaluation of pelvic floor muscle function is important for choosing the right technique of surgery. Familiarity with the contemporary views of the female pelvic organ support is essential as we refine established methods for surgically correcting pelvic organ prolapse or consider adopting new & innovative technologies. Attachment of muscle & their functions are well explained with help of 3D animated video which helps in understanding anatomy in detail.

To conclude a precise understanding of the anatomy of the pelvis is the key to successful & safe surgical practice for the treatment of prolapse. Knowledge of anatomy of muscle & ligament will prevent prolapse & unnecessary prolongation of labor & perineal tears during parturition and thus meets the unmet need of surgeon to improvise the skills of surgery.

S209.4
MISCHIEF MONGER (URETER)
S. Kulkarni (Kanthale), India

Gynaecologists should be “Ureter Conscious” because of anatomical proximity of the female urinary and genital tracts. Ureteric injury is a constant threat, far more serious with medico legal complications. Half of all ureteric injuries occur during “simple hysterectomy” or laparoscopic hysterectomy.

Course: Crosses bifurcation of common iliac artery, turns medially. Running dorsal to infundibulopelvic ligament. Close to uterosacral ligament laterally. Pierces base of broad ligament underneath uterine artery, where ureter is about 1.5 to 2 cm lateral to the cervix. Curves medially and anteriorly tunneling through cardinal & vesicovaginal ligaments and enters bladder through the back.

Multi origin blood supply of pelvic ureter makes it resistant to devascularisation.

Commonly Ureteral Injuries occur:
• Dorsal to the infundibulopelvic ligament at pelvic brim.
• Cardinal ligament where the ureter crosses the uterine artery.
• Lateral pelvic sidewall above the uterosacral ligament.
• Intramural portion of the ureter.

Anticipation of risk factors – anatomical, pathological and technical:
• Applying clamps close to uterus and ovaries.
• Using small pedicles for cardinal and uterosacral ligaments.
• Wide mobilisation of bladder before clamping vaginal angles.
• Awareness of thermal injury.

Gynaecological risk factors – big uterus, large fibroid, TO mass, big ovarian mass, adhesions, PID, endometriosis, distorted pelvic anatomy.

Obstetrical risk factors – emergency hysterectomy for severe PPH, rupture uterus, internal iliac artery ligation, massive haemorrhage.

Conclusion: Ureter-phobia can be overcome only by revision of anatomy of pelvic ureter and its subsequent intraoperative application.

S209.5
PERINEUM... CRACK IN THE TRACK
P. Khalatkar, India

Perineum undergoes insult during parturition. It is important to know anatomy of muscles of perineum, perineal body, ischiorectal fossa and anal sphincter. Anal sphincter if torn, is difficult to recognize and repair as the torn ends retract. Classification of perineal tears is very important for future prognosis. Grade III–IV degree repair require an experienced person. Improper suturing of perineal tear can make life of women horrible mentally, socially, sexually and physically.

Bulbospongiosus laxity or tear leads to incontinence and sexual incapacities. Pubococcygeus maintains anal and urethral continence. Transversus muscles maintains urethral tone. Perineal body anchors all perineal muscles and keep women dry when intraabdominal pressure rises without leak. Its repair should be done perfectly by placing crown stitch. Anterior vaginal wall tears can lead to VVF, posterior vaginal tear or button hole tear on anal mucosa can cause rectovaginal fistula later.

Hematomas in perineum can be life threatening. Vulval hematoma can be painful bluish tender swelling. Vaginal hematoma can present with shock out of proportion to the blood loss. Suprapelevator hematoma can be due to avulsion of descending branch of uterine artery. As there is direct communication of paravaginal, pararectal and paraurethral spaces hematoma can spread in whole pelvis as huge pelvic hematoma at times requiring laprotony. Infralevator hematoma can present as fire in perineum with anorectal tenesmus or acute retention of urine due to pudendal vessel insult. All hematomas require exploration, identification, of bleeder, evacuation, ligation and packing outside the cavity.

S209.6
HOT SPOT [CLITORIS] – PELVIC ANATOMY REVISITED
D.N. Vaze, India

It is impossible to convey clitoral anatomy in a single diagram showing only 1 plane. Dr O’ Conell says it is more like a mountain than a hill. MRI provides a multi-planar attachment to clitoral anatomy in the live state with a broad attachment to pubic arch and via extensive supportive tissue to the mons pubis and labia. Centrally it is attached to the urethra and vagina. Clitoral anatomy includes Bulb, Right & Left Crura, Body and Glans. Glance is a small mass of erectile tissue with numerous sensory nerve endings and the only external manifestation of the clitoris. Clitoris gets its nerve supply from inferior hypogastric and pudendal nerve, blood supply from branches of internal pudendal artery. Majority of the lymph drains into gland of cloquet.

Clitoral insults include tear, clitoromegaly, piercing and female genital mutilation [FGM]. FGM includes procedures that intentionally alter or cause injury to female genital organs for non medical reasons. Mostly it is carried out on young girls between infancy & 15 years of age, justified on health or religious grounds. Approximately 140 million women are victim of it. It is recognized internationally as a violation of the human rights of girls and women.

To Conclude – Clitoris is an important landmark for TOT [Trans Oblurator Tape] procedure & Radical Vulvectomy, hence it is essential to know clitoral anatomy. FGM has been condemned by WHO, UNICEF & RCOG.
S210. PPH Prevention and Treatment – New Public Health Approaches in Under-Resourced Areas

A. Lalonde1, R. Bronzan2, Z. Allassoum3, A. Weeks4, 1Canada; 2United States of America; 3Niger; 4United Kingdom

Problem: Post partum hemorrhage (PPH), usually the main cause of birth-related maternal mortality, is difficult to address sufficiently in settings with limited reliability of cold-chained injectable uterotonic where most births still occur outside health-settings.

New tools and public health approaches: In 2014, Niger began combining 1) misoprostol for prevention (also in community-settings) and treatment (in the health system), 2) a free method of measuring PPH occurrence, 3) condom-tamponade, 4) Non-inflatable Anti-Shock Garments (NASGs), and 5) public health disease eradication tools, aiming to reduce PPH mortality 50%.

The symposium: Niger’s innovative approach to reducing PPH mortality and preliminary results will be described in the context of its baseline survey of birthing-mortality causes in hospitals, health centers, and villages nation-wide. Is Niger’s Initiative to Prevent Women from Bleeding to Death at Childbirth worth replicating in other under-resourced settings?

A key and controversial issue, a detail with major implications: A tiny detail with massive financial implications engenders adamant debate sometimes biased by conflicts of interest – Which misoprostol dose is best for PPH prevention? WHO’s “large print” recommendation builds on the historical accident that a major PPH prevention study was done using a particular dose, lower than many used at that time. WHO says in “small print”, there is no evidence a specific lower dose is less effective. The decision of which to use appears to have clinical consequences for side effects, and has large financial implications, the one being 50% more costly than the other. What is the optimal dose?

S211. Improving Quality in Maternal Care: Using Standardization Approaches to Implement Evidence-based Practices

N. van den Broek1, P. Risha2, V. Reis3, 1Head, Centre for Maternal and Newborn Health, Liverpool School of Tropical Medicine, United Kingdom; 2PharmaAccess/SafeCare, Tanzania; 3Jhpiego, United States of America

There is a growing focus on the quality of health care in low resources settings to achieve better outcomes in maternal and neonatal care. Several countries have been implementing, with promising success, standardization approaches that aim to introduce/reinforce essential standards of care using practical tools that empower health workers and make supervision more effective and holistic. Standardization typically goes beyond technical guidelines to the development of tools (check-lists, assessment tools) which can be used on a day-to-day basis for learning support, as a job-aid, and as quality assessment or supervision tools that are the initial step of a quality improvement process.

This panel will present three approaches based on evidence-based standardization, with slightly different processes and tools, and experiences and results to date. The first approach by the Centre for Maternal and Newborn Health of the Liverpool School of Tropical Medicine, is an Audit Cycle, the quality component of the Make it Happen package which also includes competency-based training and quarterly monitoring of selected indicators. The second approach by PharmaAccess/SafeCare consists of a Pre-accreditation process in which ISQua-recognized clinical standards are incrementally introduced in facilities, often linked to mechanisms to help finance improvement of identified quality gaps. The third approach by Jhpiego, Standards-based Management and Recognition, consists of periodic facility assessments by facility teams with standardized tools to identify quality gaps and correct them, paying particular attention to the change management process though motivational interventions. The fact that these approaches are tool-based may facilitate their scale-up and sustainability.

S214. “I need to terminate this pregnancy even if it will take my life”: Experiences of Women Denied Legal Abortion and Menstrual Regulation in Five Countries

D. Greene Foster1, M. Puri2, A. Hossain3, S. Hajri4, T. Depinieres5, J. Harries6, C. Gerds7, 1University of California, San Francisco, United States of America; 2Center for Research on Environment, Health and Population Activities (CREHPA), Kathmandu, Nepal; 3Bangladesh Association for the Prevention of Unsafe Abortion (BAPSA), Dhaka, Bangladesh; 4Groupe Tawhida Ben Cheikh, Tunis, Tunisia; 5Fundación Oriéntame, Bogota, Colombia; 6University of Cape Town, Cape Town, South Africa; 7Ibis Reproductive Health

The relationship between the legal status of abortion and safety is not simple – illegal abortions can be safe, and, where abortion is legal, many women cannot access services. We conducted in-depth interviews with women denied legal abortions in Bangladesh, Colombia, Nepal, Tunisia, and South Africa to understand women’s experiences. Previous study has shown that a large proportion of women seeking legal abortion are denied – from 2% in Colombia to 45% in South Africa with Tunisia, Nepal and Bangladesh each turning away about one quarter of women seeking to end a pregnancy. In each country, we interviewed 10–25 women two months after they were denied abortion services. This panel will present data on women’s attempts to obtain legal abortion services, decisions considered after abortion denial, and knowledge of and experiences with illegal abortion. Results demonstrate that some women who were denied legal abortions go on to seek abortions outside of the formal health system, with consequent risk of complications. Some women were able to negotiate access to legal services at other facilities, where they often endured stigma from providers and staff, while many others carried the unwanted pregnancy to term. These women’s experiences highlight many areas for improvement in contraceptive counselling, abortion provision, and advocacy around abortion laws and services. Abortion provider training, clarification of gatekeeper roles, improvement in referral networks, and increase in provider knowledge of medical contraindications for abortion and birth would reduce the problem of abortion denial. These findings can inform efforts to improve abortion care in these five countries and beyond.

S216. Safe Womanhood, A Call to Action in Response to Interpersonal Violence and Sexual Assault – Panel

A. Patel1, J. Chang2, U. Thanawala3, D. Galimberti4, M. Khaled5, 1Cook County Health and Hospital System; Feinberg School of Medicine, Northwestern University, United States of America; 2University of Pittsburgh School of Medicine; United States of America; 3Vice President of FOGSI, Thanawala Maternity Home, India; 4Violence Against Women Committee of FIGO, Argentina; 5Assistant Representative, United Nations Population Fund, Cairo, Egypt

The “Safe Womanhood, A Call to Action in Response to Interpersonal Violence and Sexual Assault” is a collaborative session with speakers from the United States, Argentina, Egypt, and India. Our speakers will present the scope of interpersonal violence and sexual assault issues from their regions of the world to promote global awareness. We will introduce potential tools and solutions to develop strategies to increase education and awareness of interpersonal violence and sexual assault and to manage these issues when they arise. Through interactive discussion, the speakers and attendees will develop a call to action in response to these issues.
S219. The State of Maternal Health in Ethiopia
B. Sendek, D. Negussie, B. Negatu. Ethiopia

Objective: This is prepared to show the world the efforts of the people and government of Ethiopia towards reducing maternal morbidity and mortality.

Content: Ethiopia has a population of about 99 million; with annual population growth rate of 2.4%. The total Fertility rate in 2014 is 4.1 with a drop from 5.5 in 2000, annual expected pregnancies of about 3 million. The modern contraceptive prevalence rate has increased dramatically from 6% in 2000 to 40% in 2014 in 14 years’ time. This is mainly due to task sharing of family planning service to health extension workers to provide short- term and long acting reversible contraceptives (Implanon) at the community level with backup support from the health centers. Abortion related deaths also show significant drop from its contribution of around 32–54% maternal mortality prior to 2005 to 4–6% from a 2014 study after Ethiopia introduced a progressive abortion law in 2006.

According to the successive demographic health survey findings, the skilled birth attendance rate has increased from 5% in 2005 to 15% in 2014. Innovative approaches for human resource for health shortage in the rural setting have been addressed through task sharing of surgical skills to emergency surgical officers. The number of obstetrics and gynecology residency training universities has also increased from one in 2005 to eight in 2015 with a plan to produce up to 300 ob-gyns in a year by 2020.

Conclusion: Ethiopia has shown significant progress over the last decade in relation to maternal health but still has much more to do in this year as well as the post MDG years through strengthening the health system and the quality of training at all levels of health cadres. Equity and quality of health care for maternal health should also be the nucleus of the health system.

S221. New Frontiers on Diabetes and Pregnancy

S221.1 THE ARTIFICIAL MATURATION OF FETAL LUNGS IN PREGNANCIES COMPLICATED WITH DIABETES
M. Gojnic Dugalic. Serbia

Hyperglycemia and hyperinsulinaemia are known inhibitors of fetal lung maturation. In order to stimulate fetal lung maturation various drugs are being used, such as glucocorticoids, thyroxine, amynophi-lene and others. The administration of a course of antenatal glucocorticoids (AG) to improve neonatal outcome after preterm birth is a leading example of evidence-based medicine, but the current clinical use of AG is too extensive. AG overrides the glucocorticoid enzymatic placental barrier in order to cause fetal lung maturation at a pre-physiological gestational age. Yet the maturation advantage is accompanied by a number of unwanted phenomena, most of which are transitory. These include metabolic effects in both mother and fetus and signs of reduced fetal wellbeing. In addition, the fetal growth rate slows down depending on the number of AG courses. Multiple courses may increase the risk of cerebral palsy, as neonatal dex-amethasone treatment does. There are no randomized trials on the benefit-risk balance of AG in pregnancies complicated by diabetes or intra-uterine growth restriction (IUGR). Animal studies indicate that AG is associated with an inadequate response to acute hypoxaemia and different brain development. Careful use of AG includes avoidance of multiple courses, and a case-based-approach in pregnancies with (pre)gestational diabetes, until more data become available. Considering AG in diabetic pregnancies, we have to be aware that hyperglycemic effect of corticosteroids can make a significant disturbance of glucoregulation in pregnant diabetic patient. Therefore the modification of insulin dosage is needed if we use corticos-teroids. We can expect the problems of maintaining the adequate glucoregulation.

S221.2 THE SURGICAL COMPLICATIONS AFTER OPERATIVE DELIVERIES WITH FETAL MACROSOMIA
A. Stefanovic. Serbia

Vaginal birth, spontaneous or induced in diabetic pregnant patients has increased risks for shoulder dystocia, instrumental delivery, birth trauma and urgent cesarean section (SC). Elective or urgent SC in diabetic pregnant patient also increased risks of intraoperative and post-operative complications. Various protocols are proposed for management of delivery in diabetic pregnancies. Studies report constantly higher incidence of immediate maternal complications (perineal lesions, damage to anal sphincter urinary or anal incontinence, and psychological sequel of traumatic labor). The percentages of urgent SC are constantly higher in diabetic population.

Cesarean delivery places the mother at risk for problems associated with pelvic surgery, which include infections, bleeding, thromboem-bolism, and damage to adjacent organs, but also with risks related to anesthesia. It is also associated postpartum hemorrhage that can lead to peripartum hysterectomy which could be Elective, following CS, rarely performed with regard to morbidity due, could lead to damage to the ureters, bladder, rectum and could an increased rate of reop-eration) and could be Emergency, which comprises the majority of peripartum hysterectomies (incidence ranging from 0.004 to 1.5 per 1,000 deliveries).

The Committee on Practice Bulletins, Obstetrics of the American College of Obstetricians and Gynecologists issued clinical management guidelines on fetal macrosomia. A consensus has not been reached regarding management strategies to reduce the risk of macrosomia. The first line of prevention is adequate glucoregulation throughout pregnancy, particularly during the second and third trimester in which the majority of fetal growth occurs. The second line of prevention is careful planning of delivery.

S221.3 PREDISPOSITION OF MALIGNANT GYNECOLOGICAL DISEASES IN METABOLIC SYNDROME AND DIABETES
S. Kadija. Serbia

Carcinogenesis is a multistep process in which the cells acquire the diverse traits that in aggregate enable them to become tumorigenic and, ultimately, malignant. Accumulation of mutations results in clinically manifest tumors. Metabolic syndrome is a cluster of biochemical and physiological disturbances, which increase risk of numerous health problems. It includes central obesity, arterial hypertension, hyperglycemia, insulin resistance as also increased levels of pro-inflammatory and reduced levels of anti-inflammatory molecules. Homeostatic mechanism of catabolic activation via inflammation and resistance to anabolic signals can be viewed as the last attempt from the organism to control the growing adiposity. There is an association of MS and cancer based on experimental and epidemiological data. Increased risk of breast cancer, hepatocellular carcinoma, colorec-tal carcinoma, endometrial carcinoma, pancreatic cancer in patients with metabolic syndrome as also increased levels of growth hormone, with cellular proliferation, differentiation, protein synthesis, increased IGFs, with lower levels of IGF binding proteins and increased bioavailability of IGFs, also modulation of T helper cells and at last prevention of cancer cells rejection.

Increased insulin levels may have a role in cancer initiation and pro-gression. Increased cholesterol and hypertension increased risk for mucinous and endometrioid tumors.
Increased BMI associated with higher ovarian cancer mortality in women above the age of 50. The knowledge of the complex mechanisms presented above allows us to find new therapeutic ways to face cancer in MS patients. The aim of the current activities is to implement preventive strategies, healthy lifestyle and prevention of MS, new treatment options, applying insulin sensitizers (metformin), growth factors inhibitors, antibodies against IL-6 and inhibitors of NF-kB.

**S221.4 POLYCYSTIC OVARY SYNDROME – INFERTILITY TREATMENT AND PREGNANCY OUTCOME**
E. Garalejic, Serbia

Polycystic ovary syndrome (PCOS) affects 5–10% of women of reproductive age. The diagnostic criteria of PCOS were clinical findings of menstrual disturbances and hyperandrogenism (acne, seborrhea, hirsutism), transvaginal ultrasound imaging of PCO (multiple subcapsular ovarian cysts 2–8 mm in diameter with dense echogenic stroma), and an elevated luteinizing hormone to follicle stimulating hormone ratio. These follicles fail to develop normally because of the hormonal imbalances in PCOS. Up to 50–60% of women with PCOS are obese. Women with PCOS are also prone to developing insulin resistance and there are at greater risk of developing Type II diabetes. In most cases, fertility problems in women with PCOS result from the anovulation. The following medications can be used for induction of ovulation: Clomiphene, Metformin, Letrozole, Gonadotropins or ovarian drilling. IVF may offer women with PCOS the best chance of getting pregnant. The PCOS patients exhibited the shortest duration of ovarian stimulation, lowest dose of gonadotropin and the fertilization rate was significantly lower. Women with PCOS are at increased risk of developing moderate to severe ovarian hyperstimulation syndrome (OHSS). Triggering ovulation with a GnRH agonist followed by embryo cryopreservation allows PCO patients to complete a IVF cycle with no cycle cancellation, coasting, or OHSS and, to attain good pregnancy rates. Live birth rates per cycle are similar to women with normal ovaries. In vitro maturation is an alternative to standard IVF. There was a significantly higher risk of preterm birth and low birthweight following IVF treatment.

**S221.5 THE COMPLICATIONS OF DELIVERIES WITH FETAL MACROSOMIA**
K. Jeremic, Serbia

One of the major factors influencing delivery in diabetic pregnancy is fetal macrosomia which is associated with labor problems such as lack of progression in first and second phase of labor, birth injuries, operative vaginal delivery, Cesarean Section, genital tract lacerations, injuries to bony parts and soft tissue) and postpartal hemorrhage (PPH). Complications of delivery with macrosomia causes maternal, fetal and neonatal complications. Maternal complication includes birth injuries (bony part-Injury to Symphys pubis, Sacro-coccygeal, Sacroiliac joint and soft tissue- paravaginal haematoma, suprapelvator and infravelator), rupture of uterus, increased risk of cesarean delivery and PPH (which presents leading cause of maternal mortality in developed countries and the most preventable cause of maternal mortality). Fetal macrosomia and polyhydramnios – classic markers of diabetic pregnancy can lead to over distension of uterus can lead to uterine atony which leads to PPH. Majority of studies confirms increased incidence of PPH in diabetic pregnancies with neonates weighting more than 4500 grams. Fetal risks associated with macrosomia include birth trauma, including shoulder dystocia, brachial plexus injuries and fetal death. Shoulder dystocia is the most serious complication associated with fetal macrosomia, occurs in 0.23 to 1.60 percent of deliveries. When birth weight is more than 4,500 g, the risk is increased to 19.9 to 50 percent in pregnancies complicated by diabetes. Brachial plexus injuries and fracture of the clavicle are also the most common fetal injuries associated with macrosomia. Neonatal risks associated with macrosomia include hypoglycemia, hematological and electrolyte disturbances.

**S221.6 THE IMPORTANCE OF MID-TRIMESTER ULTRASOUND MEASUREMENTS OF FETAL LIVER IN DETECTION OF GESTATIONAL DIABETES**
M. Perovic, Serbia

Increased transfer of glucose from the diabetic mother to the fetus and placenta results in fetal hyperglycemia and hyperinsulinemia, leading to growth of insulin-dependent tissues (IDT) and organs (IDO). Growing body of evidence implies that ultrasound markers of gestational diabetes mellitus (GDM), which include ultrasound measurements of IDT and IDO, have good achievements in detection of GDM after 28th weeks of gestation. Screening for GDM is usually performed between 24th and 28th weeks gestation. However, detection in earlier period could prolong time remaining for the application of therapeutic measures. A mid-trimester ultrasound scan is regularly performed between 18 and 23 weeks gestation. During this scan, fetal hyperinsulinemia may be assumed on the basis of increased fetal dimensions determined by the ultrasound examination. Several studies have shown significantly higher measurements of IDT and IDO, such as fetal heart, adipose tissue and liver in GDM pregnancies compared to healthy pregnancies even before 24 week of gestation. Highly significant correlation has been demonstrated between fetal liver length (FLL) and blood glucose values during an OGTT in patients with gestational diabetes mellitus (GDM) at 23rd week of gestation. The nature of the association perceived suggests that FLL may be a strong prognostic factor for OGTT values. FLL measurement is an addition to traditional methods in the early detection of GDM.

**S223. Enabling Sustainable Quality Care among Local Private Providers in India and Uganda**
P. Agrawal¹, F. Kaharuza², D. Balaba³, S. Agarwal¹, H. Divakar³, S. Kumar³, ¹United States of America; ²Uganda; ³India

This session will explore mechanisms to enable sustainable quality maternal care in the local private health sector. It will highlight various approaches for improving quality in private care settings in Uganda and India, including challenges, lessons learned and results. In light of the global push to achieve universal health coverage, the session will also highlight the critical role that professional associations can play in ensuring local private providers have the tools, capacity and enabling environment to offer quality, affordable care. Specifically, the session will enhance understanding of the size and scope of the local private health sector in offering maternal health and family planning services. Organizations working with a wide range of local private providers – from small rural clinics to large perurban hospitals – will share the results of their quality assurance and quality improvement efforts. Finally, the panel will showcase a practical quality of care toolkit to integrate quality standards for intrapartum care into private care settings. Panelists will include representatives of the Federation of Obstetrics & Gynaecological Societies of India, Jhpiego, PACE, Hindustan Latex Family Planning Promotion Trust, as well as Merck for Mothers.
S225. Innovative Information and Communication Technology (ICT) Applications for RMNCH Clients and Providers in Developing Countries

S225.1 USING MHEALTH TO IMPROVE DELIVERY AND SUPERVISION OF FAMILY PLANNING SERVICES

S. Olits, United States of America

D-tree International, in partnership with Pathfinder International, was awarded a grant from the David and Lucile Packard Foundation to improve the quality of family planning counseling services and client satisfaction through the use of a mobile application. The decision support software helps community health workers (CHWs) navigate complex family planning algorithms to help a client choose the most suitable method, provide certain methods (pills, condoms, cycle beads) at home or make a referral to a health facility for others, follow-up and track the status of referrals, and schedule follow-up visits to ensure the client is satisfied with her chosen method and help her to change methods if needed. The mobile application includes an electronic Citizen Report Card to collect data on the quality of services at health facilities and serves as the basis for dialogue with health officials. A pay for performance system was also introduced where the CHWs could receive a $2 incentive on a monthly basis for meeting targets on number of new clients registered and % of follow-up visits completed.

In November 2014, 60 CHWs in Shinyanga District Council, who had previously been delivering family planning services using a paper-based system, were trained to use the mobile application. The pay for performance system, along with rigorous data monitoring and feedback to CHWs, was also introduced at this time. In the four months following, CHW performance increased dramatically, showing a 522% increase in the number of clients registered, and a 15-fold increase in the number of follow-up visits.

S225.2 MOBILE MENTORING TO REINFORCE MIDWIFERY EDUCATION IN GHANA

P. Gomez, United States of America

In Ghana, high-quality nursing and midwifery education and service delivery are critical to the country’s development goals. Between 2009 and 2014, the Maternal and Child Health Integrated Program (MCHIP) trained tutors and preceptors at midwifery schools in Ghana in basic emergency obstetric and neonatal care (BEmONC), including lifesaving skills such as manual removal of the placenta and active management of the third stage of labor. Because traditional training and supervision can be expensive, innovative use of available resources is required to scale up and maintain a skilled, competent workforce. The MCHIP team came up with an innovative solution to overcome the obstacles of cost, distance and time associated with traditional face-to-face training – mobile mentoring, or “mMentoring”, which is the use of voice calls and text messages (SMS) to strengthen post-training follow-up. The approach consists of four components:

• SMS text messages that reinforce four BEmONC technical areas;
• SMS text quizzes on the same BEmONC topics;
• Structured voice mentoring calls; and
• Call-back option.

This experience was overwhelmingly positive for MCHIP staff and the tutors also appreciated the approach. One year after training, assessments found that participants had maintained high levels of both knowledge and clinical skills. It has proven to be a cost-efficient, sustainable model, and donors and governments are increasingly seeking such educational interventions that will increase the number of trained high-quality health and community workers, as well as training solutions that directly address performance gaps, support task shifting efforts, and respond to registration requirements set by regulators.

S225.3 INCREASING ADOLESCENT CONTRACEPTIVE KNOWLEDGE THROUGH MOBILE GAMES

A.T. Liu, United States of America

Jhpiego is coordinating a design team comprised of Jhpiego in-house technical experts, a mobile game development company, and Kenyan university students to design and develop a prototype of an interactive “choose your own adventure” mobile game for Android phones that presents social dilemmas and realistic reproductive health challenges to Kenyan youth. The challenges and the decisions the young players make are designed to test their knowledge and measure four characteristics of the player’s behavior that may impact their sexual and reproductive health (SRH) positively or negatively: risk-taking, impulse control, ability to preserve relationships, and knowledge. Along the way the game presents the player with SRH myths and opportunities to seek help from friends, relatives, a peer educator and a clinician.

In this talk we will share our experience in engaging youth in the design of the game and the challenges of designing a game that is informative and challenging, yet fun and engaging. We will also discuss the challenge in creating a points and game analytics strategy that appropriately measures the relative value of the behavior exhibited by the player. Moreover we will explore management challenges such as design by a team distributed across three continents with limited opportunities to collaborate in person. We will share results from the baseline test of the game and field test of the beta version of the game.

S226. Taking the Helping Mothers Survive Initiative to Scale

1United States of America; 2Norway; 3The Netherlands; 4Sweden/Tanzania

Objective: Learn from a creative global partnership to save 100,000 Lives through the Helping Mothers Survive (HMS) initiative.

Methods: Postpartum hemorrhage remains the leading cause of maternal morbidity and mortality. Using a short duration training course, followed by frequent periodic practice on simulators at the worksite, the Low-dose, high-frequency trainings approach is an efficient option for acquiring and maintaining skills for frontline health providers in rural areas in low resource settings. The 1-day training and subsequent repeated practice supported by clinical mentors utilizes the simulation model, Mama Natalie.

Results: Since the HMS Bleeding after birth training (HMS-BAB) was field validated in 2012, the program has expanded in more than 20 countries, and is being implemented at scale in Government, private sector and NGO health facilities, as well as within preserve education. UNFPA has mainstreamed HMS into their global midwifery leadership with a special focus in West Africa. Jhpiego is scaling up adoption of a combined package of HMS-BAB and Helping Babies Breathe (HBB) newborn resuscitation initiative in Africa and Asia, evaluating three models of follow-up support, and developing additional modules on preeclampsia and eclampsia. ICM is rolling our HMS-BAB and HBB through midwifery associations in their ambitious 10,000 happy birthday’s program. By early 2015, 1409 master trainers have been developed from 47 countries, and they have in turn directly trained an estimated 3,546 service providers in 510 facilities, setting the stage for rapid escalation of roll out.

The adoption of HMS is being supported by Laerdal’s Buy One Gift...
One program in which Laerdal donates one mamanatalie simulator for training purposes for every one sold in developed nations. And FIGO is conducting a cluster randomized trial of the initiative to further inform and measure impact. Master trainers play a key role in championing and guiding scale up in their nations, and we have learnt that remote providers require repeated motivation successfully done using cell phones. Also, implementation success is highly dependent on well trained facilitators, and ensuring that service delivery sites have the simulators for providers to continue practice and maintain skills.

Conclusions: The HMS-BAB initiative is a good example of how many partners can come together to provide increased confidence among frontline health workers to prevent and manage postpartum haemorrhage.

KL2. The Markku Seppala Ovidon Lecture

ENVIRONMENTAL EXPOSURES AND REPRODUCTIVE OUTCOMES – A CALL TO ACTION!

L.C. Giudice, University of California San Francisco, San Francisco, CA, and the American Society for Reproductive Medicine, Birmingham, AL, United States of America

Over the past 50 years there has been an alarming increase, globally, in multiple health disorders, including developmental abnormalities, intellectual disabilities, reproductive compromise, respiratory and thyroid dysfunction, obesity, type 2 diabetes, pubertal timing, and hormone-dependent cancers. As these changes have occurred in a relatively short timeframe, they are unlikely explained solely by genetic mutations, warranting consideration of other causes, including the environment. In developed and developing countries, indoor and outdoor air pollution, stress, nutrition, and chemicals in agricultural areas, personal care and household cleaning products, and in industrial waste, pesticides, and nearly ubiquitous plastics are of great concern. Human epidemiologic studies and wildlife and laboratory data support that risks and plausible causation for these disorders can be traced largely to unregulated chemical production, use, and disposal resulting in contamination of the food supply, water, and air. Furthermore, disadvantaged populations are more likely to live in contaminated communities and have higher risk occupations. Climate change is an additional environmental health threat resulting in human diseases including asthma, heart disease, heat related morbidity/mortality, developmental effects, mental health and stress-related disorders due to population migration and displacement, and premature mortality. Climate-related loss of species and ecosystem disruption also impair biologic diversity central to the global food system, health, and environmental sustainability. The global health and economic burden related to toxic environmental chemicals approximates billions of $US annually, with climate change impacts yet to be described. Reproductive and other healthcare professionals are well positioned to call for action for global solutions to prevent these growing harms to the health of this and future generations and advocate for policies globally to prevent exposures to toxic environmental chemicals, ensure a healthy food system, make environmental health a part of health education and health care, and champion environmental justice.

KL3. Howard Taylor Lecture

GREAT MOMENTS IN GLOBAL HEALTH AND WHY WE’RE IN ONE NOW

H.B. Peterson, United States of America

We are living in an exceptionally important moment in the evolution of global women’s and newborn health. In 2000, world leaders declared their intent to achieve eight Millennium Development Goals by 2015, including reducing maternal and child mortality by three-quarters and two-thirds, respectively, and combating HIV/AIDS, malaria and other diseases. While the targets for these goals have not been achieved, remarkable progress has been made. Continuing, and ideally accelerating, this progress post-2015 through the Sustainable Development Goals will require increased attention to the implementation of proven life-saving interventions in the low resource settings in which the vast majority of maternal and newborn deaths now occur. This will, in turn, require developing and applying innovations that draw on the rapidly evolving fields of implementation science, improvement science, and health systems science. Lessons learned from global health achievements, including the eradication of smallpox, are instructive – with common elements including: 1) political will and priority; 2) scientific and technical support; and 3) effective collaborations. The saga of Semmelweis’ mid-19th century discovery of the importance of hand disinfection for the prevention of puerperal fever and its relevance to current patient safety efforts is likewise informative. Implementation science provides compelling evidence that achieving desired health outcomes will require not only effective interventions but also effective implementation of these interventions as well as enabling contexts. Saving the lives of women and newborns globally will require reducing the time between discovery and application of innovations and using innovative approaches for implementing known life-saving interventions into challenging settings.
Free Communication (Oral) Presentations

FCS01. Medical Education

FCS01.2
ENSURING COMPETENCY IN FAMILY PLANNING (FP) PROVISION USING THE HUMANISTIC APPROACH; FROM TRAINING TO PRACTICE

H. Mukaddas 1, E. Otolorin 2, 1National Obstetric Fistula Center Ningi, Bauchi State, Nigeria; 2Jhpiego Corporation Nigeria, Abuja, Nigeria

Objectives: To demonstrate use of a humanistic approach in competency based family planning training.

Method: The intervention focused on 90 educators and preceptors engaged in the 10 different Health related institutions of Bauchi and Sokoto state, Nigeria who were assessed on Infection prevention in FP, Balanced Counseling Strategy and provision of long acting reversible contraception (LARC) before and after the in-service training intervention. Knowledge assessments were done on infection prevention and specific LARC methods. Skill assessments were conducted using Objective Structured Clinical Examinations (OSCE). During post training supervision after 3 months, participants’ coaching and demonstration skills were assessed during training of students in their respective schools.

Results: The pre-intervention indicated paucity in the FP knowledge and skills of tutors that trained these human resources for health especially in the area of provision of long term methods of family planning. Average scores for the pretest were 48.4%. At post-test, all the 90 educators and preceptors scored more than 85% (post-training average mean score was 89%) in knowledge assessment and demonstrated satisfactorily the conduct of IUD and Jadelle insertion and removal. At 3 months post-training supervision, all the Educators and Preceptors satisfactorily demonstrated same skill and can coach students in the provision of IUD and Jadelle FP service.

Conclusions: Educators/Preceptors can impact safe and better FP knowledge and skills using anatomic training models, thus competency based training of tutors can translate to better training of preservice students and increase in competent human resources for health that will address the health needs of the community.

FCS01.3
PRACTICE OF GYNECOLOGY TRACK MEDICAL EDUCATION PROBLEM BASED LEARNING IN UNDERGRADUATE OBSTETRICS EDUCATION

H. Kirubamani, Saveetha Medical College, Saveetha University, Thandalam, Tamil Nadu/India, India

Objectives: The assess effectiveness of Problem-Based learning in undergraduate obstetrics education.

Method: At Saveetha Medical college 100 Medical students meet in small groups led by a facilitator and discuss carefully designed obstetric clinical cases and few station for obstetric drills were kept. The instructor in a PBL class facilitates the learning process by monitoring the progress of the learners and asking questions to move students forward in the problem solving process. At the end of the class they were able to gain necessary knowledge to solve the case.

Results: Effectiveness was assessed by feed back questioner. 78% students had previous knowledge about PBL, 82% were able to understand theory well & made understanding of theory easy. 76% students felt it promotes self learning,68% were able to identify what they need to know & 83% were able to know what they already know because of group discussion. Problem analysis made them thing laterally in 81%, hand on drill improved there skill in 91.2%. understanding of clinical scenario was excellent after PBL. Rating of PBL methodology by students was excellent in 94%.

Conclusions: PBL was found to be a more effective instructional approach for teaching obstetrics clinical cases than traditional lecture discussion. PBL is more stimulating, useful and not boring, session for students.
FCS01.4
LOW-COST MODELS OF PELVIC ANATOMY AND GENITAL PROLAPSE TO IMPROVE GYNECOLOGICAL PROPAEDEUTIC TEACHING IN MEDICAL SCHOOL

Objectives: To develop low-cost models that simulates pelvic anatomical structures and genital prolapse, in order to increase medical student learning on the Pelvic Organ Prolapse Quantification (POP-Q) system.

Method: Four monitor-students who previously attended the course, oriented by the course coordinators were assigned to develop new anatomy teaching models. The monitors created a low cost anatomic model using socks, elastic bands, cellophane, Velcro, cardboard cylinders, and ink pen. These materials were shaped to simulate the vagina, pelvic fascia and the main pelvic ligaments. A second model was designed to simulate different cases of genital prolapse in order to teach POP–Q classification. After classes that used these models, the students filled a questionnaire.

Results: This study showed increased interest from monitor-students in the design and production of didactic models. The models were effective to increase pelvic anatomy and pelvic organ prolapse learning for third-year medical students. All students approved as complementar activity after expositive class and before the contact with real patient.

Conclusions: Anatomical model is a useful and effective method for teaching gynecological propaedeutic, as well as to enhance the understanding of genital prolapse. They can be developed in an academic environment using low-cost materials.

FCS01.5
INFORMATION AND COMMUNICATION TECHNOLOGY TO IMPROVE GYNECOLOGICAL PROPAEDEUTIC TEACHING IN MEDICAL SCHOOL

Objectives: Create virtual environment with learning objects for medical students to improve gynecological propaedeutic teaching in Faculda de Medicina da Universidade de São Paulo.

Method: Monitor-students, course coordinators and telemedicine professor identified demands for audiovisual resources to improve gynecological propaedeutic teaching, with priority for Primary Care.

Results: Graphics, flowcharts, woman virtual videos based on dynamic 3D graphics computing, videos of history and fundamental examination techniques were developed. Moreover, a debate in roundtable format with teachers and monitors were recorded. All materials prepared and used in class were available in Moodle platform with restricted access by password and Tablets in the University of Sao Paulo Library. An example of material is available on http://saudedofuturo.org.br/portal/cobem/. Moreover, the work group established more link between professors and monitors and allowed the adequacy of educational materials.

Conclusions: Audiovisual resources and interactivity improve gynecological propaedeutic teaching in Medical School. Their availability in virtual environment increases the accessibility of materials by students and promotes learning.

FCS01.6
USING AN IMPROVED TRAINING APPROACH, LOW DOSE HIGH FREQUENCY, FOR FRONTLINE HEALTH WORKERS IN MULTIPLE TECHNICAL AREAS IN UGANDA
J.Nabukeera. Jhpiego, Kampala, Uganda

Objectives: The project aims to provide evidence for operationalization of the LDHF training methodology in technical areas outside of HMS/HBB within MNCH in the Ugandan context.

Method: Jhpiego is supporting three local NGOs to implement the LDHF training approach in 3 different technical areas: 1) paediatric HIV, 2) integrating family planning and HIV care, and 3) post abortion care. The first step was capacity building of the local NGOs and MoH units to design, develop and adopt materials into LDHF format. With the assistance of curriculum development specialists and instructional designers, the stakeholders were engaged and trained to standardise and harmonise training resources. Following material refinement, the NGOs and MOH are currently piloting the adapted training materials.

Results: Three curriculum documents for paediatric HIV, integrating family planning into HIV care and post abortion care, as well as corresponding assessment tools, trainer and trainee guides have been developed for roll out during project implementation. Many lessons have been learned regarding the challenges and process of adapting curriculum to the LDHF format and the roll out of the training in the respective technical areas.

Conclusions: To date, it has been noted that it is vital to revise curriculum of training materials and adapt into the LDHF format before implementation given that most of the materials are developed according to the traditional methods of training. In many cases this will result in the need to engage external curriculum development experts as technical expertise does not always translate into curriculum development expertise. Additionally, for the technical areas that lack a significant practical skills component, the LDHF approach must be applied in innovative ways such as sms alerts and elearning to achieve the high frequency component.

FCS01.7
IMPROVING SURGICAL SKILLS OF OBGYN RESIDENTS THROUGH PARTNERSHIP WITH RURAL HOSPITALS: EXPERIENCE FROM SOUTHEAST NIGERIA
O. Umeora1, A. Onyebuchi1, N. Emma-Echiegu2, J. Eze1, P. Ezeonu1.
1Federal Teaching Hospital, Abakaliki, Nigeria; 2Ebonyi State University, Abakaliki, Nigeria

Objectives: To evaluate the impact of rural clinical rotations in Southeast Nigeria on the training of Obstetrics & Gynaecology resident doctors.

Method: This was a mixed method cross sectional study using information from self-administered questionnaires, three focus group discussions and an in depth interview involving residents in Obstetrics & Gynaecology of the Federal Teaching Hospital Abakaliki. OBGYN residents rotate through rural mission hospitals for two to three months. Consultants supervise their activities during the posting. A total of 47 residents have undergone such postings. The Health Research Ethics Committee granted ethical approval and data was analyzed using Epi info (CDC, Atlanta USA).

Results: Thirty four of 38 (89.5%) questionnaires were analyzed. There was a 900% and 460% rise in the rate of Emergency and elective Caesarean sections respectively performed by junior residents. There were similar increases with regard to gynaecological procedures. Senior residents had a 100% and 80% rise in performance of total abdominal hysterectomy and myomectomy respectively. Seventy-five percent of the residents believed their surgical skills improved while for 87.5% of the senior residents, their administrative skills improved greatly. Residents’ self confidence was boosted and they took quicker
decisions. They however wanted an improvement in their welfare at the rural posts.

Conclusions: Clinical rotations through high volume rural hospitals offer an opportunity for further training in surgical skills, clinical knowledge and administrative skills of resident doctors in obstetrics and gynaecology. A scale up of this programme nationwide is advocated.

FCS01.8
A RANDOMIZED CONTROLLED TRIAL OF LOW VERSUS HIGH FIDELITY SIMULATION TRAINING ON COMFORT, COMPETENCE, AND SKILLS WITH INTRAUTERINE DEVICE INSERTION
J. Perez-Peralta1,2, M.J. Haviland1, S. Nippita1,2, S. Voit3, M.R. Hacker1,2, M. Paul1,2, 1Beth Israel Deaconess Medical Center, Department of Obstetrics and Gynecology, Boston, MA, USA; 2Harvard Medical School, Department of Obstetrics, Gynecology, and Reproductive Biology, Boston, MA, USA; 3Affiliates Risk Management Services (ARMS), New York, NY, USA

Objectives: Intrauterine contraception (IUC) is highly effective, but must be inserted by trained providers. There is limited published research on optimal methods for training providers on IUC insertion. This study aims to compare novice learners’ comfort, competence, and skills with intrauterine device (IUD) insertion after practice with a high-fidelity simulator compared to a traditional low-fidelity.

Method: We enrolled interns and nurse practitioner students who had inserted < 5 IUDs. Participants were randomized to practice on the ARMSPelvicSim™ high-fidelity simulator or a low-fidelity coaster-like model. All participants viewed didactic slides and an insertion tutorial before practicing. Participants answered questionnaires immediately before and after practice, and after three months. They were asked to evaluate self-perceived comfort and competence, as well as the value of the three training components (lectures, videos, and models.) Participants were video recorded inserting three IUD types (levonorgestrel 52mg, levonorgestrel 13.5mg, and copper T380A) into a model. Skills were evaluated using a standardized checklist.

Results: Sixty participants enrolled, 29 were randomized to PelvicSim™, 30 to coaster; 59 (98.3%) completed the initial visit, 48 (80.0%) completed 3 months follow-up. The majority (66.1%) were nurse practitioner students. Median age was 27 years. Immediately post-insertion, as well as the value of the three training components (lectures, videos, and models.) Participants were video recorded inserting three IUD types (levonorgestrel 52mg, levonorgestrel 13.5mg, and copper T380A) into a model. Skills were evaluated using a standardized checklist.

Conclusion: Although the high fidelity group perceived greater value of its assigned model (PelvicSim™) compared to the low fidelity coaster–like model, all participants viewed didactic slides and an insertion tutorial before practicing. Participants answered questionnaires immediately before and after practice, and after three months. They were asked to evaluate self-perceived comfort and competence, as well as the value of the three training components (lectures, videos, and models.) Participants were video recorded inserting three IUD types (levonorgestrel 52mg, levonorgestrel 13.5mg, and copper T380A) into a model. Skills were evaluated using a standardized checklist.

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Conclusion: Although the high fidelity group perceived greater value of its assigned model (PelvicSim™) compared to the low fidelity group, the type of model used to practice IUD insertion did not affect self-reported competency and comfort among trainees inexperienced with IUD insertion. The effect on insertions skills will be determined by the time of the conference.

FCS01.8
A RANDOMIZED CONTROLLED TRIAL OF LOW VERSUS HIGH FIDELITY SIMULATION TRAINING ON COMFORT, COMPETENCE, AND SKILLS WITH INTRAUTERINE DEVICE INSERTION
J. Perez-Peralta1,2, M.J. Haviland1, S. Nippita1,2, S. Voit3, M.R. Hacker1,2, M. Paul1,2, 1Beth Israel Deaconess Medical Center, Department of Obstetrics and Gynecology, Boston, MA, USA; 2Harvard Medical School, Department of Obstetrics, Gynecology, and Reproductive Biology, Boston, MA, USA; 3Affiliates Risk Management Services (ARMS), New York, NY, USA

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Method: We enrolled interns and nurse practitioner students who had inserted < 5 IUDs. Participants were randomized to practice on the ARMSPelvicSim™ high-fidelity simulator or a low-fidelity coaster-like model. All participants viewed didactic slides and an insertion tutorial before practicing. Participants answered questionnaires immediately before and after practice, and after three months. They were asked to evaluate self-perceived comfort and competence, as well as the value of the three training components (lectures, videos, and models.) Participants were video recorded inserting three IUD types (levonorgestrel 52mg, levonorgestrel 13.5mg, and copper T380A) into a model. Skills were evaluated using a standardized checklist.

Results: Sixty participants enrolled, 29 were randomized to PelvicSim™, 30 to coaster; 59 (98.3%) completed the initial visit, 48 (80.0%) completed 3 months follow-up. The majority (66.1%) were nurse practitioner students. Median age was 27 years. Immediately post-insertion, as well as the value of the three training components (lectures, videos, and models.) Participants were video recorded inserting three IUD types (levonorgestrel 52mg, levonorgestrel 13.5mg, and copper T380A) into a model. Skills were evaluated using a standardized checklist.

Conclusion: Although the high fidelity group perceived greater value of its assigned model (PelvicSim™) compared to the low fidelity group, the type of model used to practice IUD insertion did not affect self-reported competency and comfort among trainees inexperienced with IUD insertion. The effect on insertions skills will be determined by the time of the conference.

FCS02.1
ATTITUDE OF PATIENTS TO MEDICAL STUDENTS’ PARTICIPATION IN THE GYNAECOLOGY CLINIC: AN AFRICAN PERSPECTIVE
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Objectives: This study was undertaken to determine the attitude of patients to the participation of medical students in their evaluation in the gynaecology clinic from an African perspective.

Method: This was a descriptive cross sectional survey. Self-administered questionnaires were given to consecutive patients attending the gynaecology clinic of the University of Nigeria Teaching Hospital Enugu.

Results: 195 Patients were studied. Most (n=147, 75.4%) were willing to allow medical students participate in their consultation. Some (n=78, 66.1%) preferred they participate in the history taking only. Seven (3.5%) refused any form of participation. About three-quarters (75.4%) were comfortable giving their history in the presence of female medical students; whereas only 35.6% reported same for examination in the presence of male medical students. Age and marital status were identified as influencing the acceptance of medical students of either sex. Older women that are married and had children were more agreeable to medical students’ participation.

Conclusions: Majority of the women were willing to allow medical students participate in their assessment in the gynaecology clinic, but there is a preference for female students. It may be preferable to target older and married women for involvement in education of medical students.

FCS02.2
HUMAN RESOURCES FOR HEALTH (HRH) PROGRAM IN RWANDA: BUILDING CAPACITY FOR GYNECOLOGY ONCOLOGY TRAINING IN OBSTETRICS AND GYNECOLOGY RESIDENCY
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Objectives: The 1994 genocide in Rwanda had devastating effects on healthcare and education. In response to this crisis, the government set specific healthcare goals to be met by 2020. In 2012, the HRH program was developed through the Rwandan Ministry of Health in partnership with the Clinton Health Access Initiative and US and Rwandan academic institutions. This seven-year program aims to improve healthcare outcomes through medical education and management models. Presently, there is no in-country gynecology oncologist. It is imperative to incorporate a gynecologic oncology curriculum into medical school and residency education in order to advance women’s health in Rwanda.

Method: We evaluated the growth of the existing residency program and developed a gynecology oncology curriculum for Obstetrics and Gynecology residents to be incorporated into the four-year formal Obstetrics and Gynecology residency at the University of Rwanda, College of Medicine and Health Sciences. This curriculum was implemented through lectures, skills labs, and clinical work at two of the six sites where residents train through the University of Rwanda, the University Teaching Hospital of Kigali (CHUK) and the University Teaching Hospital of Butare (CHUB). Additional needs for the curriculum were assessed through focus group discussion with residents and staff at each site.

Results: The residency program expanded from 17 residents in 2012 to 47 residents in 2015. Residency education takes place at two teaching hospitals and four district hospitals. The curriculum is ex-
ecuted through morning report at all sites, weekly scheduled didactics, bedside teaching on daily rounds, direct operating room supervision, and research mentorship. In 2014–2015, nine US faculty were recruited including one full time US board certified gynecology oncologist. A Gynecology Oncology curriculum was incorporated into the formal training program with a focus on: cervical cancer, breast cancer, gestational trophoblastic disease and complex pelvic surgery techniques.

Conclusions: Despite significant advances in maternal and fetal health outcomes in Rwanda there is still room for improvement, specifically in gynecologic oncology. The HRH model of consortium of US academic institutions and University of Rwanda partnership to implement gynecology oncology residency training is a unique model of post graduate education. The partnering of US faculty and University of Rwanda faculty to implement the curriculum is one model of sustainable medical education in low resource setting. There is still need for further investigation regarding the efficacy of the entire curriculum which would require competency based testing.

**FCS02.3 DEVELOPMENT OF AN INTERN EDUCATION CURRICULUM IN OBSTETRICS AND GYNAECOLOGY AT QUEEN ELIZABETH CENTRAL HOSPITAL IN MALAWI**

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Objectives: Before becoming qualified physicians, newly graduated medical officers in Malawi are required to complete an 18-month internship. Six months are spent in the obstetrics and gynaecology departments at either Kamuzu Central Hospital in Lilongwe or Queen Elizabeth Central Hospital in Blantyre. Following their internship, the majority of medical officers are assigned to work at the district health offices or district hospitals with minimal or no supervision of specialist physicians. The objective of the intern education curriculum is therefore to solidify key concepts in obstetrics and gynaecology and to create a standardized competency-based training curriculum.

Method: Key educational topics and essential practical skills have been identified and developed into twelve educational sessions. Each session is designed to have a discussion on one of the key topics followed by practical skills training. The education sessions take place on a weekly basis. Following the twelve weeks, the sessions are then re-cycled, giving opportunity for each intern to attend the majority of the sessions.

Results: The teaching sessions began in November of 2014. The number of intern participants has ranged from 5–12 interns per week. The educational sessions cover topics ranging from obstetrics to benign gynaecology, gynaecologic oncology and family planning. The practical skills sessions involve basic surgical skills, caesarean sections, operative deliveries, obstetric emergencies, ultrasonography, cardiotocography, WHO contraceptive eligibility criteria and cervical cancer screening. To date, over 30 interns have participated in the educational sessions.

Conclusions: Participant feedback has been positive, although some interns report difficulty balancing clinical responsibilities with the education sessions. Some interns have even expressed the desire for more hands-on training. The next step of the education program is to develop competency forms for practical skills such as caesarean sections and basic ultrasonography that must be signed-off by consultants or upper-level registrars. Another step is to conduct research regarding the impact of the program. Increased attention must be given to providing continuing education and practical skills training to medical officer interns in order to help improve mother and child health in rural Malawi.

**FCS02.4 ASSESSING THE IMPACT ON SAFETY CULTURE OF INTRODUCING A MULTI-PROFESSIONAL TEAM TRAINING DAY TO A GYNAECOLOGY UNIT**

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Objectives: Team training is embedded into the obstetrics department at North Bristol NHS Trust and there is evidence that it improves care and outcomes. A recent study has also shown that implementing team training on general surgical wards within the same hospital, using the same model of on-site multi-professional drills for all staff, can improve safety culture beyond maternity. The objective of this study was to determine whether the introduction of a multi-professional team training day, based on the local obstetric model, would also improve safety culture in our gynaecology unit.

Method: This interrupted time-series study evaluated the impact of introducing multi-professional training for all doctors, nurses and HCAs working regularly on the gynaecology unit. Two sessions ran with all staff encouraged to register to attend. Safety culture was measured using an adapted version of the validated (Sexton) “Safety Attitudes Questionnaire”. 42 (82%) of eligible staff completed the questionnaire before the introduction of training and 30 (67%) completed it 14 months later.

Results: The baseline scores before implementation of training were lower than those seen in several other studies looking at safety culture, including those of our adjoining maternity unit. It was much more difficult to establish training on the gynaecology ward, despite it being adjoined to a unit with strong track record of training and international reputation for impact on outcomes. After training, there was large improvement in scores for safety climate (62.41 pre-training to 66.51 post-training) and job satisfaction (57.71 pre-training to 63.41 post-training).

Conclusions: Low baseline safety climate scores in our gynaecology unit coincided with difficulty in establishing training. We encountered several challenges, including the cancellation of days due to staff being unable to be released to attend. It is possible that those wards that need training the most, because of poor safety culture, are also the ones where training is most difficult to establish. Now that we know that multi-professional training works, we need to understand how to address the barriers to getting it started.

**FCS02.5 SIMULATED ROBOT ASSISTED MYOMECTOMY USING A 3-D PRINTED MODEL**

M. Towner 1, J. Stone 1, J. Carrillo 1, W. Vitek 1, G. Frishman 2, A. Ghazi 1, B. Bhagavath 1, 1 University of Rochester Medical Center, Rochester, NY, USA; 2 Alpert Medical School at Brown University, Providence, RI, USA

Objectives: To design an inexpensive, novel, high fidelity simulated inanimate model for physical learning experience (S.I.M.P.L.E) that could be used with all staff encouraged to register to attend. Safety culture was measured using an adapted version of the validated (Sexton) “Safety Attitudes Questionnaire”. 42 (82%) of eligible staff completed the questionnaire before the introduction of training and 30 (67%) completed it 14 months later.

Results: The baseline scores before implementation of training were lower than those seen in several other studies looking at safety culture, including those of our adjoining maternity unit. It was much more difficult to establish training on the gynaecology ward, despite it being adjoined to a unit with strong track record of training and international reputation for impact on outcomes. After training, there was large improvement in scores for safety climate (62.41 pre-training to 66.51 post-training) and job satisfaction (57.71 pre-training to 63.41 post-training).

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Objectives: To design an inexpensive, novel, high fidelity simulated inanimate model for physical learning experience (S.I.M.P.L.E.) that offers a platform for training advanced MIS skills in Gynecology.

Method: Using a proprietary method, anatomically correct models of the human uterus and relevant structures were created using poly-vinyl alcohol (PVA) hydrogels. These are achieved through graded polymerization of the hydrogel by inducing crosslinks during freeze/thaw (FT) cycles, thereby stiffening the structure to the desired consistency. An expert in the field performed a simulated robot assisted myomectomy and completed a structured questionnaire. Three additional experts assessed the recorded procedure.

Results: The model was determined to have high face validity (average score of 4.17/5), calculated by ratings of realism. Usefulness of
the model as a training tool, demonstrated content validity with an average score of 4.56/5.

Conclusions: Our realistic, inexpensive, high-fidelity model offers an optimistic platform for procedural gynecology simulation. If combined with the current basic task training, it could offer comprehensive training prior to operative exposure.

**FCS02.6 MEDICAL STUDENTS ARE AFRAID TO INCLUDE ABORTION IN THEIR FUTURE PRACTICES: IN-DEPTH INTERVIEWS IN MAHARASTRA, INDIA**

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**Objectives:** To explore the attitudes and perceptions toward abortion care services, medical abortion and task shifting in abortion care, among medical students in Maharashtra, India.

**Method:** We used a qualitative emergent design conducting in-depth interviews with twenty-three medical students in Maharashtra applying a topic guide. Data was organized using thematic analysis with an inductive approach.

**Results:** Participants described a fear to provide abortion in their future practice. They lacked understanding of the law and confused the legal regulation of abortion with the law governing sex selection, concluding that abortion is illegal in Maharashtra. Medical students’ attitudes were supported by their experiences and perceptions from the clinical setting as well as traditions and norms in society. Medical abortion using mifepristone and misoprostol was believed to be unsafe and prohibited in Maharashtra. Students perceived that nurse-midwives were knowledgeable in sexual and reproductive health and many found that they could be trained to perform abortions in the future.

**Conclusions:** To increase chances that Medical students in Maharashtra will perform abortion care services in their future practice it is important to strengthen their confidence and knowledge through improved medical education including value clarification and clinical training.

**FCS02.7 MODIFIED OPEN PRIMARY TROCAR ENTRY IN GYNECOLOGICAL LAPAROSCOPY – A BETTER OPTION**

S. Sud, Sud Surgical & Laparoscopy Hospital, Nagpur, Maharashtra, India

**Objectives:** To compare ease of technique and complications of modified open laparoscopy primary trocar entry with closed veress needle entry.

**Method:** A retrospective comparative study of ease of technique and intraoperative and postoperative complications in all gynecological patients including previous laparotomy undergoing diagnostic and therapeutic laparoscopy via modified open primary trocar entry and closed veress needle entry over a period of 7 year period from Jan 1, 2008 to Dec 31, 2014 at a private hospital, Nagpur, India. 2420 women underwent laparoscopy using modified open primary trocar entry (n=1570) and closed veress needle entry (n=850). Statistical analysis done by using percentages & chi square test. P values < 0.05 were considered as significant.

**Results:** Recorded intraoperative and postoperative complications in modified open primary trocar entry include failure to enter (0.25%), omental injury (0.31%), subcutaneous emphysema (0.12%), surgical site infection (0.25%) and non-cosmetic healing (0.25%). Closed veress needle entry include vascular injury (0.35%), visceral injuries (0.23%), failure to enter (0.5%), omental injury (1%), subcutaneous emphysema (0.7%), surgical site infection (0.58%) and non-cosmetic healing (0.23%). Closed veress needle entry shows statistically significant higher rate of vascular injury, failure to entry, subcutaneous emphysema, surgical site infection and omental injury (p < 0.05). Ease of technique found in modified open primary trocar entry.

**Conclusions:** Primary trocar puncture is one of the most common causes of injury in laparoscopy. The most prominent entry in gynecological laparoscopic surgery remains a closed technique. This technique has unfortunately been demonstrated in multiple series to have the potentials for visceral and vascular injuries due to its blind insertion of veress needles and trocars. In this study, modified open primary trocar entry technique is found to be an easy, safe and effective method of obtaining access to the abdominal cavity with fewer complications in comparison to closed veress needle entry.

**FCS03. Sexual and Reproductive Rights**

**FCS03.1 PREVALENCE AND PATTERN OF RAPE AS ATTENDED, IN ENUGU STATE UNIVERSITY TEACHING HOSPITAL, SOUTH EAST NIGERIA**

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**Objectives:** To determine the prevalence and pattern of rape as attended, in Enugu State University Teaching Hospital, South east Nigeria.

**Method:** A prospective descriptive study of female victims of rape that presented at the emergency gynecological and/or forensic unit of Enugu State University Teaching hospital (ESUTH) over 18 months period between 1st February, 2012 and 31st July, 2013. All female rape victims who reported at the hospital were counseled and informed consent was obtained from each participants. Data were collected using a pretested interviewer-administered questionnaire. Analysis was done using Epi info version 17. P value less than 0.05 was considered statistically significant. Ethical approval for the study was obtained from the hospital Ethics committee.

**Results:** There were 121 reported rape victims and 1374 gynaecological emergencies giving a prevalence rate of 8.81% of all gynaecological emergencies. The mean age of the rape victim was 13.05±8.13 years. Majority (n=90, 74.4%) of the victims were below the age of 18 years. Although majority of the rape cases in both group were penetrative (74.4%), non-penetrative sex was ten times higher among young victims less than 18 years. None of the victims reported use of condom by the perpetrators.Majority (n=74, 61.2%) of the victims reported late at the hospital. Four (3.3%) of the victims became pregnant.

**Conclusions:** A significant number of women that presented at the Gynecology emergency/forensic unit of ESUTH were victims of rape. As we condemn such abuse of sexual and the reproductive right of women, victims should be encouraged to report early at the hospital for prompt intervention to prevent unwanted pregnancy and possibly sexually transmitted disease.

**FCS03.2 ENHANCING THE VALUE OF WOMEN RIGHTS THROUGH IMPLEMENTATION OF COMMUNITY BASED INTERVENTIONS IN TWO GOVERNORATES OF UPPER EGYPT**

A. Metwallly, R. Saleh, A. Tawfik, L. El Etreby, S. Salama, S. Hemeda, T. Taha, National Research Center, Dokki- Giza, Egypt

**Objectives:** To evaluate the influence of the use of educational and promotional material along three years on enhancing the awareness
of the women about their reproductive rights during pregnancy and postpartum period for requesting adequate care either in pregnancy, labor, or puerperium.

**Method:** An interventional study was conducted among 1150 married women in the reproductive age in El Fayoum and Benisuef governorates of Egypt. The study passed through three stages; pre-interventional assessment of women awareness, educational interventions targeting the health providers and women in their communities, and post-interventional evaluation of the change in the women’s awareness by their rights for prenatal, natal and postnatal care.  

**Results:** The studied indicators related to receiving care either in pregnancy, labor, or puerperium have changed dramatically as a result of the project interventions. The percentages of women who new their right to have pregnancy card increased and those who possessed a pregnancy card were doubled. Some indicators showed improvement more than 75%, out of which; percent of surveyed women who know that it’s their right to follow up their pregnancy and to deliver with a specialized doctor, a trained nurse or at an equipped health facility, and those who know their right to have safe delivery at home.  

**Conclusions:** More work is needed in order to reach the required achievement for maternal mortality reduction through ensuring accessible and high quality care before provided by the governmental health facilities together with increasing the awareness of women regarding their rights in receiving such care.

### FCS03.4  
**SMART INVESTMENT: YOUNG PEER EDUCATORS SERVING AS A BRIDGE TO LINK DEMAND AND SUPPLY OF SEXUAL AND REPRODUCTIVE HEALTH SERVICES IN SOUTHERN REGION, ETHIOPIA**

**M. Soressa, Pathfinder International, Hawassa, Southern Nations Nationalities and Peoples Region (SNNPR), Ethiopia**

**Objectives:** There are over 29 million young people (aged 10–24) in Ethiopia. These young people face high rates of early marriage, unintended pregnancy, sexually transmitted infections, HIV infection, and maternal mortality and morbidity. Peer education programs focused on building the capacity of young people to educate their peers about healthy sexual and reproductive behaviors can have a positive impact on young people.  

**Method:** From 2008 to 2013, Pathfinder International supported a peer education program that aimed to reach large concentrations of youth in Ethiopia through the Integrated Family Health Program. The program recruited 2,550 in-school and out-of-school volunteer peer educators and trained them in basic peer education and counseling skills. Peer educators were then tasked with promoting positive adolescent and youth sexual and reproductive health messages, and facilitating referrals for health services.

**Results:** From July 2008 to June 2013, peer educators reached more than 1.6 million youth with sexual and reproductive health messages, and mobilized and enabled more than 665,000 youth to obtain a range of sexual and reproductive health services (e.g., ANC, PNC, FP, PAC, PMTCT, STI treatment) in health facilities through direct visits and referrals. Peer educators also supported 1,280 young women to access post-abortion care services in nearby health facilities.

**Conclusions:** Peer education programs with a strong adolescent sexual and reproductive health component present a powerful modality for engaging young people in health-seeking behaviors. In turn, healthier young people are more likely to continue their education, secure more stable sources of income, have healthier children, and become active, engaged citizens.
spect or abuse. The most commonly reported categories of disrespect and abuse were non-consented care (17.7%), lack of privacy (15.2%), and non-confidential care (13.7%). Women who were Christians; from urban; who have delivery related complications; had not previously delivered at the same health facility; and who gave birth during weekday were respectively 6.25, 2.5, 7.98, 3.2 and 1.5 times more likely to report experiencing disrespect & abuse \( (p < 0.001; p = 0.009; P < 0.001; p = 0.013 \text{ and } P < 0.005 \text{ respectively}) \). More maternity beds & BEmONC trained staffs had a less likely and significant association with reports of disrespect and abuse.

**Conclusions:** The study results show that disrespectful and abusive behaviours are prevalent issues at the study health facilities and intervention is warranted. The drivers and enablers of these behaviours are varied, and include both structural and interpersonal factors. With the global health community rallying around universal health coverage to be included in the post-2015 development agenda, these individual and structural factors must be considered to ensure that mothers receive not just access to health services, but attain the highest level of respectful and dignified care.

**FCS03.6 CONSCIENTIOUS OBJECTION TO THE PROVISION OF REPRODUCTIVE HEALTHCARE: GLOBAL DOCTORS FOR CHOICE EXAMINES PREVALENCE, HEALTH CONSEQUENCES, AND POLICY RESPONSES**

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**Objectives:** 1) To examine the global prevalence of conscientious objection by physicians to providing legal reproductive health care (abortion, assisted reproductive technologies, contraception, post abortion care, treatment in cases of maternal health risk and inevitable pregnancy loss, and prenatal diagnosis). 2) To review policy and regulatory efforts to balance individual conscience, patient autonomy in reproductive decision-making, safeguards for health, and professional medical integrity.

**Method:** Systematic literature searches of the medical, public health, legal, ethical, and social science literature published between 1998 and 2013 in English, French, German, Italian, Portuguese, and Spanish. The search was complicated by the lack of consensus about criteria for objector status and the lack of a standardized definition of the practice. Many of the quantitative, qualitative, and ethnographic studies reviewed have non-representative or small samples, low response rates, and other methodological limitations that limit their generalizability and fitness for a systematic review. Nevertheless, they were included because available data were so sparse.

**Results:** The sturdiest estimates of prevalence come from the few places that require objects to register and range from 14% in Hong Kong to 70% in Italy. Some studies describe physicians whose objections are not absolute but reflect opinions about patient characteristics, reasons for seeking abortion, experience of stigmatization, or opportunism. Lower rates of objection were associated with higher levels of training and experience. Several studies report consequences of institutional-level refusal of care, such as delays, or quality of care at odds with best practices, particularly involving treatment of ectopic pregnancy, maternal medical complications, and post abortion care.

**Conclusions:** Empirical evidence is essential in order to design policies that honor individual integrity while safeguarding patients’ access to legal care. Further research could clarify the role of provider desire to avoid stigma or burdensome administrative processes; to earn more money by providing services in private practice rather than in public facilities; and lack of access to clinical training, necessary supplies or equipment. With dual commitments toward their own conscience and their obligations to patients’ health and rights, physicians and professional medical societies can lead attempts to respond to conscience-based refusal and to safeguard reproductive health, medical integrity, and women’s lives.

**FCS03.7 EXPERIENCE OF SEXUAL VIOLENCE AND RISK BEHAVIOURS AMONG FEMALE UNIVERSITY STUDENTS IN BENIN CITY, NIGERIA**

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**Objectives:** Despite evidence that education may act as a protective factor against sexual violence, many young women in educational institutions continue to experience sexual violence in Nigeria. The present study was therefore conducted in order to increase our understanding of sexual violence experience and associated risk behaviours of current Nigerian female university students.

**Method:** We conducted a cross-sectional survey that enrolled a total of 637 randomly selected female undergraduate students of the University of Benin, Edo State, living in two types of student accommodations from May to June 2013. The instrument used was a 20 item semi-structured self-administered questionnaire that covered four domains: Sex free survival and age at first sex; Experience of sexual violence; Risk behaviours and unintended pregnancy. Bivariant and multivariable logistic regression models were used to assess the relationship between sexual violence and current risk behaviours and unintended pregnancy.

**Results:** Roughly 40% of the students reported previous experience of sexual violence. Forced sex, coerced sex and sexual deception were associated with early sexual initiation \( \text{adjusted hazard ratio (AHR} = 1.9; 95\% \text{ CI [1.4, 2.7]; AHR} = 2.0; 95\% \text{ CI [1.4, 2.7]; and AHR} = 2.4; 95\% \text{ CI [1.7, 3.4] respectively and alcohol drinking (adjusted odds ratio (AOR) = 3.4; 95\% \text{ CI [1.7, 6.6]; AOR=4.2; 95\% \text{ CI [2.3, 7.8]; and AOR=2.6; 95\% \text{ CI [1.2, 5.2] respectively}.) Coerced sex and sexual deception were associated with unintended pregnancy (AOR=1.8 [1.2, 3.2] and AOR=2.2; 95\% \text{ CI [1.1, 4.4] respectively.)}

**Conclusions:** A non-negligible proportion of female university students in Nigeria reported that they had experienced sexual violence in the past. As early sexual initiation, alcohol consumption and cigarette smoking were risk behaviours associated with sexual violence, the inclusion of early adolescent girls in female empowerment programmes targeted at educating them about their sexual and reproductive health rights will be useful in the prevention of sexual violence. Additionally, alcohol prevention programmes may also be warranted in university student residences.

**FCS03.8 CLIENT-PROVIDER COMMUNICATION ABOUT CHILDBEARING AND USE OF SAFER CONCEPTION METHODS AMONG HIV-POSITIVE CLIENTS IN UGANDA**

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**Objectives:** Many HIV-sero-discordant and concordant positive couples living in sub-Saharan Africa desire to have children. Limited in-
formation exists on their support for sexual and reproductive health matters including the use of safer conception methods (SCM). Our study explored the client-provider communication about childbearing and safer conception.

**Method:** A sample of 400 HIV clients in committed relationships and with intentions to conceive a child within next two years was surveyed at The AIDS Support Organization (TASO) sites in Kampala and Jinja, Uganda. Knowledge, attitudes and practices related to childbearing and use of safer conception methods were assessed, as well as communication with providers about childbearing, which is the focus of this analysis.

**Results:** 75% of sample are female; 61% are on antiretroviral therapy; and 61% have HIV-negative or unknown status partners. 92% wanted a child within the next 12 months. 98.0% desired to discuss childbearing intentions with their HIV-provider, however, only 56% had discussions. 28% reported their provider initiated childbearing discussions (HIV transmission-risk to partner (30%), to child (30%), and about PMTCT (27%). Only 8% discussed safer conception methods. Females were more likely to discuss childbearing with their HIV provider (Adjusted OR 1.79 (1.04, 3.08)). However, clients with greater internalized childbearing-stigma were less likely to discuss (Adjusted OR 0.68 (95% CI 0.48, 0.98)).

**Conclusions:** Most discussions about childbearing are initiated by HIV-positive clients rather than their providers, and only 8% include discussion of safer conception methods. Clients’ internalized childbearing stigma is a key barrier to clients communicating with providers about their childbearing intentions. There is need for programs to mitigate childbearing stigma among HIV clients and their providers to enable discussion of SCM for HIV-positive people.

**FCS04.03 Young People, Contraception and Abortion: FIGO Brings Together Obstetricians and Gynecologists with Reproductive Health and Advocacy Groups to Move the Agenda Forward Regarding Service Quality, Access, and Partnership Working in Three South Asian Countries – Bangladesh, India and Pakistan**

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**Objectives:** Building on FIGO’s experience delivering regional workshops on unsafe abortion and regional discussion groups between obstetricians and young people, this workshop aimed to bring together obstetricians/gynecologists with members of reproductive health and advocacy groups to generate practical and innovative strategies for improving adolescent sexual and reproductive health. By bringing representatives from these two groups together to share experiences and ideas, it was anticipated that they would be able to work together as part of a more joined-up approach to improving sexual and reproductive healthcare for young people, while also strengthening the capacity of obstetricians/gynecologists to be advocates in this area.

**Method:** A two day interactive workshop was held in March 2015. Participants included FIGO delegates, young obstetricians/gynecologists from member associations, medical students, and delegates from youth advocacy and reproductive health organizations. The workshop had three aims: 1) increase knowledge, specifically regarding medical eligibility and quality of care considerations, 2) create awareness of and mutual understanding between the different groups represented with a view to future collaboration, 3) improve advocacy skills needed for the following: ensure young people are viewed as a priority group with specific needs, and increase young people’s access to quality information, education, and safe contraceptive and abortion services.

**Results:** The workshop was highly participatory and produced tangible results. These included a joint statement from the participants calling for action on increasing young people’s access to safe abortion and contraception services, along with the development of three SMART (specific, measurable, achievable, realistic and timely) action plans. These plans outlined collaborative activities to be conducted in the respective countries within the next 6 months. Enthusiastic young obstetricians/gynecologists advocated for the inclusion of these action plans into their country’s plan in the subsequent annual FIGO “Prevention of Unsafe Abortion” Workshop. Delegates’ feedback from the workshop was positive, indicating goals of increased knowledge, understanding and empathy as well as improved advocacy skills were achieved.

**Conclusions:** Obstetricians/gynecologists and activists can and should work together to identify ways to increase young people’s access to high quality and safe contraceptive and abortion services and information. From bringing together these two groups, activists are able to identify ways of including practitioners in their advocacy work and obstetricians/gynecologists are able to provide better sexual and reproductive care for young people as well as identify how they can advocate for increased attention on young people, and provision of improved and accessible services. By working together, obstetricians/gynecologists and activists can bring better coordination between information and health services to this priority group.

**FCS04.04 Sexual and Reproductive Rights**

**FCS04.1 “We Do Not Know What Is Happening Inside a Woman’s Body”: A Qualitative Investigation of African Refugee Women’s Post-Resettlement Reproductive Health Conceptualizations**

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**Objectives:** To explore post-resettlement perceptions of reproductive health among African refugee women in the United States.

**Method:** Six focus groups (FG) were conducted with resettled Somali (n=41) and Congolese (n=26) refugee women in a large western United States city between May and August 2014. Participants were recruited via community leaders and refugee service organizations. FG were conducted in the women’s native language using a semi-structured interview guide of open-ended questions designed to elicit understanding of reproductive health perceptions and understanding. FG Audio recordings were translated and transcribed verbatim by externally located certified translators then checked for accuracy. Two researchers utilized modified grounded theory to analyze transcripts and develop themes using Atlas.ti software.

**Results:** Median participant age was 36 years, time since resettlement was greater for Somali women than Congolese women (median: 54 v. 20 months) and Somali women had greater gravidity than Congolese women (mean: G6 v. G4) though household sizes were comparable (Mean=5). Major themes were analogous across groups and included (1) multidimensional concepts regarding health with an emphasis on the ongoing effects of pre-displacement trauma on current health (2) limited health understanding including poor knowledge regarding anatomy and physiology and (3) barriers to health-care access including confidentiality concerns, poorly regarded interpreter services and negative interactions with post-resettlement healthcare providers and systems.

**Conclusions:** Post-resettlement reproductive health conceptualizations, beyond obstetrical concerns, are not well-understood. This study provides description of non-obstetric women’s health challenges among resettled African refugee women. Education of refugee health providers regarding these challenges could lead to improvements in resettled refugee reproductive health. Healthcare systems could improve resettled refugee care by providing in person confi-
dentist interpreters and working to decrease barriers to effective care for this population.

**FCS04.2 VIOLENCEN VICTIMISATION ASSOCIATED WITH SEXUAL ILLHEALTH AND SEXUAL RISK BEHAVIOURS IN SWEDISH YOUTH**

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**Objectives:** The WHO’s definition on sexual health includes both absence of disease, and also sexual reproductive rights including pleasurable and safe sexual experiences free of coercion, discrimination and violence. Multiple violence victimisation in youth and associations to adverse mental health outcomes is recently more recognised. The aim was to assess associations and gender differences regarding multiple violence victimisation and sexual ill health and sexual risk behaviours in youth.

**Method:** A cross-sectional population-based study in all upper secondary schools in a town in Sweden, with a study response rate of 80%. Only the sexually experienced youth, 1192 women and 1021 men, participated in this study. The questionnaire included validated questions on emotional, physical and sexual violence (NdaQ); socio-demographics, health risk behaviours and sexual ill health and sexual risk behaviours such as treatment for Chlamydia infection, self-reported experience of pregnancy, early age at sexual debut, non-use of contraceptives and several sex partners. Proportions, unadjusted and adjusted odds ratios (OR/aOR) with 95% Confidence Interval (CI) were calculated.

**Results:** The young women had experienced multiple victimisation, i.e. victimisation with two or more different types of violence, more often than the men, 28% respectively 24%. The associations between multiple victimisation and sexual ill health/sexfual risk behaviours were overall consistent for both genders, with raised aORs for experience of/involvement in pregnancy, 2.4 (1.5–3.7) for women and 2.1 (1.3–3.4) for men, and early age for first intercourse, 2.2 (1.6–3.19 for women and 1.9 (1.2–3.0) for men. No significantly raised aOR was found for non-use of contraceptives latest intercourse in both men and women.

**Conclusions:** Multiple-violence victimisation is strongly associated with several sexual ill-health variables and sexual risk behaviours in both genders. This should be taken into consideration when counselling and addressing sexual reproductive health in youth.

**FCS04.3 MOBILIZING RELIGIOUS LEADERS AND FAITH-BASEDOrganizations in Africa to Scale Up Family Planning and Reproductive Health (FP/RH) BEST PRACTICES AMONG AFRICAN CHRISTIAN HEALTH ASSOCIATIONS PLATFORM (ACHAP) MEMBERS**

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**Objectives:** The Evidence to Action (E2A) Project builds evidence on new approaches to scale up FP/RH best practices. With technical assistance from E2A and ACHAP as a platform for dissemination and advocacy, E2A is testing an approach that engages religious leaders in FP programs to increase contraceptive use among those served by three faith-based service-delivery organizations in Africa. The approach aims to facilitate the adoption and scale-up of FP/RH services by building the capacity of teams of religious leaders, community- and facility-based providers, and ACHAP member organizations to enhance quality, reach, and supply of FP/RH services and improve reproductive health outcomes.

**Method:** E2A grants support faith-based organizations in Ethiopia, Kenya, and Uganda to engage religious leaders to encourage support for FP, work with community outreach workers to increase demand for and use of FP services among the populations served, improve the community-based provision of short-acting FP methods and referrals to nearby health facilities for long-acting methods, and enhance the quality of facility-based services. E2A’s technical assistance to the grantees includes training religious leaders on FP/RH messages to share with their communities, and strengthening FP/RH counseling and services, referrals, monitoring and supervision systems, and quality of data at community and facility levels.

**Results:** In Ethiopia, through community-based health education, which has reached approximately 55,000 people, and FP counseling, there were 3,989 new FP acceptors from October-December 2014. Intrauterine device insertion began during that period at all health centers supported by the grant, and vasectomy is being offered in one remote area. In Uganda, there were 2,815 new FP acceptors at facilities supported by the grant from January-December 2014, and 3,284 awareness-raising events, which reached 43,459 people with FP messages. In Kenya, quality-improvement trainings were conducted for health workers, religious leaders, community health volunteers, and other stakeholders, who form a robust quality-improvement team.

**Conclusions:** With the grants, the three organizations have enhanced and scaled services through efforts that are deeply rooted in the communities they serve. According to the World Health Organization, faith-based organizations, such as the grantees, provide 40% of healthcare in Africa. With modest financial assistance to these organizations, intensive capacity-building of facility- and community-based FP/RH service providers, a focus on the use of data for decision-making, and engagement of religious leaders in support of FP/RH, there is vast potential to improve health outcomes across the continent. Networks such as ACHAP can simultaneously be leveraged to hasten the spread of best practices.

**FCS04.4 STATUS OF WOMEN’S SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS:A COMPREHENSIVE RIGHTS-BASED MEASURE**

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**Objectives:** This report is the fifth in a series that assess the status of nations’ SRHR. While our previous indices frame the issues in terms of sexual and reproductive risk, this iteration deliberately shifts its focus on how to achieve healthy sexual and reproductive health and realize rights. The aim is to provide an assessment that incorporates a multi-dimensional approach to reproductive health and adds a new perspective to how comprehensive SRHR is defined and measured. The Index and its accompanying report provide a measure of where women 62 low- and lower-middle-income countries stand in attaining SRHR.

**Method:** Based on the 1994 POA of the ICPD, we define SRHR according to the following four dimensions: 1. Preventing unintended pregnancy; 2. Increasing access to safe abortion and post-abortion care; 3. Helping women safely through pregnancy, childbirth and the postpartum period; and 4. Preventing and treating sexually transmitted infections, including HIV/AIDS. A fifth dimension, termed the Enabling Environment, captures factors beyond the health system that support SRHR. To calculate an Index score for each country, 11 indicators representing the dimensions of SRHR were combined into a single measure. The Index is scored on a 0 to 100 scale.

**Results:** Index scores for the 62 countries included in our study range from 25.5 to 86.5. Though scores vary greatly within that range, the fact that no country received a score of 100 means that there are opportunities to advance the sexual and reproductive health and rights of women in all 62 countries.
The average Index score is 54. Given that the strongest possible state of SRHR in a country according to the Index would be a score of 100, the average indicates that the needs and rights of women in these countries are being only partially fulfilled.

**Conclusions:** Though gaps in meeting the needs and fulfilling the rights of women may be larger in some countries than others, even those countries with higher scores have room to grow. Our analysis indicates that improving the sexual and reproductive health and rights of women in these countries depends on three overarching actions: 1. Strengthen political will and financial commitments; 2. Craft and implement positive policies; and 3. Provide quality information and services.

**FCS04.5**

**REDUCING DISRESPECT AND ABUSE DURING FACILITY BASED CHILDBIRTH: PROMISING RESULTS FROM KENYA**

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**Objectives:** Many women continue to deliver at home due to cost, distance, cultural and geographic barriers. However an often overlooked barrier to seeking care is the perceived poor quality of care and fear of experiencing disrespectful and abusive treatment within health facilities. In order to reduce the occurrence of disrespect and abuse during facility deliveries, an implementation research project was designed in Kenya to test the effect of composite interventions to reduce its occurrence. Main Objective: To assess the effect of a package of interventions on the prevalence of disrespect and abuse during facility based childbirth.

**Method:** A quasi experimental before and after design without control in thirteen facilities from five sub counties in Kenya was used to test the effect of interventions on the prevalence of types of disrespect and abuse. The interventions included activities at policy, facility and community levels. Data were generated from an exit survey among women discharged from postnatal wards. Unadjusted and multivariate logistic generalized linear mixed models were used to assess differences in disrespect and abuse between baseline and end line participants, as well as the association of disrespect and abuse with other characteristics.

**Results:** Women surveyed post-intervention were significantly less likely to report any feelings of humiliation/disrespect at baseline OR: 0.58 (0.43–0.79), p=0.0004; physical abuse at 2.1% vs 4.2% at baseline: OR 0.47 (0.25–0.90), p=0.024; experience verbal abuse 11.3% vs 18.0% at baseline OR 0.58 (0.42, 0.80) p=0.001; violation of confidentiality 1.8% vs 3.9% at baseline OR 0.45 (0.23–0.89); p=0.021 or less likely to be detained 0.8% vs 8.0% at baseline OR: 0.09 (0.04–0.22) p<0.0001. There were no effect on abandonment and privacy violation.

**Conclusions:** Following the introduction of a package of interventions there was a significant reduction (7%) in the prevalence of D&A. This indicates that the set of interventions have the potential of promoting respectful maternity care during childbirth. These promising results can lead to an increase in use of skilled professional services. We recommend that this package be scaled up widely to other facilities.

**FCS04.6**

**ABORTION STIGMA AMONG HEALTH PROVIDERS IN MEXICO: CURRENT STATUS**

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**Objectives:** In Mexico, although legal conditions allow abortion under some indications such as pregnancy after rape, malformations and health risks for women, few services are provided, and even less are disclosed. Only Mexico City since 2007, has a more progressive law that permits abortion within twelve weeks of pregnancy. Health professionals with the technical knowledge to perform abortion procedures are primarily gynecologists and obstetricians, who bear the responsibility of operationalizing the current legislation both at public and private health institutions. To understand more on the stigma surrounding the provision of abortion services, we conducted a survey and in-depth interviews.

**Method:** A survey was conducted (n=1,085) at the 64th Conference of Gynecology and Obstetrics held in Mexico City from October 27 to 30, 2013. Also, 15 in-depth interviews were conducted in public and private legal abortion services in Mexico City. The quantitative analysis was made using Stata and the qualitative using Atlas.ti.

**Results:** In the survey, half of the respondents felt that a woman who has had an abortion may influence other women to have abortions. Almost 4 out of 10 respondents believed that medical professionals discriminated against providers who perform abortions; and about 3 out of 10 acknowledged that they stigmatized their colleagues or that they would be stigmatized if they engage in abortion provision. In the interviews, providers stressed the need to improve contraception services in order to prevent another unwanted pregnancy, and another abortion. A repeat abortion is seen as a failure of the system and a problem that should be prevented.

**Conclusions:** Stigma may contribute to incorrect management and/or to clandestine abortion practices in Mexico, even after the adoption of legal reforms. The prevalence of stigma necessitates specific intervention strategies in the general population and in the medical community. Such interventions should seek to increase the acceptance and normalization of abortion as a legitimate, and sometimes necessary, reproductive choice. This may avoid stigmatization of women and health professionals regarding this issue in Mexico and prevent it from becoming an additional barrier for delivery of high quality services.

**FCS04.7**

**THE INFLUENCE OF RELATIONSHIPS ON MATERNAL WELL-BEING IN SOUTHERN MOZAMBIQUE**

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**Objectives:** The objectives of this qualitative study, situated within a framework of a larger study on the influence of the social determinants of health on maternal outcomes, were to: 1) identify the relationships that are important to maternal well being; 2) understand the nature and impact of these relationships; 3) determine the programmatic implications based on the findings.

**Method:** Twelve focus group discussions were conducted with reproductive age women, matrons, male decision-makers, community leaders and community health workers in Gaza and Maputo provinces in Mozambique in 2013. Participants were recruited using sample of convenience and snow balling. Focus groups had an average of 6 participants. To understand the broader social and political contexts, twelve in-depth interviews were conducted with administrative post chiefs of each study locality. Data were coded thematically and analysed using nVIVO software.

**Results:** Four main relationships were identified as being important for a healthy pregnancy. It was described that pregnant women could avoid intimate partner violence by behaving properly with their husbands. While women relied on neighbours for help with pregnancy complications, they also felt that if good relations were not maintained, neighbours could perform witchcraft which could affect pregnancy outcomes. Matrons in the community played a key role by providing advice and assisting with deliveries. Women voiced that or-
ganized groups like xitique were not possible due to economic constraints but that informal networks of female friends were important for support during pregnancy.

**Conclusions:** The study highlights the role of relationships within a woman’s community that affect her wellbeing in pregnancy. Particularly, it draws attention to gender norms and gender violence during pregnancy. The findings also emphasize the critical role of matrons in the care of pregnant women and the importance of support from other females in the community. Based on these findings, programmes are needed to address gender inequality and violence during pregnancy. Programmes focusing on maternal health education should target other women in the community and provide opportunities for building women’s support groups.

**FCS04.8 ABORTION SERVICES FOR VICTIMS OF GENDER-BASED VIOLENCE IN RWANDA: CHALLENGES DUE TO STIGMA AND LACK OF EVIDENCE**


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**Objectives:** To identify the barriers for accessing safe abortion services within the legal framework in Rwanda since the Penal Code was published in 2012. The Penal Code included exemptions for abortion for pregnancies as a result of rape, incest or forced marriage with the provision of a court order to allow doctors to terminate the pregnancy.

**Method:** A total of 22 in-depth interviews with key stakeholders (including health care providers from hospitals and gender based violence centers, administrators, and representatives from the intermediate courts and Ministry of Justice) and three focus group discussions (FGD) with women in the community (urban and rural single women ages 18–24; urban married women ages 25–45) were conducted between June–October 2014. Interviews and FGD were conducted in Kinyarwanda and French, tape recorded, translated into English and analyzed for emerging themes.

**Results:** Stigma around rape and abortion emerged as a very strong theme preventing victims of sexual violence to speak up and seek care; victims were more likely to arrive at the health facility after the provision of a court order to allow doctors to terminate the pregnancy. Due to stigma and the challenges to get a court order, legal termination of pregnancy does not appear as an accessible option. The requirement of hard medical evidence by the courts; time required to collect evidence and convict the perpetrator; and inability to admit with the first 72 hours of assault hinders victims of rape, incest or forced marriage to present their cases legally.

**Conclusions:** As the Ministry of Health is expanding the program to make abortion safer in Rwanda within the legal framework, addressing stigma and silence around rape and other forms of GBV through different approaches is a major objective. The legal grounds for abortion can only be realized to help the victims of GBV in an environment where victims and their families are not further stigmatized or challenged to prove their case to be able to terminate their pregnancies.

**FCS04.9 EVALUATING THE WILL OF THE PEOPLE: ATTITUDES TOWARDS ABORTION IN TRINIDAD AND TOBAGO**

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**Objectives:** In a population of 1.3 million people, over 19,000 estimated abortions take place in Trinidad and Tobago. Yet, the current laws make abortion illegal except to save the life or protect the health of the pregnant woman. Arguably, effective laws should reflect the will of the people for greater compliance. The current study strove to assess the Trinbagonian “will" to determine its correspondence with conservative law. Specifically, it sought to assess a Trinbagonian sample’s abortion attitude, whether certain socio-demographic and dispositional variables significantly predict variations in the attitude and whether abortion attitude could predict support for abortion under differing circumstances.

**Method:** Two hundred participants were recruited and completed an online questionnaire hosted by Qualtrics Survey Software. They were asked to complete two measures of abortion attitude (feeling thermometers and the Abortion Attitude Scale [AAS; Snegoff, 1978]) and a developed measure of abortion support (MAS). Participants also completed measures of variables thought to relate to abortion attitude to determine if these variables might be able to predict variations in attitude. Finally, participants were asked to provide demographic information, debriefed and thanked. All participants received one entry into a prize draw to win one of five TT$1000 Visa gift cards for participating.

**Results:** Data were analysed using one-sample t-tests and multiple regression. Abortion attitude trended towards unfavourable when measured by the more structured AAS, t(198)=−3.42, p<0.001, but was neither favourable nor unfavourable when measured by feeling thermometers. Attitude was predicted by Conservatism (β=0.40) and Religiosity (β=0.35). When measured by feeling thermometer, Conservatism (β=0.32), Religiosity (β=0.19) and overt sexism (β=0.19) predicted abortion attitude. Finally, abortion attitude better predicted support for circumstances of convenience (β=0.75) or questionable parental suitability (β=0.75) over situations where wellbeing was endangered (β=0.65).

**Conclusions:** It appears that conservatism and religiosity are contributing to an unfavourable attitude towards abortion in Trinidad and Tobago (T&T). However, it remains to be empirically understood why, with conservative laws and corresponding unfavourable attitudes, so many abortions still occur in T&T. Abortion attitude was predictive of abortion support. However, the attitude better predicted support for circumstances of convenience and parent suitability over situations where wellbeing was endangered. Thus, it seems that attitudes might be only part of the abortion narrative in T&T. Abortion support, or a yet identified variable, might better explain the rationale behind abortion in T&T.

**FCS05. Sexual and Reproductive Rights/Ethics and Law in Gynecological Practice/Addressing Violence Against Women**

**FCS05.1 URUGUAY: RESULTS OF THE FIRST 2 YEARS OF IMPLEMENTATION OF THE LAW ON VOLUNTARY TERMINATION OF PREGNANCY**

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**Objectives:** To present the overall results of the first 2 years of implementation of the law that legalizes abortion in Uruguay, which was approved in November 2012.

**Method:** Observational descriptive analysis of national data provided by the National Information System of the Ministry of Health, in the period December 2012–November 2013 and December 2013–November 2014.

**Results:** In the first 2 years of implementation of the law no maternal deaths by legal abortion were recorded; only one death was reported due to illegal abortion in 2013.
15,175 legal terminations of pregnancy within the health system were performed: 6,676 the first year and 8,499 the second year. In the past year, the abortion rate was 12 cases per 1,000 women aged 15–44 years. 9% of women continued pregnancies after consultation. The percentage of teens that have abortions is 17%. 70% of women were counseled with a contraceptive method after abortion. Conclusions: In the first 2 years of implementation of the Law on Voluntary Termination of Pregnancy, Uruguay managed to position itself as one of the countries with fewer abortions in the world, surpassed only by Ireland and Mexico’s Federal District. In European countries, the rate of women who have abortions ranges from 13 to 15 cases per 1,000. Uruguay is a pioneer in the region to recognize the right of women with unwanted pregnancies to decide consciously on the termination of pregnancy.

FCS05.2
ABORTION: DISTINGUISHING BETWEEN ATTITUDE AND SUPPORT IN TRINIDAD AND TOBAGO
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Objectives: Abortion remains illegal in Trinidad and Tobago. Local one-shot polls often reveal unfavourable opinions of abortion, corresponding with conservative law. Yet, previous research suggests that attitudes are fairly favourable. This research, like most literature, used measurements of the circumstances under which one supported a woman’s decision to abort as a proxy measure of abortion attitude. We argue that this indirect method taps into abortion support and not abortion attitude, which leads to the discrepancy between public opinion and the literature. Using previously collected data, the current work explored whether a distinction between abortion attitude and abortion support could be demonstrated.

Method: Data from a larger study (Job & Lascelles, 2014, manuscript in preparation) were used in analysis. This study investigated attitudes towards abortion and abortion support among a sample of Trinbagonians as well as sociodemographic variables that might predict the attitude. We contend that if abortion support and abortion attitude are not distinct, then the results should reveal no differences between them with regard to individual predictors and the relations between them.

Results: Using multiple regression, socio-demographic variables were used to predict abortion attitude and abortion support. Differential predictions emerged. Knowledge predicted abortion support (β=0.09) but not abortion attitude. Similarly, being of Indian descent predicted being more supportive of abortion when wellbeing was endangered (β=0.16) or parental suitability was questioned (β=0.12). Finally, attitude was differentially related to and predictive of different types of abortion support. Specifically, it was best predictive of support in circumstances of convenience (β=0.75), and questionable parenting skills (β=0.75) and less predictive when foetal or maternal wellbeing would be jeopardised (β=0.65).

Conclusions: These analyses demonstrate preliminary differences between abortion attitude and abortion support. We argue that while measurements of abortion attitude are useful as general gauges, they do not offer the sensitivity needed to tap into the peculiarities of the abortion issue. Furthermore, abortion attitude can differentially impact on one’s level of support. Moreover, it may be that the perceived favourability of abortion varies as a function of the construct used to measure it—using support may artificially inflate it while attitude can deflate it. If so, separate measures of support and attitude may be critical for accurate measurements of abortion opinion.

FCS05.3
EVALUATION OF VALUES CLARIFICATION WORKSHOPS IN ADDRESSING BARRIERS TO ABORTION CARE PROVISION AMONG HEALTHCARE PROVIDERS IN PAKISTAN
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Objectives: In Pakistan, abortion is only legal to save the life of the woman. Due to the narrow interpretation of the law, stigma, and provider biases based on their personal values, an estimated 623,000 women were treated for complications resulting from induced abortions in 2012. Abortion Values Clarification and Attitude Transformation (VCAT) workshops are an intervention that aims to address stigma-related barriers to care and engage stakeholders to facilitate provision of and access to abortion care. This study aimed to evaluate Ipas Pakistan’s VCAT workshops’ success in improving providers’ knowledge, attitudes, and behaviors pertaining to abortion care.

Method: Ipas Pakistan conducted 39 VCAT workshops for 720 stakeholders from 2011–2014. This mixed methods study included quantitative data from matched pre- and post-VCAT workshop surveys from 84 Ipas-trained abortion care providers. The survey evaluated the participants’ knowledge and attitudes toward abortion and contraception. Differences in pre- and post-workshop answers were assessed using McNemar’s test, and statistical significance was assessed at an alpha level of 0.05 for all analyses. In addition, 23 in-depth interviews were conducted with Ipas-trained providers to understand their perspectives on behavior change resulting from participation in the VCAT workshops. The interview transcripts were read and analyzed thematically.

Results: Both knowledge and attitudes about abortion improved between the pre- and post-workshop surveys. Pre-workshop 33% of providers knew the legality of abortion in Pakistan, compared to 86% post-workshop (p < 0.001). Additionally, pre-workshop 79% of providers said they could explain their personal values concerning abortion compared to 99% post-workshop (p < 0.001). The qualitative data showed that after VCAT participation, providers began to regard access to abortion services as a woman’s right and to treat their clients with more empathy. Providers also reported an increased sense of professional responsibility to provide abortion care and, when needed, began providing referrals for safe abortion services.

Conclusions: This study finds that VCAT workshops have been successful in Pakistan in improving providers’ knowledge, attitudes, and behaviors about abortion and abortion care. VCAT workshops are a promising approach for helping providers clarify their personal values about abortion to improve care for women, especially in a culturally conservative setting such as Pakistan.

FCS05.4
GLOBAL HEALTH OPPORTUNITIES IN OBSTETRICS AND GYNECOLOGY TRAINING: EXAMINING ENGAGEMENT THROUGH AN ETHICAL LENS
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Objectives: Interest in global health training (GHT) within residency programs has grown exponentially. The Working Group on Ethics Guidelines for Global Health Training (WEIGHT) developed guidelines to assess benefits and harms of GHT programs. We aimed to describe Obstetrics and Gynecology GHT programs through the ethical lens suggested by WEIGHT.

Method: This was a mixed-methods study of 35 GHT programs identified by prior publications and expert recommendations. A search of programs’ websites was conducted to obtain contact information and general information. Semi-structured telephone interviews of key members of programs from 19 programs were then conducted and transcribed. The interview guide was constructed using WEIGHT
recommendations. The data from the transcripts for each interview were grouped according to domains: Reciprocity, Trainee Selection, Trainee Preparedness, Needs Assessments, and Ethical Questions.

Results: The web search revealed limited online information. The telephone interviews revealed diverse responses. Many programs expressed difficulty in building reciprocal relationships due to imbalanced power structures. Eleven programs reported no formal application process for selecting trainees. Twelve (63%) programs reported a single day of preparation, while other programs reported using extensive course curricula. Several programs conducted needs assessments while nine (47%) programs did not conduct a formalized needs assessment of partner sites. Ethical concerns varied: some programs expressed no ethical concerns while others mentioned concerns for trainee safety and inadequate training for residents before going abroad.

Conclusions: This study exposes several areas for improvement for OB/GYN GHT programs. The limited preparedness curricula and lack of formalized needs assessments among several programs demonstrates the opportunity to restructure how GHT programs are formed and operated. Although many programs make an effort to build reciprocal exchanges with host partners, experiences for foreign trainees within the US are limited, and US residents are often tasked with duties above their training level abroad.

FC05.5
TO CURB UNSAFE ABORTIONS IN INDIA – THE IMPLEMENTATION OF MEDICAL TERMINATION OF PREGNANCY ACT 1971 IN INDIA

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Objectives: Unsafe abortion is one of the most common causes of maternal morbidity & mortality (4000 death per year due to unsafe abortion in India). To curb this practice the MTP Act was passed on 10th August 1971 amended in 2002.Unsafe abortions still constitute 11–13 percent of total maternal deaths more than 70% of Indian population lives in rural areas, access to safe abortion facilities are mainly restricted to urban areas. Availability of safer abortion facilities in rural areas, training of health care providers, simplifying registration procedures, and strict implementation of the MTP Act aim at reduce the unsafe abortions practices in India.

Method: MTP Act in India was implemented in 1971 amended in 2002 for increasing the safe abortion facilities available in rural areas by way of introducing medical abortion in the new amended act. Legal abortion is up to 20 weeks of pregnancy with indications of risk to the life of the pregnant woman or grave injury of physical or mental health or risk to the child to be born. Registration of MTP Centres all over India has improved from around 12000 to 30000 + registered MTP Centres through which all class of patients can access the safe abortion services.

Results: A Lancet paper in 2007 said there were 6.4 million abortions, of which 3.6 million or 56 per cent were unsafe. Registration of MTP centres has been improved after amendment in 2002 in which District Authorities are giving registration for MTP. In Maharashtra no of 2000 centres has increase to 5500 + centres. All over India the no has gone up by 30000. By strict implementation of MTP Act & increasing access to safe abortion services, the maternal mortality has reduced from 11 to 9%. So over all there is improvement in maternal health by reducing maternal death due to unsafe abortion.

Conclusions: MTP Act is an enabling act Aims to improve the maternal health scenario by preventing large number of unsafe abortions. Legalizes abortion services by regulating and ensuring access to safe abortion care and defines “when”, “where” and under “what” conditions abortion is permissible. De-criminalizes the abortion seeker. Offers protection to medical practitioners who otherwise would be penalized under the Indian Penal Code (sections 315–316). Thus reducing the maternal mortality due to unsafe abortion to a greater extend.

FC05.6
SON PREFERENCE AND REPRODUCTIVE CHOICES OVER TIME IN TAMIL NADU, SOUTH INDIA

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Objectives: To explore if Government initiatives to protect the girl child has influenced on son preference and sex selection over the past 20 years in rural Tamil Nadu, South India.

Method: In rural Tamil Nadu, South India twenty-three women, their families, health professionals and government officials were interviewed repeatedly from 1994 to 2013.

Results: During the interviews in the 1990ies many families explained about the necessity to kill daughters to be able to have at least one son and not too many children. Husbands and in-laws decided about the number of children and sex in their families. In the latest interviews from 2013 the young generation explained that one child – girl or boy was enough. The young women were educated and described themselves as a new computer generation with power to decide themselves about reproductive issues together with their husband. Female infanticide did not take place any more.

Conclusions: The Government initiatives to protect the girl child may have influenced the behaviour of young women. However, only when the new generation has finished getting the desired number of children one will know if their views are dreams or reality.

FC05.7
HIGH RATES OF VIOLENCE VICTIMIZATION EXPLAINS MUCH OF THE ADVERSE HEALTH OUTCOMES IN SEXUAL MINORITY YOUNG WOMEN

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Objectives: Recent studies demonstrate that sexual minority youth report higher degrees of ill-health compared to heterosexual youth. The association between violence victimization and adverse health in youth is strong and studies suggest that sexual minority youth are more victimized than heterosexual youth. The aim of this study was to assess the violence victimization and self-reported physical and mental ill-health in sexual minority and heterosexual young women victimised to one, or two or more types of violence (multiple victimization), compared to non-victimised sexual minority and heterosexual women.

Method: Young women (15–22 years) visiting youth health centres in Sweden answered a questionnaire constructed from standardised instruments addressing violence victimization (emotional, physical, sexual, and family violence), socio-demographics, sexual orientation, substance use, and physical and mental health. Of the 1051 participating young women (73% of eligible women) 105 (10%) defined themselves as homo/bi sexual/or uncertain about their sexual orientation. Pearson’s χ² or Fisher’s exact tests were used to assess differences in non-parametric variables. Adjusted odds ratios (AOR) with 95% confidence interval (CI) were assessed.

Results: Of sexual minority young women 23% were victims of one type of violence and 60% were multiple-victimized. Corresponding figures for heterosexual women were 26% and 28%. Both victimized and non-victimized sexual minority young women reported more
suicide- and self-harm ideation (p < 0.01) compared to victimized and non-victimized heterosexual women. Other health outcomes did not differ between groups.

Violence victimization increased risk for ill-health in all outcomes, in all victimized women, especially for those multiple-victimized. Multiple-victimized had AOR 11.8 (CI 6.9–20.1) for posttraumatic stress symptoms, AOR 7.7 (CI 3.8–15.7) for sleeping problems and AOR 5.6 (CI 2.4–13.2) for recurrent bowel problems.

Conclusions: Violence victimization, and especially multiple victimizations, was strongly associated with physical and mental ill-health in both sexual minority and heterosexual young women. Sexual minority young women were more often multiply victimized compared to heterosexual women. In this study the total adverse health in the group of sexual minority women was in large due to the higher rate of violence victimization in minority women. The reason for the high violence victimization rate in sexual minority young women needs to be further explored.

FCS05.8
STUDY ON VIOLENCE AGAINST WOMEN (VAW) RELATED KNOWLEDGE AND ATTITUDES AMONG SELECTED MEDICAL PERSONNEL AND OUTPATIENT WOMEN IN CHINA
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Objectives: To measure selected medical personnel and outpatient women’s current levels of knowledge and attitudes about VAW.

Method: A cross-sectional study was conducted in two hospitals and two health care facilities in Hebei and Hunan Province in China between July and August in 2012. A total of 361 medical personnel were selected and investigated. Self-designed questionnaire was used to collect information from both outpatient women and medical personnel. The survey items include characteristics of subjects, family status, gender conception, knowledge on VAW, and attitude towards violence for outpatient women; and characteristics of subjects, knowledge on VAW, knowledge on violence screening, attitude towards violence, and the current medical intervention on VAW for medical personnel.

Results: The full score of knowledge about violence was 18, the average scores of the medical personnel and outpatient women were 15.3±3.7 and 13.8±5.1, only 42.7% medical personnel and 39.2% outpatient women got full score. The top three forms of violence can’t be recognized by both of the two groups were “Laugh at defect or weakness of a woman”. Both of the outpatient women and medical personnel thought that men can batter women under some conditions. The top three forms of violence can’t be recognized by medical personnel were “Chronic pain with no cause”, “Alcohol abuse”, “Repeated vaginal and urethral injury and infection”.

Conclusions: The knowledge about VAW of the medical personnel and outpatient women is needed to be improved. Medical personnel and outpatient women haven’t had a zero tolerance attitudes towards VAW. The violence screening capacity needs to be enhanced. Medical intervention of VAW has just been started.

FCS05.9
EVALUATION OF HEALTH CARE WORKERS TRAINING ON IMPROVING THE QUALITY OF CARE FOR RAPE SURVIVORS: A QUASI-EXPERIMENTAL DESIGN STUDY IN MOROGORO, TANZANIA
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Objectives: Sexual violence against women and children in Tanzania and globally is a human rights violation and a developmental challenge. The aim of this study was to assess the impact of train-
A multicentre randomised controlled equivalence trial was conducted at district level at six facilities in Uganda. Eligibility criteria were women with signs of incomplete abortion. We randomly allocated women with first-trimester incomplete abortion to clinical assessment and treatment with misoprostol either by a physician or a midwife. The randomisation (1:1) was done in blocks of 12 and was stratified for study site. Primary outcome was complete abortion not needing surgical intervention within 14–28 days) after initial treatment. The study was not masked. Analysis of the primary outcome was done on the per-protocol population with a generalised linear-mixed effects model.

**Results:** In total 1108 women were assessed for eligibility and 1010 women were randomly assigned to each group (506 to midwife group and 504 to physician group). 955 women (472 in the midwife group and 483 in the physician group) were included in the per-protocol analysis. 452 (96%) of women in the midwife group had complete abortion and 467 (97%) in the physician group. The model-based risk difference for midwife versus physician group was −0.79% (95% CI: −2.90 to 1.35). The overall proportion of women with incomplete abortion was 3.8%, similarly distributed between the two groups.

**Conclusions:** Treatment of incomplete abortion with misoprostol by midwives is equally safe and effective as when provided by physicians, in a low-resource setting. Scaling up midwives’ involvement in treatment of incomplete abortion with misoprostol at district level would increase access to safe post-abortion care.

Paper accepted and will be published in The Lancet.

**Conclusions:** This study is aimed at observing the status of critical obstetric care in a Kathmandu University Hospital (tertiary care hospital) in developing nation like Nepal. This study was to determine the Intensive Care Utilisation by critically ill obstetric patients, the spectrum of diseases and the outcome.

**Method:** A prospective study on obstetric patients admitted to the ICU of a Kathmandu University Hospital during a five year period 2009–2014. A total of 56 patients were studied.

**Results:** The main cause for admission was haemorrhage in 17 patients (30.35%) followed by hypertensive disorders complicating pregnancy in 14 patients (25%) and sepsis of various etiology in 7 patients (12.5%). These causes were also the leading cause of maternal mortality and morbidity.

**Conclusions:** In this study we observed that obstetric patients form a small number of patients (2.5%) of the total patients (number-2215) admitted to ICU and the majority of them are due to preventable aetiology. In order to decrease the maternal mortality in a country like ours, primary health care needs to be better, with main emphasis being laid on preventive and promotive care. It is indeed a great necessity to have an efficient referral system.
Conclusions: Tetanus in pregnancy is an emerging cause of maternal mortality in this environment. Ensuring universal reach of immunization, ensuring clean and safe delivery will go a long way in reducing this rising scourge.

FCS06.6 RESHAPING MATERNAL SERVICES IN NIGERIA: ANY NEED FOR SPIRITUAL CARE?

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Objectives: High maternal and perinatal mortalities occur from deliveries conducted in prayer houses in Nigeria. Although some regulatory efforts have been deployed to tackle this problem, less attention has been placed on the possible motivation for seeking prayer house intervention which could be hinged on the spiritual belief of patients about pregnancy and childbirth. This study therefore seeks to determine the perception of booked antenatal patients on spiritual care during pregnancy and their desire for such within hospital settings.

Method: A total of 397 antenatal attendees from two tertiary health institutions, Obstetrics and Gynaecology unit of Bowen University Teaching Hospital (BUTH), Ogbomoso and Ekiti State University Teaching Hospital (EKSUTH), Ado-Ekiti, in southwest Nigeria were sampled. A modified, pretested, self-administered HOPE Questions practical tool guide was used to obtain information on socio-demographic features of respondents, perception of spiritual care during pregnancy and childbirth; and how they desire that their spiritual needs are addressed. Responses were subsequently collated and analyzed using both univariate and multivariate statistical methods. The level of significance (α) was set at 0.05.

Results: Sizeable proportion, 301 (75.8%), of respondents believe there is need for spiritual help during pregnancy and childbirth. Close to half of participants (48.5%) were currently seeking such help while another 8.6% intended to. Majority, 281 (70.8%) felt it was needful for health professionals to consider their spiritual needs. Most respondents, 257 (64.7%), desired that their clergy is allowed to pray with them while in labour and sees such collaboration as incentive that spiritual needs are addressed. Responses were subsequently collated and analyzed using both univariate and multivariate statistical methods. The level of significance (α) was set at 0.05.

Conclusions: Our current maternal services pay little or no attention to patients’ psychosocial support despite evidences from Cochrane review that it is beneficial. From this study, it is clear that patients desire that spiritual care is offered alongside with medical treatments. The approach could be an attracting force to improve hospital maternity patronage. It is therefore recommended that current maternal services in Nigeria be restructured to make provision for spiritual care since this would not interfere with the usual core scientific clinical care provided to the women.

FCS06.7 UNIVERSITY OF GEZIRA INITIATIVE FOR SAFE MOTHERHOOD AND CHILDHOOD; INTERVENTIONS LEAD TO REMARKABLE REDUCTION IN THE MATERNAL MORTALITY RATIO

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Objectives: The objective is to review role of Gezira Initiative for safe motherhood and childhood in maternal mortality reduction during the period (2005–2015) & to identify underlying causes behind maternal mortality.

Method: Gezira Initiative for Safe motherhood and childhood was introduced to Gezira State, Central Sudan after comprehensive situation analysis. This particular project, among other things, initiated the training of village midwives and facilitated their absorption into the government-funded health system, upgrade of the rural hospital, offer emergency obstetrics services, Training on delivery care and neonatal care in rural hospital, Manuals & protocols for management of obstetrical & neonatal emergencies and evaluation. All maternal deaths were reviewed retrospectively since the initiative produced. Data was analysed by SPSS.

Results: Gezira initiative has led to a remarkable reduction in the maternal mortality ratio (MMR) and in the neonatal mortality ratio (NMR) in Gezira state. The efforts have recorded great achievements in Gezira, lowering the MMR from 469 per 100,000 live births in 2005 to 57 in 2014, and the NMR from 43 per 1,000 live births in 2005 to 11.3 per 1,000 in 2014. Cause of death were (top six causes); Obstetric haemorrhage (23.3%), viral hepatitis (19.2%), pulmonary embolism (15.1%), Eclampsia (13.7%), sepsis (12.3%) and malaria (5.5%).

Conclusions: The Safe Motherhood project is a classic example of how a socially accountable medical institution has positively responded to an identified societal need in a holistic manner and with measurable impact. Interventions lead to remarkable reduction in the maternal mortality ratio.

FCS06.8 PRIMARY PARTUM HEMORRHAGE AND MANAGEMENT OPTIONS

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Objectives: To determine the incidence and causes of PPH in developing countries.

Method: This prospective study was conducted from 1/11/2013 to 1/03/2015. All patients who underwent PPH were included in the study.

Results: The incidence of PPH is 3.1% uterine atony was the most common cause of PPH contributory around 75% of cases.

Conclusions: Differences of Maternal morbidity and Mortality due to Primary PPH reflects general economic prosperity, Health education and awareness, differences in health care provisions and geographic and climatic condition that affect access to obstetrics care. WHO estimates the incidence of obstetric hemorrhage is 10.5% of all live births globally. Around 132,000 maternal deaths are directly attributable to hemorrhage. Good antenatal care is important in promoting health. MMR can be reduced if the risk factors are identified and communicated and preparations can be made to deal with them accordingly.

FCS07. Addressing Maternal Mortality

FCS07.1 MATERNAL NEAR MISS MORBIDITY AND MORTALITY IN THE LARGEST TERTIARY REFERRAL CENTER IN RWANDA

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Objectives: To determine the incidence and factors associated with severe (“near miss”) maternal morbidity and mortality in the University Teaching Hospital of Kigali (CHUK), Rwanda.

Method: We performed a cross sectional study of all women admitted to the tertiary care University Hospital in Kigali with severe – “near miss” – maternal morbidity and mortality during a six-month period using the WHO criteria for “near miss” maternal mortality. We assessed maternal demographic characteristics and disease processes associated with severe obstetric morbidity and mortality.

Results: The prevalence of severe maternal outcomes was 11 per
1000 live births. The maternal near miss ratio was 8 per 1000 live births. The majority of severe obstetric morbidity and mortalities resulted from: sepsis/peritonitis (30.2%), primarily following caesarean deliveries, hypertensive disease (28.6%), and hemorrhage (19.3%). Lower maternal socioeconomic status, referral from district hospitals to the tertiary care center, and residence in the eastern part of the country were risk factors for severe maternal morbidity and mortality.

**Conclusions:** The study identified opportunities for improvement in clinical care to potentially reduce these adverse outcomes. The high incidence of peritonitis may reflect suboptimal intraoperative and intrapartum management of high-risk patients at district hospitals. More studies are needed to further clarify these findings.

**FCS07.2**

**ACHIEVING MDG 5 AT A TERTIARY FACILITY – 5-YEAR AUDIT AT THE MOTHER AND CHILD HOSPITAL AKURE, ONDO STATE, SOUTHWESTERN NIGERIA**

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**Objectives:** 1. Determine the trend of antenatal registrations and births during period of study.
2. Determine the trend of maternal mortality ratios and causes of maternal deaths.
3. Determine the trend of perinatal mortality ratios.

**Method:** This retrospective study was conducted in the Mother and Child Hospital Akure, one of Nigeria's busiest purpose-built tertiary care maternity centres, which offers free services (i.e. free consultations, admissions, drugs, laboratory tests, blood transfusions and surgeries). Data was collected from the files of patients delivered at the hospital since inception on 24th February 2010 to 31st December 2014 and analyzed using Microsoft Excel and SPSS.

**Results:** Total births in the 5-year period were 30,031 increasing by 108% from 3,673 in 2010 to 7,634 in 2013 then dipping by 18% between 2013 and 2014. Total antenatal registrations were 49,195 from 7,378 in 2010 to 12,002 in 2013, a 63% increase before dipping to 9,780 in 2014. The maternal mortality ratio reduced from 708 per 100,000 births in 2010 to 208 per 100,000 in 2014, a 70% reduction. The commonest causes of deaths were postpartum haemorrhage (30%), eclampsia (29%) and uterine rupture (14%). The maternal mortality ratios per 1000 births were 65, 74.5, 74.5, 61.7 and 63 for 2010, 2011, 2012, 2013 and 2014 respectively.

**Conclusions:** Running a tertiary care maternity centre offering free and qualitative services is sustainable and ultimately leads to significant improvement in maternal and perinatal statistics. The dip between 2013 and 2014 can be added to a 3-month nationwide strike action by health workers in 2014.

**FCS07.3**

**WHY MOTHERS DIE? A REVIEW OF MATERNAL MORTALITY CASES BY FACILITY BASED MATERNAL DEATH REVIEW COMMITTEE AT A TERTIARY REFERRAL UNIT IN CENTRAL INDIA**

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**Objectives:** 1. To review and analyze various factors contributing to maternal mortality at a tertiary referral unit.
2. To assess the changing scenario of maternal mortality in central India.
3. To formulate some guidelines to prevent maternal deaths in future.

**Method:** It is a retrospective observational study of 362 maternal deaths that occurred over a period of 4 years at Government Medical College and Hospital, a tertiary referral unit in Nagpur, a part of central India. Each maternal death is analyzed by Facility Based Maternal Death Review Committee (FDMDR) which is a government project, regarding sociodemographic factors and medical reasons responsible for causing maternal deaths. Delay at different levels of functioning healthcare system is identified and suggestions are made to take appropriate measures to prevent maternal deaths in future.

**Results:** The total number for deliveries, livebirths and maternal deaths was found to be 45101, 43776 and 362, respectively. 86.19% cases received antenatal care and almost all subjects were provided with free referral services under health care schemes still the main causes for maternal mortality identified were poor antenatal care, delay in referral and lack of basic health facilities. Eclampsia (15.19%), preeclampsia (14.08%) were the leading direct causes followed by haemorrhage while anaemia (8.88%) and liver disorders (12.15%) and acute febrile illness (10.49%) were the main indirect causes. 93.1% cases were emergency referrals and critical cases (33.97%) which died within 24 hours of admission.

**Conclusions:** Identifying high risk pregnancies with quality antenatal care and timely referral with well equipped transport facility will improve survival rate. FDMDR programme played an important role in finding out the factors responsible for maternal deaths as well as highlighted the deficiencies in health care system which was the main reason of failure of government sponsored healthcare programmes. Extending health care facilities to grass root level, participation of all sectors in the health education, formulating health policies and a multidisciplinary approach for critically ill referrals will go long way in reducing the MMR and improving health status of India.

**FCS07.4**

**PUERPERAL SEPSIS, THE LEADING CAUSE OF MATERNAL DEATHS AT A TERTIARY UNIVERSITY TEACHING HOSPITAL IN UGANDA**

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**Objectives:** The causes and factors associated with maternal mortality at Mbarara University Teaching Hospital.

**Method:** The study was a retrospective unmatched case control study which was carried out at the maternity unit of Mbarara Regional Referral Hospital (MRRH). The sample included pregnant women aged 15–49 years admitted to the Maternity unit between January 2011 and November 2014. Data from patient charts of 139 maternal deaths (cases) and 417 controls was undertaken using a standard audit/data extraction form. Multivariable logistic regression analysis was used to assess for the factors associated with maternal mortality.

**Results:** Direct causes of mortality accounted for 77.7% while indirect causes contributed 22.3%. The commonest cause of mortality was puerperal sepsis (30.9%), obstetrical hemorrhage (21.6%), hypertensive disorders in pregnancy (14.4%), abortion complications (10.8%). Malaria was the commonest indirect cause of mortality in 40%. On multivariable logistic regression analysis, factors associated with mortality were: primary or no education (OR, 1.9; 95% CI: 1.0–3.3); HIV positive (OR, 3.6; 95% CI: 1.9–7.0); no antenatal care attendance (OR, 3.6; 95% CI: 1.8–7.0); rural dwellers (OR, 4.5; 95% CI: 2.5–8.3); referral (OR, 5.0; 95% CI: 2.9–10.0); delay to seek health care (delay-1) (OR, 36.9; 95% CI: 16.2–84.4).

**Conclusions:** Most maternal deaths occur among mothers from rural areas, uneducated, HIV positive, unbooked mothers (lack of antenatal care), referred mothers in critical conditions and mothers delaying to seek health care. Sepsis, obstetrical hemorrhage and severe pre-eclampsia/eclampsia are the leading causes of maternal deaths. Improvement in primary health care and emergency obstetric care can contribute towards reduction of maternal deaths.
**FCS07.5**

**THE PREVENTABLE FACTORS OF MATERNAL MORTALITY FROM PREECLAMPSIA IN INDONESIA: CHANCE IN PUBLIC HEALTH PERSPECTIVES**

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**Objectives:** To address the chance of preventable factors in public health system with effective control of preeclampsia in Indonesia and develop components used to intervene within local context.

**Method:** Cross sectional study in Semarang municipality as a center of comprehensive emergency obstetric care (EmOC) facilities in Central Java Province, Indonesia. We analyzed cases to identify the causes of preeclampsia maternal death from January 2011 until December 2014 in Semarang, Central Java Province, Indonesia. The underlying preventable factors were from maternal death reviews on causes, characteristics and circumstance in clinical management with implementation of referral system and health policy based on compliance to national standard.

**Results:** The study found that 37.9% of maternal death caused by preeclampsia, 95.5% cases as preventable disease. Substantial health system factors contributing to preventable deaths were identified in the third delay in health service provision and followed by first delay in decision to seek care arise as a result inability to judge maternal condition. The management constraints in the third delay were inadequate staffing in teamwork process, medical equipment, and lack of clinical knowledge and skills in early emergency detection in primary care and proper management of timely delivery in secondary health level with unsupported referral system.

**Conclusions:** The regulation in health system having a standardized process needed to support improvement of quality care with continue update of management team and making direct improvements in referral system to avoid the preventable factors of maternal death from preeclampsia.

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**FCS07.6**

**IMPACT OF PRONTO SIMULATION-BASED OBSTETRIC AND NEWBORN CARE TRAINING ON NON-EMERGENCY DELIVERY PRACTICES IN GUATEMALA**

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**Objectives:** To assess the impact of PRONTO, a low-technology, simulation-based training program for obstetric and perinatal emergency management, on primary-level clinics’ non-emergency delivery practices.

**Method:** Fifteen intervention clinics participated in PRONTO as part of a matched-pair cluster randomized trial in Guatemala. We conducted a cross sectional birth observation study in a convenience sample of nine clinic pairs (n=18). Study outcomes included implementation of practices previously shown to decrease maternal/neonatal mortality and improve patient care. One and two-tailed t-tests were used to compare proportional differences of practice utilization between intervention and control facilities.

**Results:** We observed 25 and 17 births in intervention and control clinics, respectively. Intervention teams appropriately performed active management of the third stage of labor more often than controls (83% vs 50%, P=0.01) and implemented more practices proven to decrease neonatal mortality (P<0.001). They more often ensured patient privacy (92% vs 65%, P=0.01) and kept patients informed (100% vs 55%, P=0.001). Differences were also noted in many teamwork-related outcomes; in particular, skill-based teamwork tools were observed more often in intervention sites (P=0.009–0.03).

**Conclusions:** PRONTO appears to benefit non-emergency delivery care by increasing utilization of evidence-based practices, patient-centered care, and teamwork. Further research is needed to better assess impact.

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**FCS07.7**

**NEW STRATEGIES ARE NEEDED TO PREVENT MATERNAL SEPSIS**

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**Objectives:** Participants will understand the current evidence base on interventions to prevent maternal sepsis in developing countries and be able to describe data that shows the difference between national policy and actual practice.

**Method:** Maternal sepsis is a leading causes of maternal mortality, accounting for 11% of maternal mortality worldwide. Despite global and national recognition of the problem, limited research or programming has been done in this area, and stark differences exist between prevention strategies in developed and developing country settings. In developed countries, prolonged labor is generally understood to be a significant contributor to maternal sepsis. In low and middle income countries, however, maternal hygiene or hand hygiene is thought to be the dominant precipitator.

We conducted a review of the literature to understand the evidence base for current interventions for prevention of maternal sepsis.

**Results:** Fifty-one studies were identified that referenced interventions to prevent maternal or newborn sepsis; 27 met criteria for review. Only nine studied a developing country context. Eleven linked prolonged labor or prolonged rupture of membranes to maternal sepsis. Handwashing by TBAs and chlorhexidine vaginal douching were found ineffective. The WASH community has advocated intensified hand hygiene.

A further survey of 20 developing countries showed that national guidelines on infection prevention are generally accurate, but prevention of prolonged labor is rarely mentioned as a strategy to reduce sepsis. Direct observation of birthing practices in six countries found that providers washed their hands 40% of the time before conducting labor examinations.

**Conclusions:** Progress has been made in reducing mortality from postpartum hemorrhage and preeclampsia. With the global emphasis on facility births, interventions - whether appropriate or not - have the potential to increase. The almost exclusive focus on hand hygiene, and the relative absence of attention to prolonged labor, for the prevention of maternal and newborn sepsis is unlikely to achieve the desired result. The evidence base for sepsis prevention practices in labor is weak and there is an urgent need for additional research to guide development of appropriate interventions for mortality reduction.

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**FCS07.8**

**IMPROVING CLINICAL OBSTETRIC TEAMWORK: A TOOL FOR PRACTICE-BASED FEEDBACK IN LOW INCOME COUNTRIES**

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**Objectives:** Cohesive teamwork could maximize available resources and decrease obstetric-related morbidity and mortality during facility births in Low and Middle Income Countries (LMICs). However,
there are no known teamwork measurement tools for these contexts. An intuitive teamwork tool for real-time feedback could foster measurement and quality improvement. As part of a larger study of PRONTO's obstetric outcomes, this nested observational study aimed to create a robust, abbreviated teamwork tool that 1) rapidly and accurately measure clinical teamwork 2) be implemented with limited training, 3) provide real-time feedback during obstetric trainings or clinical mentorship and 4) track a facility's skills longitudinally.

**Method:** 9 simulated obstetric emergencies were managed by primary care clinicians at 7 sites from a cluster-randomized trial in Guatemala. This nested observational study analyzed 53 achieved videos of the simulation; they were coded for 57 teamwork behaviors using the Performance Assessment for Communication and Teamwork-Video tool (PACT-V) that quantifies TeamSTEPPS behaviors. Blinded bilingual coders randomly scored 77 videos. Standard exploratory, Principal Factor Analysis (PFA) with varimax orthogonal rotation and post-model decision criterion were used to extract factors and surrogate variables for a short-form of the PACT-V.

**Results:** Domain-specific Kaiser-Meyer-Olkin criterion (KMO) for each teamwork domain ranged from 52.04–78.59%. 10 factors and 21 surrogate variables were extracted from the 57-item PACT-V using PFA. These variables contributed to a short-form of this tool – the MOM (Measurement of Obstetric team-Managements). Cohesion of the MOM's domain-specific scales exceeded the original PACT-V tool with Alphas (α) ranging from 76.58–96.06%. The MOM's behavioral anchors were adapted from Dreyfus' non-judgmental scales for complex skill measurement and MOM modified the typographic and structure of the PACT-V to promote intuitive use and to match “Balanced Score Card” measurements used in Kenya and other LMICs.

**Conclusions:** The MOM's quantitative, simplified five-point scales and intuitive typography could promote rapid teamwork measurement at primary obstetric facilities in LMICs. The non-judgmental behavioral anchors could promote team self-reflection or non-threatening facilitator feedback during training or facility-based quality improvement coaching. The tool's flexibility permits episodic domain-specific feedback or longitudinal coaching. Using the MOM to disseminate teamwork measurement throughout health systems could encourage continuous improvements in obstetric quality and promote maternal-neonatal survival.

**FCS08.2 PANICKER'S VACUUM SUCTION HAEMOSTATIC DEVICE FOR TREATING POST PARTUM HEMORRHAGE**

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**Objectives:** To find out a safe, simple and sure technique for preventing and treating PPH thereby decreasing maternal mortality and morbidity. And also to find out a method to treat PPH in low resource setup, primary care setup were even paramedical personals including ANM’s can use this method in emergency situation very safely and effectively to save the life of the mother.

**Method:** Forty women who had normal vaginal deliveries and fifteen women who had LSCS were included in this study in a low resource maternity hospital. All these 55 women developed PPH in spite of using all uterotonic drugs. Four women developed atomic PPH. A specially made plastic cannula of 12mm in diameter and 25cm in length with multiple holes of 3cm diameter at the distal 7cm of the cannula was introduced into the uterine cavity through the vagina to reach the fundus. The cannula is connected to a suction machine and a negative pressure of 600mm mercury was produced.

**Results:** The negative suction resulted in sucking out all the blood collected in the uterine cavity. The quantity of blood sucked was 50 to 300 ml. When the collected blood was completely sucked out, the bleeding ceased. The suction was maintained for 30 minutes. Then the cannula was taken out slowly after releasing the suction. There was no further bleeding from the uterine cavity and the uterus was well contracted. Five patients had fresh bleeding from the vagina even after connecting the suction. These were all found to have vaginal tears and suturing was done.

**Conclusions:** The inner surface of the uterine cavity got strongly sucked by the cannula and the bleeding arterioles and sinusoids got sucked into the holes of the cannula, closing them. The bleeding points are permanently closed due to the clot formation within 30 to 40 minutes. This is a very simple, safe, sure and inexpensive technique to control and cure PPH with absolute success. Instead of using suction machine, a mechanical suction unit of ventose or MVA syringe can be used. No complications and failure observed. This life saving procedure is very useful for preventing maternal mortality in the world.

**FCS08.3 MONITORING MATERNAL AND NEWBORN HEALTH OUTCOMES IN BAUCHI STATE, NIGERIA: AN EVALUATION OF A STANDARDS-BASED QUALITY IMPROVEMENT INTERVENTION**

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**Objectives:** Maternal mortality ratio and neonatal mortality rate in Bauchi state of Northeast Nigeria are among the highest in the country. Substandard care factors are associated with increased rates of maternal and newborn mortality and morbidity at facilities in devel-
oping countries. Innovative quality of care interventions are there-fore needed to assure patient safety, provide motivation and insti-tutionalize a culture of quality of care for improved maternal and newborn health outcomes. The aim of this study was to assess the correlation between compliance with set performance standards, interven-tion use and maternal and neonatal deaths in secondary health facilities of Bauchi state, Nigeria.

Method: In a quasi experimental design, the Standard Based Man-
agement and Recognition (SBM-R) approach to quality improvement was introduced to all 23 secondary health facilities in the state. Baseline and three follow-up assessments were conducted between 2010 and 2013. Each assessment is followed by quality improve-
ment initiative that included multiple reinforcing activities-provider training, supportive supervision, detailed performance standards, assess-
ments of service quality, and facility action plans. We exam-
ined trends in: (1) health facility achievement of SBM-R set perfor-
ance standards, (2) the use of evidence-based maternal and newborn health (MNH) service delivery practices, and (3) related MNH outcomes.

Results: The overall proportion of MNH standards that the health facilities achieved increased from 8% to 86% during the three years after the implementation of SBM-R. Over the same time period, in-
creases were also observed in provision of active management of third stage of labor from 10% to 95% and essential newborn care from 13% to 98% with decline of incidence of postpartum hemorrhage from 2.6% to 0.6%, institutional neonatal mortality and stillbirth rates de-
creased from 40 to 26/1000 live births and 92 to 78/1000 deliver-
ies respectively. Health facility maternal mortality ratio also dropped from 4577 to 527/100,000 live births.

Conclusions: Introduction of an SBM-R approach, which involved in-
tensive and mutually reinforcing intervention activities, has led to significant increase in compliance with set performance standards, and improvement of quality of MNH services and outcomes. Scal-
ing up use of SBM-R for quality improvement and tracking selected outcome indicators alongside of improvement in standards is recom-

mended.

FCS08.4
MATERNAL NEAR MISS DEATHS IN TERTIARY CARE HOSPITAL – A RETROSPECTIVE STUDY FROM INDIRA GANDHI GOVERNMENT MEDICAL COLLEGE (IGGMC) NAGPUR, INDIA

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Objectives: 1. To determine the prevalence of near miss cases in ter-
tiary care hospital. 2. To analyze the nature of near miss obstetric cases and maternal deaths. 3. To identify the factors leading to near miss deaths. 4. To suggest measures to reduce them.

Method: Retrospective analytical study conducted in obstetric de-
partment of IGGMC for near miss cases admitted from 1st January to 31st December 2014. Out of 4956 deliveries, 498 were near miss cases. Geller’s five-factor scoring system used having specificity of 93.9%, comprising of Organ –system failure, ICU admission, blood transfusion >3 units, intubation (> 12 hour), and surgical interven-
tion. These factors are given the score of 5, 4, 3, 2, and 1 respectively. The cutoff score of 8 or greater is considered. Statistical analysis was done by using percentages & Chi square test. P values <0.05 were considered as significant.

Results: Out of 4956, 428 identified as near miss obstetrical cases with prevalence of 9.31%. Rates were higher in resource poor setting area and whenever the organ–system based criteria was used. 220 cases were due to Hypertensive Disorders of Pregnancy (51.4%) and hemorrhage in 134 cases (31.3%). Infections were seen in 32 cases (7.4%). Others were rare causes like anesthesia complications, dilated cardiomyopathy.

Amongst the women who were categorized as near miss, anemia was seen in 338 patients (78.91%), which was statistically significant when compared to patients who were categorized as not near miss with anemia (p<0.05).

Conclusions: The review of near miss cases helps delineate contin-
uising threats to maternal health and types of support services most commonly required. The near miss can be used as a guide to the stan-
dard of maternal care. Need for the development of an effective audit system for maternal care which includes both near miss obstetric morbidity and mortality is felt. Anemia being the significant cause of near miss death, proper antenatal care and timely correction will help in improving their health & putting these women’s life at less risk.

FCS08.5
INSTITUTIONALIZATION OF STANDARD BASED MANAGEMENT AND RECOGNITION PROCESS FOR QUALITY MNH SERVICES

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Objectives: Institutionalizing Standard Based Management and Recognition (SBM-R) process into 251 project health facilities as a means of improving quality of MNH service provision in Tanzania.

Method: Under MoHSW leadership, the project developed National SBM-R guidelines and standards to be a gold standard for health fa-
cilities QI approach. SBM-R approach was rolled out in 251 health fa-
cilities in 25 regions between 2008 and 2014. Quality improvement teams (QIT) were established and/or strengthened in each health fa-
cility and QI cycles were conducted periodically both in regional hos-
pitals and in selected lower-level facilities to assess progress, iden-
tify gaps, address them and re-plan for better achievements through mentorship during supervision by district and project staff. Through these processes, facilities demonstrated remarkable improvement in their performance scores.

Results: Of the supported 251 health facilities, 53 (21%) facilities met criteria for external verification by the Ministry on achieving score of 70% and above on their QI cycles. Of these facilities, 49 were rec-
ognized by MoHSW for achieving a score above 70% on performance standards in FANC and/or BEmONC. This demonstrated a remarkable improvement from baseline scores of 2% - 50% to the endline score ranging from 70% to93%. With facilities that demonstrated improve-
ment in SBM-R scores, there was associated improvement in quality of care and some health outcomes.

Conclusions: Localization and institutionalization of QI approaches with active involvement of health care workers, facility management and community can bring a significant change in the quality of MNH services. Regular QI cycles, internal and external supervisions are rec-
commended to support health facilities into achieving desired stan-
dards. Additionally, management ownership and support from the MoHSW is a key to success. This approach is now nationally approved by the Ministry for roll out across the country.

FCS08.6
BEYOND SIGNAL FUNCTIONS IN GLOBAL EMERGENCY OBSTETRICS: USING A CASCADE MODEL TO IMPROVE CLINICAL QUALITY AND GUIDE NATIONAL STRATEGY

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Objectives: Clinical Emergency Obstetric Care (EmOC) capacity is tradi-
tionally assessed using the “Signal Functions” framework. We com-
pared EmOC capacity using signal functions and a novel “Clinical Cas-
cade” using two functions – retained products of conception (RPOC) and anticonvulsants. The cascade is a hierarchal model where emer-

gency functions at the top of the hierarchy, (i.e., MgSO4 for pre-eclampsia), cannot be performed without requisite resources. The cascade has five stages: 1) identification (e.g., sphygmomanometer/stethoscope for pre-eclampsia), 2) consumables (e.g., IV supplies), 3) durables (e.g., IV poles) and 4) medications (e.g., MgSO4). Stage 5 – monitoring & modifying interventions, is crucial for quality but considered separately.

Method: This cross-sectional facility analysis, nested within a non-equivalent group design pre-post implementation trial in Kakamega County, Kenya, summarized 758 facility-specific variables from 42 basic EMoC clinics. 276 of these variables relate to five elements of EMoC care (Facilities, Staff, Equipment, Supplies, Drugs). We described these resources using a standard adaptation of signal functions and tracer drugs. Subsequently, we compared these findings to a facility’s practical EMOc capacity using a novel cascade model adapted from HIV and the “Hierarchy of Needs”. The proportion of facilities with EMOc resources at each stage of the cascade is compared to the signal function analysis.

Results: For the management of pre-eclampsia, 71.4% of facilities had the first-line signal function tracer drug available. The cascade suggests 14.3% of facilities have all requisite resources for pre-eclampsia management, while 4.3% of facilities could monitor and modify therapy. 38.1% of facilities have stage 1 resources to identify the disorder. 31.0% have the stage 2 consumables for management; 23.8% have stage 4 durable equipment. 14.3% of facilities can administer stage 4’s first-line medication even though 71.4% of facilities stock it. A similar trend of step-wise decreases in resource availability is present for RPOC: 1 (100% available), 2 (90.5%), 3 (47.6%), 4 (0%), 5 (0%).

Conclusions: Comparing the performance of existing signal functions and the novel cascade identifies five themes. First, the cascade identifies substantive drop-offs in EMOc resources by stage. Second, it quantitatively summarizes the precise points where resource attrition occurs. Third, using signal functions alone to assess EMOc may significantly overestimate capacity. Fourth, applying the cascade to all signal functions and diverse contexts could further refine the model. Finally, this cascade could enable EMOc facilities, clinicians, and health system planners to more precisely identify, measure, and improve a facility’s capacity to manage obstetric emergencies and promote global maternal survival.

FCS08.7
MATERNAL DEATH AUDITS IN LOW RESOURCE COUNTRIES: SCALING UP OF MATERNAL DEATH AUDITS IN 22 HEALTH CENTERS IN MALI
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Objectives: The QUARITÉ research project (QUALité des soins, gestion du Risque et TECHniques obstétricales) demonstrated a 35% reduction in maternal mortality in referral hospitals implementing a multi-faceted strategy which included: upgrading of clinical knowledge and skill, and health professionals, implementing maternal mortality audits and ensuring regular monitoring visits by external supervisors. The positive result from this study has led to the implementation of a subsequent project which aims to extend this strategy to the 22 referral hospitals targeted within the QUARITÉ project. This presentation will share the preliminary results of this new project in Mali.

Method: The project’s implementation strategy included: the provision of ALARM International Program to opinion leaders; the establishment of a maternal mortality audit committees and ongoing medical education activities in the hospitals of the control group of the QUARITÉ project; and the training of a national team of supervisors responsible for monitoring activities at all the hospitals. Maternal mortality audit activities were initiated in the hospitals involved in the intervention group of QUARITÉ in 2009 and in the hospitals involved in the control group in January 2014. The preliminary results that will be presented were obtained from a review of the external supervisors’ reports and the annual reports of the referral hospitals.

Results: Project data revealed that a total of 434 maternal deaths were registered in the 22 referral hospitals, 47 were referrals that were dead upon arrival. Of the 201 audited maternal deaths, 103 were analysed as preventable. During this exercise, a total of 243 recommendations were formulated by the referral hospitals and of these, 162 have been implemented. The principal causes of maternal mortality were identified as: hemorrhage (n=136), eclampsia (n=81), infection (n=39), and uterine rupture (n=36). During the first year, 132 continuing medical education activities were conducted in the participating hospitals.

Conclusions: Maternal mortality audits are a promising strategy to reduce maternal mortality but they necessitate well trained, supervised multidisciplinary teams.

FCS08.8
TIME TO REDEFINE POSTPARTUM HEMORRHAGE? THE RELATIONSHIP BETWEEN POSTPARTUM BLOOD LOSS AND CHANGE IN PRE- TO POST-DELIVERY HEMOGLOBIN
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Objectives: Definitions of postpartum hemorrhage (PPH) used in clinical practice and research (postpartum blood loss ≥500ml for PPH and ≥1000ml for “severe” PPH) are primarily derived from professional consensus and not on evidence that they are indicators of PPH-associated morbidity. To better understand the appropriateness of these PPH definitions and their utility as endpoints in PPH research, our analysis compared measured postpartum blood loss with change in pre- to post-delivery hemoglobin.

Method: We performed a secondary analysis of data from three studies: two international multi-site hospital-based randomized controlled trials comparing sublingual misoprostol and intravenous oxytocin for PPH treatment among 1754 women with ≥700ml blood loss, and a randomized controlled trial comparing oral misoprostol and placebo for PPH prevention among 1058 home-births in Pakistan, including 203/1058 (19%) with blood loss ≥500ml. R2 values were calculated for change in hemoglobin and measured blood loss. We compared PPH blood loss definitions (≥500ml, ≥1000ml) with the threshold value considered to be indicative of a clinically significant drop in hemoglobin (≥2 g/dL).

Results: While the change in pre- to post-delivery hemoglobin was significantly correlated with blood loss (p<0.001), only 9–13% of the variability in hemoglobin drop was explained by blood loss (R²=0.13 for the multi-country treatment trials, R²=0.08 for the Pakistan prevention study). In the multi-country treatment trials, hemoglobin drop ≥2 g/dL occurred in 328/1127 (29%) women with 700–999ml blood loss and 406/627 (65%) women with blood loss ≥1000ml. In the Pakistan prevention trial, hemoglobin drop ≥2 g/dL occurred in 55/175 (31%) women with blood loss 500–999ml and 19/28 (68%) women with ≥1000ml blood loss.

Conclusions: Considering the relatively weak association of hemoglobin drop and measured postpartum blood loss, the two should not be used interchangeably when assessing the effectiveness of interventions that address PPH. Furthermore, women with postpartum blood loss ≥500ml but <1000ml infrequently experience a clinically important drop in hemoglobin (≥2 g/dL), suggesting that the PPH definition of ≥500ml blood loss may have limited utility.
**FCS08.9 PREVENTION OF ANEMIA IN ADOLESCENT SCHOOL GIRLS OF NAGPUR, INDIA**

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**Objectives:**
1. To study the prevalence of anemia in adolescent school girls of Nagpur, India.
2. To study the effect of empirical Iron & Folic Acid (IFA) supplementation, in the form of tablet dried ferrous sulphate 1.200 mg [equiv-alent to 60 mg of ferrous iron] daily & tablet folic acid 5 mg daily for 3 months with single dose of tablet Albendazole 400 mg.
3. To suggest measures to reduce anemia in adolescent school girls.

**Method:**
3153 adolescent school girls from all socio-economic strata [SES] of age 13 to 17 years included. Detail history of SES, diet, menstruation, past medical & worm infestation noted. General examination including - height, weight, pallor, abdomen & chest done. Hb% by Cyanmethaemoglobin method performed. With informed consent, IFA daily for 3 months & Albendazole single dose given. Degree of anemia graded as per WHO classification. Hb% repeated after 3 months. Statistical analysis done by using percentage & Chi square test. P values <.05 were considered significant.

**Results:**
Prevalence of anemia was 90.61%. Pre IFA, normal Hb% – 9.39%, anemia – mild 71.1%, moderate 18.87%, severe 0.63% [more common in upper class]. Hb% rise 1–2 Gm in majority of girls following IFA therapy. Post IFA therapy Hb% – normal in 28.9%, anemia – mild 60.89%, moderate 10%, severe 0.07% There was no correlation between anemia, BMI, diet, SES, menstruation. Clinically pallor corresponded to degree of anemia.

**Conclusions:**
Anemia is the most common nutritional deficiency disorder in the world and in India also. Increased iron demand, excessive menstrual loss, worm infestation, early/regular childbearing exacerbates pre existing anemia. Young mothers can have poor growth of the fetus, pre term and low birth weight babies leading to compromised pubertal growth spurt & cognitive development in young girls. Government and Non Government Organizations should join hands together towards the anemia prevention and control programme in adolescents by giving iron and folic acid supplementation, nutrition education and awareness program.

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**FCS09. Addressing Maternal Mortality**

**FCS09.1 MEASURING MATERNAL MORBIDITY – WHICH CRITERIA TO USE?**

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**Objectives:**
Registration and audit of severe maternal morbidity are increasingly performed in addition to enquiries into maternal mortality to improve quality of obstetric care. However, universally accepted criteria for severe maternal morbidity did not exist until the World Health Organization (WHO) set out to identify these. The goal of standardized criteria is to enable local morbidity audit and international comparisons. The WHO approach focuses on the identification of “maternal near miss” (MMN) using organ failure criteria indicating life-threatening complications. We assessed the consequences of this approach in two low-income countries (Malawi and Tanzania) and one high-income country (the Netherlands).

**Method:**
WHO defines MMN as “any woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy” and created a tool comprising disease-based (hemorrhage, (pre-)eclampsia, sepsis/ systemic infection and ruptured uterus), intervention-based (blood transfusion, laparotomy, interventional radiology or ICU-admission) and organ failure-based criteria (cardiovascular, respiratory, renal, hepatic, uterine, coagulation and neurologic dysfunction). We applied this tool to women who sustained severe morbidity according to previously used disease- and management-based criteria in district hospitals in Malawi (n=386, 2007–2009) and Tanzania (n=248, 2009–2011), and to a nationwide Dutch cohort (n=2552, 2004–2006).

**Results:**
In the entire cohorts in Malawi, Tanzania and the Netherlands, case fatality rates (CFR) were 12%, 13% and 2% respectively. Organ failure criteria identified 84 (22%) of the Malawian, 103 (42%) of the Tanzanian and 1024 (40%) of the Dutch women with severe morbidity as MMN. Among women fulfilling organ failure criteria, CFRs were 25%, 31% and 3% respectively. Intervention-based criteria identified 175 (45%), 231 (93%) and 2116 (83%) of the women respectively, but allowed for little differentiation (e.g. ICU or interventional radiology were no option in Malawi). Disease-based criteria identified 336 (87%), 123 (50%) and 2308 (91%) women respectively.

**Conclusions:**
The WHO approach is promising, but –with its current focus on organ failure- leads to underestimation of severe morbidity in low-resource settings, rendering international comparison impossible. The CFR for all morbidity in Malawi and Tanzania was higher than the CFR for “life threatening conditions” fulfilling organ failure criteria in a WHO-pilot, illustrating the context dependence of these criteria. In a technical consultation on the WHO approach in January 2015 these problems were recognized. The challenge is to develop criteria that are sensitive enough to detect severe morbidity in all settings, and simultaneously specific enough not to burden data systems.

**FCS09.2 ELIMINATING THE SECOND DELAY: IS A STAY IN A MATERNAL WAITING HOME AN ACCEPTABLE RISK REDUCTION STRATEGY FOR WOMEN IN RURAL SW UGANDA? A QUALITATIVE ANALYSIS**

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**Objectives:**
To understand women’s concerns regarding labour and delivery and their views regarding the acceptability of using a maternity waiting home to avoid difficult journeys in labour.

**Method:**
In September 2013, thirty three pregnant women seen in five antenatal outreach clinics in rural SW Uganda agreed to take part in semi-structured interviews in which their concerns regarding birth, and their views regarding using a new maternity waiting home which had been opened on the hospital site were explored. The interviews were translated contemporaneously and transcribed for coding. Thematic analysis of the coded transcripts was undertaken using a framework approach.

**Results:**
Women’s expressed a variety of concerns. All women interviewed were positive about the maternity waiting home and several made suggestions which were later adopted. For example, a night watchwoman was employed to provide security, and one female attendant was permitted to sleep in the home with each women if they wished. This represented a change from the original plans, in response to the women’s wishes.

**Conclusions:**
Women in this remote rural community expressed numerous concerns regarding delivery, ranging from fears of stillbirth to haemorrhage, often based upon their own past experiences or those of family or friends. They welcomed the provision of a maternity waiting home in the local hospital and expressed interest in using the facility. They were able to make constructive suggestions which should improve the acceptability of a stay in the home. An audit of usage of the home and user outcomes is ongoing. A stay in a maternity waiting home is an acceptable risk reduction strategy for women in rural SW Uganda.
DETECTION OF FACILITY-BASED MATERNAL DEATHS FROM UNSAFE ABORTION USING THE RAPID ASCERTAINMENT PROCESS FOR INSTITUTIONAL DEATHS IN KIGOMA REGION, TANZANIA

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Objectives: Accurately measuring maternal mortality and causes of maternal death is critical for designing mortality reduction interventions and reaching maternal health goals. However, maternal deaths, especially abortion-related deaths, are underreported at the facility-level due to cause of death misclassification and poor record keeping. A multitude of data registers, logbooks, and notebooks are used to collect maternal health data at facilities offering obstetric care. We aimed to determine the total number of facility-based maternal deaths occurring from 2008–2012 in Kigoma, Tanzania and compare the proportion of abortion deaths identified in facility data sources to all-cause obstetric deaths identified in facility data sources.

Method: Maternal deaths in Kigoma region facilities were retrospectively identified and reviewed using a Rapid Ascertainment Process for Institutional Deaths (RAPID) methodology. RAPID captures all institutional deaths to women of reproductive age from any available facility data source and reviews those that were pregnancy related. Descriptive statistics were used to compare the proportion of abortion deaths identified in different data sources to the proportion of deaths from other obstetric causes identified in different data sources. Further, we summarized the data sources where each death was noted and compared sources that identified abortion deaths with those recording other causes of maternal deaths.

Results: RAPID identified 594 maternal deaths, including 89 that were abortion-related. Maternal deaths were reported in 22 data sources. On average, an abortion-related death was identified in 4 sources compared to 6 sources for non-abortion maternal deaths. Abortion deaths were often identified in morgue registers (60%) and inpatient non-obstetric ward sources (56%); only 15% were found in obstetric registers, 10% in surgical registers, and 4% in admission/discharge logbooks. Non-abortion maternal deaths were found in morgue registers (71%), nurses ward notes (58%), and obstetric registers (56%). Only 4% of abortion-related deaths and 17% of non-abortion deaths were recorded in maternal death audits.

Conclusions: RAPID methodology succeeded in identifying and determining causes of facility-based maternal deaths, including detection of maternal deaths related to abortion complications. Identification of facility-level maternal deaths is complicated by the large number of data sources. A unified register to record all deaths to women of reproductive age including documentation of pregnancy status would improve detection of maternal deaths. An accurate determination of the magnitude of maternal mortality is essential to design effective interventions to reduce maternal deaths. RAPID methodology can provide objective evidence to inform health policies and decision making.

DEVELOPMENT OF THE ALGORITHM INCORPORATED INTO A LOW COST VITAL SIGNS MONITOR TO DETECT PRE-ECLAMPSIA AND SHOCK

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Objectives: Obstetric haemorrhage, pre-eclampsia and sepsis contribute to more than 50% of maternal deaths worldwide; all are associated with abnormal vital signs. We have previously developed an accurate blood pressure (BP) and shock detector, the Microlife CRADLE Vital Sign Alert (VSA), and determined the hypertension and shock thresholds appropriate for the traffic light early warning system within the device. The next aim was to incorporate these thresholds into the device in an effective and user-friendly way.

Method: Qualitative evaluation of display animation options indicating shock and hypertension was performed using questionnaires given to various cadres of health provider (from community healthcare provider to consultant obstetrician, in India, UK and Canada) (n=90). The symbols for both shock and hypertension most consistently understood by all cadres were selected, along with the most appropriate indicator for severity of clinical scenario. Hypertensive thresholds were based on established practise. Shock thresholds were based on our team’s retrospective analysis of two large datasets of women with post partum haemorrhage (UK, Nigeria, Zimbabwe, Zambia and Egypt) evaluating vital sign prediction of adverse maternal outcomes.

Results: Shock index (SI), (pulse/systolic BP) ≥ 0.9 and ≥ 1.7 selected for amber and red lights respectively. When shock was detected in conjunction with hypertension, the shock display was given precedence, in view of the urgency of intervention required. If SI is 1.1 (e.g. pulse 130bpm/systolic BP 118mmHg) and diastolic BP 92mmHg, the amber light flashes and DOWN arrow flashes to indicate shock, despite diastolic hypertension. Through qualitative assessment, a flashing light and CONSTANT up arrow was selected to indicate hypertension: a flashing light and FLASHING down arrow was selected to indicate shock.

Conclusions: The CRADLE device is an accurate, low-cost device incorporating a traffic light early warning system, alerting clinicians to the need for urgent referral or intervention, potentially reducing maternal mortality and morbidity. Prospective evaluation of the shock and hypertension thresholds and traffic light early warning system design is underway at two facility-level sites in South Africa and community-level sites in Nigeria.
97.3% were ever married, 47.8% in MRA and 41.2% have had 1–2 children. Multivariate analysis showed a positive and significant association between awareness of bleeding as obstetric danger sign and both knowledge of antenatal care (β=6.53, p<0.000) and knowing a woman who died in pregnancy (t=3.34, p=0.001).

Conclusions: The findings indicate that women living on the Atlantic coastline of rural Lagos have a very low perception of obstetric danger signs. Data from this study specify highly significant implications for focused health education and the promotion of good and acceptable maternal health in this geographical location to reduce high maternal mortality.

FCS09.6
SOCIOCULTURAL BARRIERS AND HEALTH SYSTEM LIMITATIONS TO SAFE MOTHERHOOD IN RWANDA – EXPLORED THROUGH IN-DEPTH INTERVIEWS WITH WOMEN EXPERIENCING NEAR-MISS EVENTS

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Method:

405 deaths per 100 000 live births and little progress was made towards reaching MDG.5. Delay in seeking care during the golden 24 hours peri-delivery is thought to play a key part particularly in rural areas. The study objectives were:

1. Elucidate the factors contributing to 1st delay (delay in seeking care) and quantify the contribution that harmful cultural beliefs make.
2. Determine which demographic factors are associated with birth in the community, harmful cultural beliefs and hence lower usage of the Health Centers (HC) for emergency obstetric care.

Method: This is a population-based case-control study including eight Brazilian states with high coverage of the Maternal Mortality Enquiry Committees. To control for indication bias, deaths due to antenatal morbidities were excluded. For the 4-year study period 2009–2012, 73 cases of postpartum maternal deaths were included. Controls were selected from “Birth in Brazil Study”, a recent Nationwide Survey, and included 9,221 subjects. We tested and quantified the association of cesarean with postpartum maternal death through multivariate logistic regression to adjust for confounders.

Results: After controlling for indication bias and confounders, cesarean delivery was associated with an almost three-fold increased risk of post-partum maternal as compared to vaginal (OR 2.87 95% confidence interval 1.63–5.06). This was mainly due to deaths from intrapartum/postpartum hemorrhage (OR 3.04 95% confidence interval 1.40–6.59) and the combination of deaths from pulmonary embolism, amniotic fluid embolism and complications of anesthesia (OR 10.94 95% confidence interval 2.17–55.30).

Conclusions: Although the perceived safety of cesarean delivery has increased its acceptance, the current study suggests that this procedure is independently associated with an increased risk of postpartum maternal death even in a context where it is mostly performed before the onset of labor. Clinicians and patients should acknowledge this when balancing the risks against the benefits of cesarean delivery.

FCS09.8
A QUANTITATIVE STUDY OF MATERNAL HEALTH PRACTICES IN NORTHERN MOZAMBIQUE: ARE HARMFUL CULTURAL BELIEFS POSING A CONSIDERABLE BARRIER TO WOMEN ACCESSING HEALTH SERVICES DURING LABOUR?


Conclusions: To ensure Safe Motherhood in Rwanda, improved quality of the maternal care is strongly recommended. Furthermore, the current criminalized status of abortion poses difficulties for women to receive care and stigmatizes complications during pregnancy. A normative health system must consider all women who face early complications or unintended pregnancies.
tance as the main reason (80.6% walk) and 40.0% reported harmful cultural beliefs where only a community birth under the watchful eye of the partner’s female relatives guarantee legitimacy. Harmful beliefs were less common in men (OR 0.55, P = 0.004) and in those with more education (OR 0.47, P = 0.05). There was no significant association with distance living from HC.

Conclusions: In northern rural Mozambique, although distance remains a key barrier for women to access safe delivery, harmful cultural beliefs contribute enormously. It has been assumed that these beliefs were largely held and imposed by men, and that it was an issue of women’s rights. This study demonstrates that harmful beliefs are more commonly held by women and by those with less education. The Ministry of Health and its partners may wish to include improving women’s education as an added strategy for reducing barriers to health care for labouring women. Tackling high MMRs through broader socioeconomic strategies should be considered globally.

FCS10. Addressing Maternal Mortality

FCS10.1 LOW-TECH, SIMULATION-BASED IN SERVICE TRAINING FOR PRIMARY LEVEL MATERNITY PROVIDERS: IMPACT OF THE PRONTO TRAININGS ON PROVIDER KNOWLEDGE AND SYSTEM CHANGE PROCESS INDICATORS IN KENYA

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Objectives: Appropriate and efficient responses to obstetric and neonatal emergencies are essential for improving maternal and perinatal health outcomes. Through the Linda Afya ya Mama na Mtoto project, PRONTO implemented in service trainings in emergency obstetric and neonatal care for providers at 26 primary level health facilities in Kakamega County, Kenya.

Method: From 2013 to 2014, 177 healthcare providers participated in six PRONTO trainings in Kakamega, Kenya consisting of Modules I and II trainings, 2-3 months apart. Knowledge of obstetric hemorrhage, neonatal resuscitation, shoulder dystocia, pre-eclampsia, and teamwork concepts were assessed in addition to a teamwork self-assessment. During the Module I training, participants were asked to develop strategic goals to improve care for mothers and infants in their facilities, informed in part by their PRONTO simulation training. Completion of these goals was assessed at the Module II training, and again during follow up site visits three to eight months later.

Results: Preliminary analyses of the pre/post test scores at Module I show a 24 percentage point increase in knowledge of obstetric hemorrhage (p < 0.0001), 20.1 percentage point increase in knowledge of neonatal resuscitation (p < 0.0001), and a 23 percentage point increase in knowledge of teamwork concepts (p < 0.0001). These changes were sustained when comparing scores post Module I with post Module II (p = 0.83, 0.71, 0.62, respectively). At Module II, providers achieved 86% of the 155 strategic goals set during Module I. By the site visits, providers had developed an additional 33 goals, and accomplished 99.4% of 188 strategic goals.

Conclusions: These results suggest that PRONTO trainings are well received in Kakamega County, resulting in improved provider knowledge and a high rate of strategic goal achievement. Continued investment in trainings and provider empowerment to decide and implement changes within their facilities are required for continued improvement in maternal and perinatal health outcomes.

FCS10.2 UTERINE BALLOON TAMPONADE AS A TREATMENT TO AVOID SURGICAL INTERVENTION IN UNCONTROLLED POSTPARTUM HEMORRHAGE: A MULTINATIONAL QUALITATIVE ASSESSMENT OF DOCTOR PRACTICES AND PERCEPTIONS

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Objectives: The purpose of this study is to investigate the impact of introduction of uterine balloon tamponade (UBT) on doctor clinical management of uncontrolled postpartum hemorrhage (PPH) in healthcare facilities in Kenya and Senegal, and to assess the effect of UBT training on provider decisions regarding surgical intervention in future cases of uncontrolled PPH.

Method: The sample for this study consisted of all doctors from healthcare facilities in Kenya and Senegal who had received condom catheter UBT training developed by Massachusetts General Hospital in collaboration with the Ministry of Health of Kenya and Kisumu Medical Education Trust, and who had implemented UBT subsequent to training. In total 20 Kenyan and 10 Senegalese doctors were interviewed, of whom 10 were attending doctors, 7 were Ob/Gyn residents, and 13 were medical officers. Semi-structured qualitative interviews were conducted with providers using a standardized guide, and interview transcripts were analyzed independently by two researchers using NVivo10 (QSR International).

Results: Thirty of the thirty-one doctors who received UBT training in Kenya and Senegal and subsequently implemented UBT were interviewed. The majority of providers (86.7%) responded that if they had not received UBT training, they would have performed hysterectomy in the cases of uncontrolled PPH that they instead managed with UBT. Only two providers reported a patient requiring hysterectomy after placement of UBT. All doctors responded that they believed that UBT prevented women from being taken to surgery in cases of severe PPH, and all doctors reported that they would continue to use UBT in future cases of PPH.

Conclusions: Following UBT training, doctors in Kenya and Senegal are effectively using UBT rather than surgical intervention as the next step in management of uncontrolled PPH. This study provides evidence that UBT training may be leveraged to reduce surgical intervention in cases of uncontrolled PPH.

FCS10.3 MODELING THE IMPACT AND OUTLINING THE VALUE PROPOSITION FOR A LOW-COST UTERINE BALLOON TAMPONADE FOR THE MANAGEMENT OF POSTPARTUM HEMORRHAGE

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Objectives: Uterine balloon tamponade (UBT) is an effective second-line intervention for the management of postpartum hemorrhage (PPH) when standard methods of care fail or are unavailable. However, the high cost of current devices, and other factors, limit its use in low-resource settings. The main objective of the study was to quantify the potential impact that a low-cost UBT could have on women suffering from uncontrolled PPH in low-resource settings. The study estimated the innovation’s potential to save lives, prevent severe anemia cases from occurring and avert surgeries using the Maternal and Neonatal Directed Assessment of Technology (MANDATE) model.

Method: PATH reviewed publically available literature to determine key model inputs (penetration, utilization, and efficacy) for three different settings (home, clinic and hospital). The modeling work as-
sumed that the UBT would be available to women who give birth in clinics or hospitals and receive a uterotonic but fail first-line treatment. Sensitivity analysis was performed on the UBT efficacy variable in patients that lose > 1000 mL of blood due to the uncertainty in this value. The MANDATE model outputs were obtained for the sub-Saharan (SSA) region in the year 2018. SSA was chosen due to the high burden of treatable PPH.

Results: The base impact modeling estimated that a low-cost UBT could save 6,547 lives (11% reduction in maternal deaths) and avert 10,823 surgeries in SSA in the year 2018. In addition, PATH estimated that 634 severe anemia cases could be averted by extrapolating from the model’s severe hemorrhage averted results.

Conclusions: The low-cost UBT modeling results highlight the innovation’s strong potential to save lives, reduce morbidity and reduce costly downstream interventions for women that give birth in a healthcare facility. The modeling supports continued investment in the development and scale low-cost UBT options and further cost-effectiveness research.

**FCS10.4**

**MASSIVE POSTPARTUM HAEOMORRHAGE AND MASSIVE BLOOD TRANSFUSIONS – THE ROLE OF THE ABNORMALLY INVASIVE PLACENTA**


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Objectives: Massive bleeding after childbirth is associated with a high incidence of maternal mortality and morbidity including hysterectomy and complications related to multiple blood transfusions. The aim of this study was to identify risk factors associated with development of postpartum haemorrhage (PPH) requiring multiple blood transfusions, thereby identifying possible future areas of prevention. Furthermore we wanted to investigate the success rate of procedures attempted before haemostasis.

Method: We combined The Birth Registry, The Patient Registry and The Danish Transfusion Database from 2001 to 2009 identifying all Danish births requiring ≥ 10 transfusions of red blood cells within a 24 hour period and occurring up to 6 weeks postpartum. Information from the databases was then validated and supplemented through medical records. Surgical control of the bleeding was defined as a dry operating field with stable parameters without the need for further surgical intervention.

Results: Out of a total of 486,431 deliveries, 251 women required ≥ 10 units of red-blood-cell transfusions, with 245 having available medical records. Two of the 245 women died due to the massive haemorrhaging. Peripartum hysterectomy was performed in 53% of the women, with 71% resulting in haemostasis while the median amount of blood loss was 7,150 ml. Abnormally invasive placenta (AIP) was found in 56 women (23%), where 7 (13%) were diagnosed before birth. Placenta previa was found in 57% of all AIP cases and 4% of all non-AIP cases; in contrast 80% of woman with placenta previa had AIP.

Conclusions: Massive bleeding following childbirth can have severe consequences even in the developed world. Hysterectomy does not always lead to haemostasis, with the success rate highly influenced by the aetiology of PPH, prior procedures and transfusion therapy.
FCS10.6
RISK PREDICTION MODELLING FOR OBSTETRIC WOMEN IN INTENSIVE CARE – THE COLLABORATIVE INTEGRATED PREGNANCY HIGH-DEPENDENCY ESTIMATE OF RISK (CIPHER) GLOBAL STUDY

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Objectives: Currently there are no existing critical care outcome prediction models that accurately predict mortality in pregnant and postpartum women. Existing Intensive Care Unit (ICU) models overestimate pregnancy mortality risk, partly due to unique physiology. To help identify severely ill obstetric women at greatest risk of mortality or life-threatening morbidity, a novel outcome prediction model is required:

- designed specifically for ICU-admitted obstetric patients
- optimized for any cause of maternal morbidity/mortality
- applicable to low and high-income settings.

Our objectives were to: 1. identify variables which predict adverse outcome in critically ill pregnant and postpartum women; 2. develop an obstetric risk prediction model.

Method: Fourteen sites in a global collaborative study comprising 11 countries worldwide were enrolled. Comprehensive retrospective data were collected from participating tertiary centres for 797 pregnant or recently pregnant women (within 6 weeks of delivery) admitted to ICU for more than 24 hours from 2000–2010. Candidate predictor variables included demographics, symptoms, vital signs and laboratory measures. A risk prediction model, CIPHER, was developed to predict risk of death or severe morbidity (prolonged duration of organ support >7 days), in women admitted to ICU using step-wise multivariable logistic regression analysis. Risk of mortality was also calculated using the previously-published APACHE 2 score.

Results: Initial analysis on completed datasets of 507 cases from 12 sites showed a combined outcome rate of 19.5% (99/507); 9.9% (50/507) mortality and 15% (76/507) prolonged organ support. Following multivariable analysis, six variables were retained as significant predictors of adverse outcome. These included Glasgow Coma Scale and laboratory measurements of coagulation, liver and renal function with high area under the Receiver Operating Characteristic (ROC) curve of 0.89 (95% CI 0.85–0.93) for combined outcome. The CIPHER model had increased discrimination for mortality (AUC ROC 0.88, 95% CI 0.83–0.92) compared with APACHE 2 (AUC ROC 0.82, 95% CI 0.76–0.87) in this cohort.

Conclusions: The area under the ROC curve of the CIPHER model suggests excellent discrimination and future clinical utility. Developed specifically for obstetric patients, CIPHER contains fewer variables and has higher discrimination than APACHE 2, a commonly used general ICU prediction model. CIPHER is a promising first step in the development of a tool for predicting adverse maternal outcome in ICU-admitted pregnant and postpartum women. Ultimately, we hope to apply CIPHER in worldwide settings to reduce the burden of pregnancy-related morbidity and mortality.

FCS10.7
SKILLED BIRTH ATTENDANCE, INSTITUTIONAL DELIVERIES AND MATERNAL, PERINATAL AND NEONATAL MORTALITY IN SOUTHERN AND CENTRAL INDIA

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Objectives: Most maternal, perinatal and neonatal deaths occur at or shortly after labor and delivery. Skilled birth attendance (SBA) and institutional delivery have been advocated for reducing maternal, perinatal and neonatal mortality (MMR, PMR and NMR respectively). India has successfully implemented various strategies to promote skilled birth attendance and incentivise institutional deliveries in the last 5 years. This study evaluates the trends in skilled birth attendance, institutional delivery, MMR, PMR, NMR, and their risk factors in two Eunice Kennedy Shriver NICHD Global Network for Women’s and Children’s Health Research sites, in Belgaum and Nagpur, India, between January 2010 and December 2013.

Method: Descriptive analyses, stratified by level of delivery care and key risk factors, were conducted for 36 geographic clusters providing 48 months of data from a prospective, population-based surveillance system that registers all pregnant permanent residents in the study area, and their pregnancy outcomes irrespective of where they deliver, with over 99.8% follow up at delivery and 42 days postpartum. An annual household survey of married women of reproductive age ensures completeness of the registry enrollment from the catchment area. Log binomial models with generalized estimating equations to control for correlation of clustered observations were used to test the trends significance.

Results: 64,803 deliveries were recorded in Belgaum and 39,081 in Nagpur. SBA increased from 92.8% to 96.6% in Belgaum and from 91% to 98.9% in Nagpur. Institutional deliveries increased from 92.6% to 96.1% in Belgaum and from 89.5% to 98.6% in Nagpur (both p<0.0001). MMR declined, from 169.2 to 87.2 per 100,000 live births in Belgaum and from 132.1 to 122.9 in Nagpur. PMR declined, from 41.3 to 34.6 (p=0.008) per 1,000 births in Belgaum and from 47.4 to 40.8 (p=0.09) in Nagpur. Stillbirths declined, from 22.5 to 16.3 per 1,000 births in Belgaum and from 29.3 to 21.1 in Nagpur (both p=0.002). NMR remained unchanged.

Conclusions: While hemorrhage and hypertensive disorders were commonly associated with maternal deaths, most neonatal deaths were attributed to birth asphyxia and low birth weight/prematurity. Significant increases in skilled birth attendance and institutional deliveries, particularly in hospitals, were accompanied by reductions in MMR, stillbirths and PMR, but not by NMR. Increasing cesarean rates and training of birth attendants for newborn resuscitation may partially explain the reductions in MMR and stillbirths. Improved quality of care and ensuring that all women experiencing complications seek and receive timely appropriate skilled birth attendance and institutional delivery are needed to further advance maternal, perinatal and neonatal survival.
EVALUATION OF COMMUNITY MATERNAL DEATH SURVEILLANCE AND RESPONSE IN SAVING MOTHERS, GIVING LIVES DISTRICTS – UGANDA, 2012–2013

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Objectives: Saving Mothers, Giving Life (SMGL) is a public-private partnership which aims to reduce maternal mortality by using a comprehensive approach with interventions at the community, facility, and district levels. Maternal Death Surveillance and Response (MDSR) is an effective process designed to monitor and respond to maternal deaths and evaluate the impact of actions towards reduction of maternal death. MDSR was implemented in Phase 1 of the SMGL initiative in 4 districts in Uganda, integrated with the Uganda Ministry of Health’s community health platform. We assessed the MDSR system to provide recommendations for future actions to inform implementation, feasibility and utilization.

Method: We used a mixed-methods approach based on the United States Centers for Disease Control and Prevention Guidelines for Evaluating Surveillance Systems. We evaluated the surveillance system for simplicity, flexibility, acceptability, sensitivity, predictive value positive, timeliness, and usefulness of data. For qualitative assessment, we assessed current activities and interviewed staff and stakeholders to evaluate current practices, difficulties, and future goals. For quantitative assessment, we analyzed data collected from the maternal death surveillance system, and compared it to a gold standard Reproductive Age Mortality Study conducted for the same period of time covered by MDSR (June 2012–May 2013).

Results: Usefulness of the MDSR system was high; findings of reduction of maternal mortality, confirmed by the gold standard, demonstrated a proof of concept for the SMGL model. The system was flexible, highly acceptable, and highly representative (98% of villages in the 4 districts participated). Data quality was relatively good, with item-nonresponse of 20% and duplication of records of 3%. Sensitivity and positive predictive value were moderate (72%, 73%). Timeliness was poor with 0 cases meeting established guidelines for rapid notification and reporting. Stability was moderate; financial resources lapsed and led to interruptions in data collection.

Conclusions: This assessment shows MDSR is feasible at the community level through a well-coordinated effort. This system was implemented successfully in a short time period, possible because of integration with existing Uganda Ministry of Health community health system. Strengths of the system include representativeness, acceptability, and usefulness. Further efforts should focus on improving sensitivity, timeliness, and data quality by continuing building capacity of data collectors, standardizing protocols, and introducing an informatics system. The “R” component of MDSR should be strengthened by formalizing district review and response committees. The MDSR system should be expanded to other areas of Uganda.

Addressing Maternal Mortality

FCS11.1

CAESAREAN SECTION RATES IN RURAL SOUTHERN TANZANIA: RESULTS FROM TWO LARGE CONSECUTIVE HOUSEHOLD SURVEYS IN 2007 AND 2013

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Objectives: The population based Caesarean section rate is considered as an indicator of access to lifesaving obstetric care in low-resource settings. Caesarean section can prevent maternal and perinatal morbidity and mortality, if medically indicated. However the intervention bears risks, particular when done in hospitals that may not be able to ensure highest safety standards, why over and under-utilization of Caesarean section needs to be monitored. Here we present changes in the Caesarean section rates in relation to distance to a hospital including 22,243 and 15,373 livebirths in the year prior to two large household surveys done in 2007 and 2013.

Method: We visited in 2007 all 245,000 households in five districts and included a sample of 185,000 households in 2013 in six districts in Southern Tanzania. Geographical positioning was assessed. Household assets were recorded to compute a wealth index. Identified women of reproductive age (12–49 years) which had a livebirth in the year prior the survey were asked where she delivered and whether she delivered by Caesarean section. We calculated the distance from home to the nearest hospital. Multilevel logistic regression was used to assess the effect of distance to a hospital on Caesarean section adjusted for socio-demographic variables.

Results: The proportion of birth by Caesarean section was 4.1% in 2007 and 6.4% in 2013. Levels were as high as 8.0% and 12.3% within 5 km distance to a hospital and reduced to levels of 2.8% and 3.5% if the mother lived more than 35 km from a hospital, in 2007 and 2013, respectively. The odds to deliver by Caesarean section was 50% and 70% lower, in 2007 and 2013, respectively, if the mother resided more than 35 km from a hospital compared to less than 5 km (adjusted Odds Ratio 0.5, 95% CI: 0.3–0.8 in 2007 and 0.3, 95% CI: 0.2–0.5 in 2013).

Conclusions: Overall Caesarean section rates increased in this rural area between 2007 and 2013, but most of the increase was in distances of less than 5 km to a hospital whereas in places of distances of over 35 km Caesarean section rates are still low.

ADDRESSING HIDDEN BARRIERS TO INSTITUTIONAL DELIVERIES – A KEY INTERVENTION FOR REDUCING MATERNAL MORTALITY IN RURAL ZAMBIA

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Objectives: In Zambia, majority rural women deliver at home without skilled birth attendants, leading to high maternal mortality rate (MMR) 591/100,000 live births; among highest worldwide. 60% Zambians live below poverty line. Institutional delivery by skilled birth attendants is considered most important strategy to reduce MMR. Institutional deliveries are low (48%) despite high antenatal attendance (93%). An important barrier to institutional delivery iden-
tified was demands by health providers requesting women to bring delivery supplies and mother/baby clothes. The aim of this study was to determine the effect of provision of non-financial incentives on institutional deliveries in rural Monze district, Zambia.

**Method:** A one-year prospective community intervention trial was conducted from Jan- Dec 2014 supported by UNICEF and WHO. Two comparable rural regions in Monze separated by a central urban region, the intervention arm expectant women who chose to give birth at health facility received a mother-baby delivery-pack at health facility containing basic hygienic delivery supplies as non-financial incentives and the control arm continued with routine health services. The primary outcome measure was comparison of the number of institutional deliveries in the two arms over one year, as well as comparing institutional deliveries before (2012 & 2013) and after (2014) the intervention.

**Results:** There was a 43% increase in institutional deliveries in the intervention arm in 2014 (n=2396) compared to 2013 (n=1674; p<0.000) and 2012 (n=1680; p<0.000), while in the control arm the numbers of deliveries did not significantly change over the three years (2012 n=1182; 2013 n=1322; 2014 n=1182; p=0.103).

**Conclusions:** The mother-baby delivery pack provides a high-impact, low-cost, easier-to-replicate and scale-up intervention using existing systems in the health sector. The pack was developed responding to the hidden barriers to institutional deliveries identified and expressed by the end users in the community through a cross-sectional survey conducted earlier during the commencement of the study. The study results provide scientific evidence for policymakers to design effective interventions to overcome reversible barriers that hinder utilisation of health facilities by pregnant mothers, a key intervention for reducing maternal mortality.

**FCS11.3**

**MAGNESIUM SULPHATE IN ECLAMPSIA AND PRE-ECLAMPSIA – A CASE SERIES OF 103 PATIENTS TREATED WITH ULTRASHORT REGIMEN AT A TERTIARY CARE HOSPITAL IN PAKISTAN**

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**Objectives:** To determine the efficacy and safety of ultrashort regimen of magnesium sulphate (loading dose of 14 grams only) in the treatment of eclampsia and pre-eclampsia.

**Method:** The study was conducted at Holy Family Hospital, Rawalpindi, Pakistan over a period of three years (Jan 2012-Dec 2014). It was a case series of 103 patients who reported with history of seizures or were admitted due to severe pre-eclampsia. The patients were given 4 grams I/V bolus plus 10 grams I/M stat as the sole anticonvulsant agent. Other aspects of the management were as in the standard practice. Standard outcome measure was the occurrence of seizure within next 24 hours. The labour events and neonatal outcomes were also observed. All the observations were recorded on a specially designed proforma.

**Results:** Sixty one eclamptics and 42 with severe pre-eclampsia were included. The mean age was 27.0 years. Patients belonging to urban and rural areas were 47 (45.6%) and 56 (54.3%) respectively. 49 (47.5%) patients were primigravida. 48 (46.6%) were P1–4 and 6 (5.8%) were ≥P3. In 42 (68.8%), seizures were observed antenatal, 5 (8.1%) intrapartum and 14 (22.9%) postpartum. Forty four (42.7%) patients were at term. Seizures occurred in 6 (5.8%) patients after this therapy. There were 66 (79.5%) SVDs, 17 (20.4%) emergency LSCS and 20 (19.4%) planned LSCS. In 65 (63.1%) deliveries, the neonates were alive and healthy, while there were 38 (36.8%) perinatal deaths. There was only one maternal mortality (0.9%).

**Conclusions:** This low dose regimen can be used safely in eclampsia and pre-eclampsia with good seizure control and less chances of toxicity. It is a good dosage option to reduce the maternal mortality related to the hypertensive disorders of pregnancy especially in low-resource countries as it will reduce the cost and the need for skilled manpower.

**FCS11.4**

**THE ROLE, OPPORTUNITIES, ACCOMPLISHMENTS AND IMPLICATIONS WORLDWIDE OF THE OBSTETRICIAN-GYNECOLOGIST IN THE HUMAN RESOURCES FOR HEALTH (HRH) PROGRAM IN RWANDA**

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**Objectives:** Rwanda is a Central African country and home of 11 million. The HRH Program was launched in 2012 to address the country’s severe shortage of healthcare professionals. The 7 year program established a strong collaboration between the Rwandan Ministry of Health, Clinton Health Access Initiative, academic medical centers and universities in Rwanda and U.S. Ten OB-GYN from U.S. institutions of various backgrounds have been deployed so far to partner with Rwandan colleagues in developing post-graduate education in OB/GYN and improve health care especially maternal mortality. Our objective was to evaluate the HRH OB-GYN program.

**Method:** We reviewed the role, opportunities, accomplishments, challenges and implications worldwide of the OB-GYN in the HRH program in Rwanda since the start of the program in achieving its goals.

**Results:** The OB-GYN have taught at 2 teaching hospitals, 1 district and 2 referral hospitals. Along with their 15 Rwandan colleagues, they participated in curriculum development, training, and testing of 50 OB-GYN residents and 200 medical students increasing the number of trained medical students and residents. They also participated in daily clinical bedside teaching. Protocols, updated clinical guidelines and quality measures have standardized care and prevented maternal deaths. Weekly maternal mortality conferences with all providers and a formal evaluation process to track resident progress were established. The quality and needed retention of residents and medical students have improved.

**Conclusions:** OB-GYN involvement in the HRH program in Rwanda has resulted in numerous achievements in the first 3 years. By fully engaging Rwandan and U.S. health care professionals, the OB-GYN component of the HRH program has the opportunity to make significant progress in developing and increasing Rwanda’s healthcare capacity. There has been improvement in the quality, training and performance of medical students, residents and midwives. This model also shows what collaboration between African and other worldwide Ministries of Health, U.S. academic medical centers and universities in Rwanda can accomplish in together to improve maternal health care.
**FCS11.5**
**CONDOM CATHETER CAN PREVENT HYSTERECTOMY AND AVERT MORTALITY IN OBSTETRIC AND GYNAECOLOGICAL BLEEDING. A RETROSPECTIVE CASE STUDY OF NEAR-MISS MORTALITY DUE TO MASSIVE VAGINAL BLEEDING (OBSTETRIC AND GYNAECOLOGICAL) IN 26 PATIENTS WITH HEMORRHAGIC SHOCK**

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**Objectives:**
1. Study of near-miss mortality due to vaginal bleeding.
2. Use condom catheter, to arrest vaginal bleeding.
3. Primary care of patient in PPH before shifting to tertiary centres.
4. Avoid postpartum hysterectiony and avert mortalities.

Haemorrhage is leading cause of death in women. When patient looses 30–40% (2–2.5 lit) of blood, internal compensatory mechanism start failing and patient has risk of imminent death if medical management and uterine massage fails to control bleeding, use of condom catheter arrests bleeding and prevent patient from going into multiple organ failure, DIC (Disseminated Intravascular Coagulation) and death.

**Method:** When traumatic cause for bleeding was ruled out and medical management failed to control bleeding, balloon tamponade was done with condom catheter. It was made by tying condom snugly to Foley's catheter by thread and inserted into the uterine cavity. In case of post partum haemorrhage (PPH) condom filled by 350–400 ml saline. In non-obstetric cases Foley's catheter parse used and filled with 6–7 cc of saline. Patients were observed for half an hour to monitor arrest of haemorrhage and vitals. If vitals improved device was kept for 12–18 hrs and then removed.

**Results:**
- All patients required blood transfusions. Out of 26 patients 22 (84%) patients with PPH, two (7.6%) with massive bleeding due to fibroids (Hb%-1.5gm%) and two (7.6%) bleeding post MTP (arterovinous malformation).
- Out of 22 obstetric patients, 5 (22%) placenta privia with placental bed bleeding and 17 (77%) atonic PPH. All went into shock stage III -IV but responded to balloon tamponade.
- 14 normal labour and 8 caesarean sections.
- 9 (34%) patients shifted to ICU due to DIC and Shock with condom catheter in situ.
- No mortalities reported.
- 1 (3.8%) required postpartum hysterectomy (lower segment atony).

**Conclusions:** Condom catheter by pressure and by clot formation helps to control bleeding in patient where medical line fails to control bleeding. It gives time in those golden hours of PPH where every minute and action and drop of blood is precious. It can be done easily at low resource setting, without any special training. Foley’s catheter can be used in gynaecological or post MTP bleeding for balloon tamponade. It gives time to send patient to Tertiary care centre or Interventional Radiotherapy centre for further management with condom catheter in situ. It averts postpartum hysterectomy and mortalities.

**FCS11.6**
**KNOTLESS EPISIOTOMY – A BETTER OPTION. A COMPARATIVE STUDY FROM PRIVATE HOSPITAL, NAGPUR, INDIA**

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**Objectives:**
- To reduce pain of episiotomy.
- To improve post labor comfort.
- To prevent complications of episiotomy.
- To find a cost effective suturing technique.
- To promote early comfortable breastfeeding.

**Method:** Comparative study of Knotless episiotomy (n=200) continued suturing and control group (n=200) interrupted sutures over 3yrs. Knotless episiotomy started from apex at vaginal mucosa to vulva, from vulva to transverse perinei muscles in continuation, sutured in two layers with deep chunks. Care taken not to leave any dead space. Edges of bulbocavernosus approximated. Skin-sutting in continuation of muscle done subcutaneously from base to apex of episiotomy. The tip of episiotomy suture was brought out of skin and left leaving 1.5 cm. Chromic catgut 0–0 used. Statistical analysis was done by Chi Square & Fisher exact test. Pain scale (1–10) applied.

**Results:** Knotless episiotomy is easy technique with no complications as compared to interrupted suture technique. There was significant reduction in in durations p=0.032 (S), superficial gapping p=0.007 (S), pricking sensation of knots p=0.002 (S) with early and comfortable resumption of breast feeding p=0.001 (S). Median score for pain was lower amongst study group (4 range) compared with control (8 range). Complete gapping (p=0.06) and sepsis (p=0.5) were NS (not significant). Analgesics were needed for 8–10 days in control compared to 3–4 days in study group. Amount of analgesics & length of suture material required were less.

**Conclusions:** Knotless episiotomy is easy to perform for doctors, safe and comfortable for patient too. Women resume breastfeeding early and comfortably due to less pain. As there are no knots, no nidus for infection. Mucosal apex to skin forms single compact compartment giving adequate pressure and homeostasis and so no gapping. No hematoma formation as no dead space is available. As there are no knots there is no prickly or pain sensation to the patient. Less analgesic, less antibiotics, less suture material and less time to suture make knotless episiotomy cost effective procedure.

**FCS11.7**
**MATERNAL MORTALITY DUE TO POSTPARTUM HAEMORRHAGE – FROM DELAYS TO ADVANCES: TOO LITTLE TOO LATE**

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**Objectives:** To: 1. determine the major causes of delays in maternal mortalities due to Postpartum Haemorrhage (PPH); 2. discuss the latest advances in management of PPH for each level of delay identified in PPH mortalities.

**Method:** It was a prospective cross-sectional study design, with data collected over duration of one year from 1st July 2013 to 30th June 2014, involving all four Units of Department of Obstetrics & Gynaecology, Bolan Medical College, comprising two tertiary teaching Hospitals of the Province. Nonprobability purposive sampling was employed. Specifically designed SOGPs’s Maternal Mortality proformas were used & duly filled in by attending obstetricians for all maternal mortalities and analysed by SPSS version 17. Kirkpatrick’s model of evaluation was employed over modified 4-Delays’ model to recommend measures for reduction in PPH mortalities in view of advances in PPH management.

**Results:** For total number of 24,736 deliveries, 23,813 live births, the MMR was 201 per 100,000 live births. PPH was the leading direct obstetric maternal killer (n=34; 70%), occurring in women with parity of ≥5 (58.82%), in ages of 31–40 years (55.88%) and mean gestational age at delivery being ≥37 weeks (47%). In PPH mortalities, 97% had one or more (modified) delays; first delay in 3 (8.82%), second delay in 16 (47%), third delay in 12 (35%) and fourth delay in 3 (8.82%) cases. Furthermore, 55.88% were hospital vaginal deliveries with mean duration of stay at hospital of 6–12 hours (44%).

**Conclusions:** Majority of PPH mortalities due to delay in making decision to seek treatment implies the need for concerted efforts towards improvements in women’s health education and care, investments in referral hospitals providing emergency obstetric care with improvements in training of healthcare personnel.
FCS11.8
MOBILE OBSTETRIC MONITORING: A MODEL FOR COMMUNITY BASED ANTENATAL CARE DELIVERY IN A LOW RESOURCE SETTING
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Objectives: Indonesia’s Maternal Mortality Rate (MMR) remains among the highest in S-E Asia, with 190 maternal deaths for 100,000 live births. Governmental and non-Governmental groups have attempted various interventions to reduce MMR with varying degrees of success. We tested this unique team based model in the community facilitated by tele-health technology, to overcome issues of lack of human resources and Indonesia’s vast demography. One of the most important elements of team based care in a community setting is the philosophy of a practice focused on overcoming barriers to access to healthcare services.

Method: A case-control study with a cohort of 656 pregnant ladies was undertaken in Padang, with its population demographics representative of Indonesia. The participants were assigned to 6 GPs and midwives in their respective Puskesmas (Primary Care Centres). They teamed up with obstetricians from the Bunda Hospital to provide antenatal care facilitated by the MoM tele-health solution. This tool allows the midwives and obstetricians to access patient data anytime and anywhere, thus helping them to provide 24/7 ante-natal services, including home visits. The controls are pregnant ladies who were treated at the same primary care centres in the previous year.

Results: Our tele-health, team based model of care, is benchmarked against the current clinical practice on a number of indicators such as maternal mortality and morbidity, infant mortality and morbidity and patient engagement. No maternal death was found in this group comparing to 8 in 7000 deliveries of the same population. 14% of the ladies were identified as very high risk, and most were identified in early stage of pregnancy. Reduction of severe anaemia was significant and this was a major contributor in reduced incidence of post-partum haemorrhage. 94% of babies delivered had APGAR score of 8 and above.

Conclusions: Good antenatal care delivery model requires a service which is available 24/7, affordable, able to effectively screen high risk pregnancies and refer them to a higher center appropriately. Our model is scalable and can effectively address barriers which can help Indonesia to reach the MDG 5 goals of reducing maternal and infant mortality rates. Leveraging a tele-health platform to effectively offer high quality, “patient-centric” antenatal care has been demonstrated in this pilot study. The model also demonstrated its effectiveness in strengthening the referral system and also increasing the quality of care delivered by exploiting public-private partnerships.

FCS11.9
EVALUATION OF VACUUM DELIVERY TRAINING IN SUB SAHARAN AFRICA
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Objectives: Assisted vaginal delivery (AVD) is one of the least available Emergency Obstetric and Newborn care (EmONC) signal functions performed in sub-Saharan Africa (SSA). This is due to lack of training opportunities at both under-graduate and post-graduate levels. A competency based training workshop in vacuum delivery (VD) was conducted and evaluated at the 1st African Federation of Obstetrics and Gynaecology (AFOG) scientific conference in Nairobi, Kenya. The workshop provided a Continuous Professional Development (CPD) opportunity for skilled health professions, to improve their skills in vacuum delivery.

Method: Two trainers conducted three 2.5hour workshops for 18 participants per workshop, using short lectures, audiovisual materials and hands-on skills sessions. 44 participants from 6 SSA countries (Somalia, Somaliland, Uganda, Rwanda and Kenya) participated in the workshops. The participants consisted of 17 (39%) consultant obstetricians, 14 (32%) obstetric and gynaecology residents, 7 (16%) nurse/midwives, 1 reproductive health clinical officer and 3 medical officers (medical doctors not in post-graduate training).

Evaluation of the training was conducted at Kirkpatrick level 1 (reaction) and 2 (knowledge) using self-administered semi quantitative feedback sheets and multiple-choice questions administered before and after the workshop.

Results: 21 (51%) participants had less than 1 year experience, 5 (13%) had more than 10 years experience (all consultants), and only 6 (14%) residents had more than 1 year of experience with VD. Only 3 participants had any experience with obstetric forceps delivery. 77% (34) participants provided written feedback, common themes were high appreciation and satisfaction with the training, strong desire to use new skills and knowledge acquired, request for regular training, dissatisfaction with pre-training enquiry handling and appreciation of the potential impact VD training. The mean pre and post-workshop scores (n=33) were 56% and 75% respectively (33% improvement SD=20.3%).

Conclusions: Consultants (n=14) had the lowest average pre-training scores (53%, SD=17%) while obstetric residents (n=12) had the highest average pre-training score of 61% (SD=14%). Consultants (n=13) had the highest improvement score (35%, SD=21%) compared to 30% (SD=17%) for obstetric residents (n=11) and 27% (SD=11%) for nurse-midwives (n=6).

Specialist conferences are useful in providing CPD accredited training for obstetricians and gynaecologists. Training in VD needs to be strengthened at post-graduate level in SSA, this will likely increase safe delivery options for women and reduce the morbidity and mortality associated with difficult caesarean sections.

FCS12. Addressing Maternal Mortality

FCS12.2
THE SPATIAL EPIDEMIOLOGY OF MATERNAL DEATHS IN THE GAZA AND MAPUTO PROVINCES IN MOZAMBIQUE
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Objectives: The social and physical environments of a woman have an effect on her maternal health. The social determinants of health framework has been proposed as the paradigm through which this assertion is explored. However, operationalizing this framework in a manner that links these determinants to actual maternal health outcomes has been a challenge. This study aimed to explore the associations between maternal deaths and social and environmental risk factors in 36 localities in Gaza and Maputo Provinces in southern Mozambique.

Method: Socio-economic variables were collected using a census of all households with women of reproductive age (aged 12–49). Women suspected to have died in pregnancy or postpartum were identified during the process. Geographic Information Systems was
used to calculate environmental variables including driving times to health facilities and major roads, and the seasonal impact of floods on transport. Delphi consensus was conducted to prioritize all variables. Least Squares Regression was used to identify the statistically significant associations between the chosen variables and maternal mortality ratio for each locality. Geographically Weighted Regression was used to explore spatial non-stationarity of these associations.

Results: 14621 pregnancies were reported as having occurred in the 12 months preceding the census and there were 83 deaths suspected to have occurred in pregnancy or postpartum, pending a verbal autopsy. Five socio-economic and environmental factors, aggregated for each locality, showed a statistically significant association with maternal deaths. These factors are: 1) absent head of household; 2) unavailability of private transport; 3) marital status; 4) driving time to the nearest major road; and 5) driving time to the nearest primary health centre. Geographically weighted regression showed the spatial variation of the effect of each of these characteristics on maternal mortality.

Conclusions: The socio-cultural and physical environment influence the likelihood of maternal-related death. The framework used in this study is a contribution to operationalizing the measurement of social determinants of health and the effect they have on maternal outcomes. Showing the changing effect of environmental factors on maternal outcomes across space has potential to better target interventions, an approach that is especially crucial for low-resource settings.

FCS12.2
MOBILE PHONES AS A MONITORING TOOL TO IMPROVE OBSTETRIC HEMORRHAGE MANAGEMENT IN PRIMARY CARE FACILITIES IN TANZANIA

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Objectives: The widespread availability of mobile phones provides a new tool for monitoring public health interventions conducted in rural areas that are otherwise difficult to supervise. The mobile phone surveillance system was established across eight districts of Tanzania to provide an alternative method of monitoring the use of the Non-Pneumatic Anti-Shock Garment which was introduced as a means of improving management of obstetric hemorrhage. The system also enables mid-level providers working at primary care level to seek clinical support from specialized hospitals and facilitates referral processes including the dispatch of ambulances.

Method: As a component of the Ifakara Health Institute’s EMPOWER II maternal health project, 650 closed user group (CUG) phones were distributed to 277 rural facilities across four districts in Tanzania. These included 259 primary care facilities and 18 CemOC referral facilities. Phones were equipped with forms for immediate reporting of the occurrence of obstetric hemorrhage. EMPOWER II also distributed Non-pneumatic Anti-Shock Garments (NASGs) to keep hemorrhaging women stable during second and third delays. Data is sent from a java-enabled phone via GRPS to a central server, at a cost of USD 0.007.

Results: In the first three months of implementation, 24 women were reported to have used the NASG and information on the hemorrhage etiology, time intervals between the start of hemorrhage and receipt of treatment, transport information, treatments received and outcomes were able to be recorded on the form, which is then available in a live database. The sites are able to report shortages of uterotonic and blood for transfusion, two issues associated with maternal mortality. The phones also allow providers to make free calls to other sites in the network to facilitate referrals and to request an ambulance or advice.

Conclusions: The use of phones allows timely clinical management of patients through phone clinical support, expedites referral processes, allows for shared record keeping across the sites, reduces delays for data collection from field sites, and allows for timely identification of stockouts or problems relating to the use of NASG. Site-specific challenges to the appropriate management of obstetric hemorrhage were identified quickly, allowing for immediate correction and supplemental training on NASG usage to improve care.

FCS12.3
RAPID REDUCTION OF MATERNAL MORTALITY IN UGANDA AND ZAMBIA THROUGH THE SAVING MOTHERS, GIVING LIFE INITIATIVE: RESULTS OF YEAR 1 EVALUATION

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Objectives: The 2015 Millennium Development Goals (MDG) deadline is fast approaching and reaching the MDG 5 lags behind. Meeting this goal requires accelerating the pace of annual decline in maternal mortality to a level 17 times greater than the current rate of 2.9% per year. A new initiative introduced in Uganda and Zambia has proved highly effective in averting preventable maternal deaths. The impact of Saving Mothers, Giving Life (SMGL), a multi-partner initiative designed to reduce maternal mortality rapidly in high mortality settings through community and facility evidence-based interventions and district-wide health systems strengthening, is examined after its first year of implementation.

Method: An evaluation employing multiple data sources and methods was used to compare baseline maternal outcomes (June 2011-May 2012) to those documented at the end of Year 1 (June 2012-May 2013) in SMGL districts in Uganda and Zambia. Sources included health facility assessments, individual pregnancy outcome monitoring records, enhanced maternal mortality detection in health facilities, and an investigation of all reproductive-age female deaths and maternal deaths reported by communities using verbal autopsies. The impact of the initiative was assessed by examining population-based and facility-based maternal mortality ratios (MMR) per 100,000 live births and core emergency obstetric and newborn care (EmONC) indicators.

Results: The population-based MMR declined by 30% in Uganda (from 452 to 316). The MMR in facilities declined by 35% in each country-from 534 to 345 in Uganda and from 310 to 202 in Zambia. Institutional deliveries increased by 62% and 35%, respectively. The number of EmONC facilities rose from 10 to 25 in Uganda and from 7 to 11 in Zambia. All EmONC indicators improved: C-section rates increased by 23% and 15%, respectively; the proportion of births with severe obstetric complications attended rose by 25% and 23%; case fatality rates fell from 2.6% to 2.0% and 3.1% to 2.0%.

Conclusions: Maternal mortality fell significantly in one year in eight pilot districts in Uganda and Zambia following the introduction of the SMGL model. This decline was accomplished through a comprehensive district system strengthening approach that led to reductions in the “Three Delays”. Maternal mortality reductions of such a magnitude in one year show that it is possible to greatly accelerate progress in saving mothers’ lives. The lessons learned from SMGL can inform policymakers and program managers in other low and middle income settings where similar approaches could be utilized to rapidly reduce preventable maternal deaths.
1.12, p=0.46). Median periumbilical NFκB RNA expression was 1.02 and 0.88 (IQR: 0.42 and 0.42, p=0.71), peripheral expression was 1.22 and 1.04 (IQR: 0.61 and 0.42, p=0.17).

Conclusions: Retained placental tissue showed a tendency of lower median concentrations of GPX 1.1 and higher GPX 1.1 and NFκB RNA expression although the differences were borderline to not statistically significant. Large inter-sample variability in enzyme concentrations and RNA expression underlie the uncertainty of the differences seen. The results are however similar to the pattern of GPX and NFκB expression seen in several studies of preeclampsic placentas. This may warrant further investigation into the association between retained placenta and this disorder as well as a discussion of the role of oxidative stress and inflammation in the pathophysiology of retained placenta.

**FCS12.5**

**ENHANCING ACCESS TO EMERGENCY OBSTETRIC CARE THROUGH SURGICAL TASK SHIFTING IN SIERRA LEONE; PROGRESS REPORT OF THE FIRST 4 YEARS**

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Objectives: To train 60 medical doctors and community health officers to handle surgical and obstetrical emergencies at district hospitals in Sierra Leone within 2019.

Method: Seven students are enrolled twice a year in a surgical training program, run in collaboration between Sierra Leonean Ministry of Health and Sanitation, United Nation People Fund (UNFPA) and the Non-Governmental organization CapaCare. Initially the students receive six months of training in basic surgery and obstetrics followed by three times six-month rotations at partner hospitals throughout the country. If passing the examination after 24 months, they continue with one year junior medical training at tertiary governmental teaching hospitals. Curriculum is based on World Health Organization programme for Emergency and Essential Surgical Care.

Results: 31 students have been enrolled between January 2011 and August 2014. Eleven have passed their examination, of whom seven are in junior medical training posts, two are working in district hospitals, one is in surgical specialist training, and one have died from Ebola. 14 are in their initial two years of training; six have dropped out of the program due to slow progress in acquiring skills, or death from Ebola. Clinical rotations have been on hold since August 2014. By then the students had participated in 15 847 major surgeries. Almost half of the procedures have been emergency obstetric procedures.

Conclusions: Short course training to manage surgical and obstetrical emergencies is feasible in Sierra Leone and can contribute to enhance access to emergency obstetric care. The program is temporary suspended due to the Ebola epidemic.

**FCS12.6**

**POINT OF CARE ULTRASOUND USE FOR THE EVALUATION OF BLEEDING IN PREGNANCY IN A TERTIARY CARE HOSPITAL IN RWANDA**

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Objectives: Bleeding in pregnancy is a potential obstetric emergency. Ultrasound is recognized as an essential diagnostic tool for the identification of life threatening conditions such as placental abnormalities and ectopic pregnancy. Few studies, however, examine the use of ultrasound for the evaluation of pregnancy related bleeding in a low resource setting.

Method: We prospectively reviewed all patients admitted to the Kigali University Teaching Hospital (CHUK) for bleeding in pregnancy from 10/2014 through 2/2015. CHUK is the largest tertiary care teaching hospital. We assessed maternal demographics, presenting complaints prior to ultrasound, ultrasound findings, post ultrasound findings, treatment and maternal outcomes. Pre and post scan diagnoses were analyzed using SPSS.

Results: 386 patients were admitted during the time of the study. Of those, 51 (13%) presented with bleeding in pregnancy. All patients (100%) received ultrasounds in the obgyn triage. The primary indications for ultrasound evaluation were: suspected abortion 19 (37%), suspected ectopic 17 (33%), gestational trophoblastic disease 8 (16%), and fetal well being 7 (13%). Six patients presented for fetal well being and were diagnosed with placenta previa. One patient presented with a prescan diagnosis of suspected abortion and was noted to have a ruptured ectopic pregnancy. All seven patients received surgery and recovered.

Conclusions: Preliminary findings suggest that ultrasound can be a useful adjunct to the clinical exam in this low resource setting. Ultrasounds performed in the triage unit identified life-threatening conditions that may have gone undiagnosed or experienced delayed diagnoses.
FCS12.7
MEDICAL ABORTION PROVIDED BY NURSE-MIDWIVES OR PHYSICIANS IN A HIGH RESOURCE SETTING: A COST-EFFECTIVENESS ANALYSIS

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Objectives: To calculate the cost-effectiveness of early medical abortion performed by nurse-midwives compared to physicians in a high resource setting where ultrasound is part of the protocol, thus providing evidence to influence policy and clinical practice toward task shifting in termination of pregnancy.

Method: The cost-effectiveness of medical TOP performed by physicians or nurse midwives was calculated based on the clinical outcomes from a previously published randomized-controlled equivalence study of 1180 women seeking early termination of pregnancy in an outpatient family planning unit at a University Hospital in Stockholm, Sweden. The average direct costs of the intervention employing nurse-midwives and the standard procedure using physicians, and indirect costs of complications were calculated. The incremental cost-effectiveness ratio (ICER) was calculated for direct and total costs.

Results: The average direct costs per procedure were EUR 44 for the intervention compared to EUR 58 for the standard procedure. Costs of complications were EUR 11 less in the intervention group. Both the cost and the efficacy of the intervention were superior to the standard treatment resulting in a negative ICER at EUR –9 using direct costs and EUR –18 for total costs per additional percent increase in efficacy associated with the intervention. Women randomized to nurse-midwives (290/532) were significantly more likely to have a long-acting reversible contraception than women randomized to physicians (241/528, 95% CI: 3.2–15–2% P=0.004) which reduces society’s total cost for unintended pregnancies.

Conclusions: Medical termination of pregnancy provided by nurse midwives is cost-effective in a high resource setting where ultrasound is part of the protocol, thus promoting evidence to influence policy and clinical practice toward task shifting in termination of pregnancy.

FCS13. Addressing Violence Against Women

FCS13.1
NATIONAL CLINICAL GUIDELINES (PROTOCOLS) FOR THE HEALTH SECTOR ON VIOLENCE AGAINST WOMEN DURING PREGNANCY IN LATIN AMERICA AND CARIBBEAN PAHO MEMBER COUNTRIES

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Objectives: Intimate partner violence during pregnancy (IPV-P) is highly prevalent in Latin America and the Caribbean (LAC) with poor obstetric-related outcomes. Health-care providers have been identified as likely the first and most trusted professional contact for survivors (2013 Responding to IPV and Sexual Violence against Women: WHO Clinical and Policy Guidelines). Evidence-based national guidelines can play an important role in informing health-care providers on how to respond to intimate partner violence and sexual violence against women. This presentation surveys the prevalence of national policies and clinical guidelines on violence in LAC against women during or associated with pregnancy.

Method: Twenty-seven English, Spanish or Portuguese speaking countries were queried by email or telephone through PAHO focal points, internet searches, personal contacts or UN Women website.

Results: Out of 27 countries we obtained 15 national policies on violence against women, all of which addressed physical, emotional and sexual violence. We also obtained 12 clinical guidelines, all of which mentioned the importance of privacy, confidentiality and
It is therefore essential and indispensable to build on ized women’s voices and realities on the ground. The intersectional approach.

Results: It appears there are gaps in developing national policies and clinical guidelines on violence against women during and associated with pregnancy in LAC, including in the essential training of health-care providers. Notably only half of the obtained clinical guidelines included IPV-P. All PAHO member countries should develop and implement clinical guidelines (which include violence associated with pregnancy) reflecting the 2013 Responding to Intimate Partner Violence and Sexual Violence Against Women: WHO Clinical and Policy Guidelines.

FCS13.2
MENTAL HEALTH OF SURVIVORS OF DOMESTIC VIOLENCE IN RURAL NORTHERN INDIA. A QUALITATIVE, INTERSECTIONAL APPROACH

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Objectives: Domestic violence is a serious public health concern in India, having a devastating effect on women’s mental health. Due to socioeconomic factors, and gender discrimination rural women are marginalized and have negligible access to mental health care. It is therefore that the burden of mental disorders in rural survivors of domestic violence is presumably underrated, lacking adequate diagnosis and treatment facilities. This study aims to investigate the complex phenomenon of domestic violence on a community level by focusing on mental health in rural marginalized survivors of violence in district Kangra, Himachal Pradesh, North India, following a critical, intersectional approach.

Method: A qualitative approach was used, primarily utilizing participative methods, foremost in-depth interviews with 23 women facing domestic violence. Additionally, stakeholders from nonprofit organizations, physicians and social workers were involved from the beginning. Written informed consent was obtained from every participant.

Results: The overall findings indicate serious mental health challenges are present amongst rural marginalized women who face domestic violence. Mental health is found a neglected and stigmatized issue amongst survivors of domestic violence. The intersectional analysis highlights the simultaneous interaction of multiple forms of violence and underscores the need for including marginalized women’s voices and realities on the ground.

Conclusions: It is therefore essential and indispensable to build on future strategies for community mental health care and develop a methodology for sustainable prevention of domestic violence.

FCS13.3
PREVALENCE OF AND RISK FACTORS FOR DOMESTIC VIOLENCE AMONG PREGNANT WOMEN IN NIGERIA

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Objectives: To assess the prevalence, pattern and background factors precipitating domestic violence in a population of antenatal clinic attendees.

Method: This was a cross-sectional questionnaire-based study. A structured questionnaire was used to assess pregnancy related violence among 439 patients during their postnatal visit between July and December 2012. Analysis was done using statistical software SPSS 17.0. Logistic regression was performed to assess the impact of factors that affect experience of violence.

Results: The prevalence of domestic violence was 13.7% before pregnancy: 17.5% in the recently concluded pregnancy. Domestic violence had a decreasing order from first trimester to puerperium (p < 0.0001). Adolescent pregnancy (adjusted odds ratio [aOR] 49.25; 95% confidence interval [CI], 7.60–319.07) and experience of violence within the 12 months prior to pregnancy (aOR 98.99; 95% CI, 35.47–276.30) were significantly related to domestic violence in pregnancy.

Conclusions: Domestic violence is prevalent in the obstetric population of southwestern Nigeria. Screening for violence should become a component of comprehensive maternity care to enable early identification and management. Given the independent association of adolescent motherhood, efforts to reduce adolescent pregnancy should be intensified.

FCS13.4
CAN WE REDUCE SEX CRIMES IN MALAYSIA?

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Objectives: Malaysia is committed to United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and Rights of the Child (UNCRC) but the sex crimes are continued to escalate in the peninsula. The rape was only 1.0% of all the crimes from 2005 to 2011, but within 2012 to 2014 it had increased to 2.1%. The incidence of rape in the year 2000 was 1,217. In 2005 it had increased to 1,931 and in 2010 it increased to 3,595 Ten women are raped daily.

Can we reduce the sex crimes in Malaysia?

Method: This is the retrospective study of articles published between the year 2000 to 2015 pertaining to sex crimes in Malaysia. Reports of Parliament, Royal Malaysian police, government departments and non governmental organizations were analysed. Sex crime is a spectrum from sexual harassment (repeated unwelcomed verbal, non-verbal, visual, psychological or physical conduct of a sexual nature), molestation, sexual assault (includes forced anal sex, insertion into vagina, mouth) to rape (insertion of the penis into vagina against will, sex with under 16 years of age with or without consent).

The study focus at reported cases of rapes.

Results: In the year 2013, out of the 2,767 cases reported, 398 victims were under 12 years. 591 (21.3%) offenders were under 18 years. The median age of the Malaysian culprit was 41.7. In united States, 80% of the offenders were below 30 years. Among the 11,493 rapes reported from 2000 to 2006, surprisingly 9654 (84%) were committed by known people and 1839 (16%) by unknown persons. Between 2000 to 2005, the reported cases were 9064. Out of which 1541 (17%) were by very close relatives. Molestation had also escalated from 1,234 in the year 2000, to 2,054 in 2010.

Conclusions: 484 human trafficking victims were rescued from February 2008 to July 2010. Among these, 291 were sex trafficking victims and 25 were below the age of 18. From March 2010 to February 2011, eleven people were convicted of sex trafficking. The offenders should be managed with cognitive-behavioral, psycho-educational and pharmacological treatment. Community based mass media awareness and health education group seminars with involvement of religious, social leaders and strict enforcement of law can reduce sex crimes in Malaysia. The goal of sex offender policies is to prevent future victimization.
FCS13.5
PREVALENCE, INSTIGATING FACTORS AND HELP SEEKING BEHAVIOR OF PHYSICAL DOMESTIC VIOLENCE AMONG MARRIED WOMEN OF HYDERABAD, SINDH, PAKISTAN
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Objectives: To find out prevalence, instigating factors and help seeking behavior of physical domestic violence against married women.
Method: A total of 378 married women who were attending Department of Obstetrics & Gynaecology, Liaquat University Hospital, Hyderabad, Pakistan from January 1, 2013 to March 31, 2013 for different obstetrical & gynaecological problems were randomly selected and interviewed. After informed consent, required information was collected on predesigned performa including demographic details, prevalence, instigating factors, help seeking behavior for physical domestic violence.
Results: 31% (120) of women reported lifetime physical domestic violence. Husbands and in-laws were perpetrators in 70% (84) and 30% (36) cases respectively. Wives being disobedient and making arguments were the most common instigating factor for violence followed by husband’s drug addiction, extra marital relationship and infertility. It was severe enough to require medical care in 24% (29) cases. Only 2% (2) women sought social and legal aid.
Conclusions: Domestic violence was quite common among Pakistani married women, however help seeking was minimal. There is need to identify and address this menace effectively in order to decrease the sufferings of women.

FCS13.6
FEMALE SEXUAL FUNCTION 6 MONTHS AFTER SEXUAL ASSAULT
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Objectives: Prior studies have addressed associations between sexual assaults and sexual function and compared to nonvictimized women. However, no studies have been conducted trying to prospectively follow women after the rape and examine possible risk factors for the development of sexual dysfunction.
Method: Hundred thirty six women were recruited from the Emergency Clinic for Raped Women at Stockholm South Hospital acute after a sexual assault and 79 women completed the 6 months follow up. Completers were evaluated regarding their sexual function before and after the rape by using the FSFI (Female Sexuality Function Index) where an extra question had been added about the function before the rape, Post Traumatic Stress Disorder (using a structured interview) and demographics.
Results: Impaired sexual function was reported by 71%, while 20% reported improvement, and 9% no difference compared to before the rape. The women (34%) who developed PTSD women scored lower on FSFI (17 vs. 23, p=0.01) and more often reported their sexual function becoming worse (89% vs. 62%, p=0.01). Having a partner at the time of the rape was associated with improved sexual function (OR 3.6, p=0.04) and having a psychiatric treatment history (OR 2.9, p=0.06) was associated with an impaired function. Severity of the assault, mode of action, or use of violence were not associated with changes in sexual function.
Conclusions: Not all women experience loss of sexual function av sexual assault. Post Traumatic Stress Disorder and depression has negative impact on sexual function while supporting partner is a positive prognostic factor.

FCS13.7
ADDRESSING HEALTH SECTOR RESPONSE TO GENDER-BASED VIOLENCE (GBV) IN EGYPT
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Objectives: Assist the Government of Egypt in integrating effective institutionalized health response to gender based violence in Egypt.
Method: UNFPA coordinated a consultative process based on environmental scanning, stakeholders’ analysis, government engagement and interaction and involvement of civil society. Evidence based data on GBV, policy dialogue and advocacy among senior policy makers to protect the rights and dignity of Egyptian women survivors of GBV and coordination among concerned partners and the UN community were the key interventions of this innovative initiative.
Results: The production of the Medical guideline to manage cases of GBV was the central milestone in a larger Ministry of Health (MOH) – United Nations Population Fund (UNFPA) program aiming at integrating a GBV service package within all the general hospitals in Egypt, building capacities of health services providers and equipping health care settings/facilities to deliver adequate GBV services. The program piloted in 2014 in 50 hospitals of Greater Cairo, Assiut and Sohag and 84 service providers were trained as trainers on the guideline. Integration of GBV services is planned to extend to cover the remaining governorates in 2015.
Conclusions: Looking beyond the specifically medical sections of this guideline, it has effectively set the blueprint for coordination within the networks of protection, law enforcement, safety and related support services to respond to gender based violence. UNFPA will continue to support the MOH and relevant ministries and entities in Egypt in scaling up GBV response services and effective surveillance over GBV service delivery.
Reference:

FCS13.8
RISK FACTORS FOR POSTTRAUMATIC STRESS DISORDER (PTSD AFTER RAPE
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Objectives: It is a well known fact that victims of rape encounter increased risk for re-traumatization and that psychiatric morbidity is common after rape. Rape has been found to be the trauma most commonly associated with Posttraumatic Stress Disorder (PTSD) among women. It is therefore important to be able to identify those women at greatest risk of developing PTSD. The aims of the present study were to analyze the PTSD prevalence six months after sexual assaults and identify the major risk factors for developing PTSD.
Method: Participants were 317 female victims of rape who sought help at the Emergency Clinic for Raped Women at Stockholm South Hospital, Sweden. Baseline assessments of mental health were carried out and followed up after six months.
Results: Thirty-nine percent of the women had developed PTSD at the six month assessment, and 47% suffered from moderate or severe depression. The major risk factors for PTSD were having been sexually assaulted by more than one person, suffering from acute stress disorder (ASD) shortly after the assault, having been exposed to several acts during the assault, having been injured, having co-morbid depression, and having a history of more than two earlier traumas. Further, ASD on its own was found to be a poor predictor of PTSD because of the substantial ceiling effect after sexual assaults.
Conclusions: Development of PTSD is common in the aftermath of sexual assaults. Increased risk of developing PTSD is caused by a combination of victim vulnerability and the extent of the dramatic nature
of the current assault. By identifying those women at greatest risk of developing PTSD appropriate therapeutic resources can be directed.

**FCS14. Addressing Violence Against Women**

**FCS14.1 DOMESTIC VIOLENCE IN PREGNANCY**

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**Objectives:** Domestic violence represents a serious public health issue. Women experience physical or mental abuse throughout their lifecycle. Pregnancy may increase the risk of violence, and the pattern of assault may alter, with pregnant women being more likely to have multiple sites of injury and to be struck on the abdomen.

**Method:** A cross sectional study in Department of Obstetrics & Gynecology, University Hospital, Varanasi. The study population included 1000 pregnant women or in postpartum period. All interviews were conducted orally in an identical fashion by screening questions. The Abuse Assessment Screen (AAS) was used to identify cases of abuse. Data was analyzed using SPSS software, Student T test and Chi square were used.

**Results:** Of 1000 women interviewed 290 reported domestic violence, 253 had psychological violence, 211 physical violence, 108 economic violence, and 197 sexual violence either alone or in combination. Higher incidence of domestic violence was found lower educational status 38.6%, no antenatal care 11%, working women 14.1%, lower socio-economic status 49.3%, multigravida 19.9%, husband working outside 42.2%, addiction 80.3%, STDs 24.4%, and no use of contraception 95.8%. There was higher incidence of complication of pregnancy, low birth weight, and miscarriages with domestic violence.

**Conclusions:** By ensuring universal screening, identification and treatment of victims' possible. Tough new laws are one way to reduce domestic violence and sexual assault.

**FCS14.2 EXPOSURE TO DISRESPECTFUL PATIENT CARE DURING TRAINING: DATA FROM MIDWIFERY STUDENTS AT 16 MIDWIFERY TRAINING SCHOOLS IN GHANA**

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**Objectives:** Maltreatment during labor and delivery has been shown to be a significant barrier to increasing rates of facility-based delivery in low- and middle-income countries. Previous research has suggested that maltreatment is often perpetrated by older nurses, midwives, and providers who may not have learned alternative methods to encourage what they perceive to be appropriate behavior by laboring women. This study sought to determine what young midwifery trainees throughout Ghana were witnessing, perceiving, and learning with regard to respectful care during labor and delivery.

**Method:** 16 public midwifery schools throughout Ghana agreed to participate in this study. Informed consent was obtained from second or third-year trainees at each school, after which they were asked to complete a self-administered computerized survey. All survey data were entered directly and anonymously into the computer using Sawtooth software with trained facilitators available to answer questions. Data were extracted for analysis using Stata 13.0. Frequencies and descriptive statistics were calculated, and bi-variate analyses were conducted using t-tests and Chi Square analyses. All p-values were set at p<0.05.

**Results:** 853 trainees completed the survey: 72.0% said maltreatment was a problem in Ghana and 77.4% said women are treated more respectfully in private vs. public facilities. Trainees reported witnessing providers: telling women to stop making noise (78.5%), shouting at women (68.8%), scolding women if they didn't bring birth supplies (54.5%), treating educated/wealthy women better than less educated/poor women (41.5%/38.9%), and detaining women who couldn't pay (37.9%). Trainees also reported providers being over-worked (76.5%) and working without adequate resources (64.1%). Where students performed their clinical training was not associated with perceptions of maltreatment.

**Conclusions:** A majority of midwifery students in training throughout Ghana are witnessing disrespectful care as a part of their midwifery education. While some attribute such treatment to providers working in under-resourced, stressful settings, it is clear that trainees perceive disrespectful care as a problem in facility deliveries. Policy implications include the need to address educational gaps in provider curricula addressing psychosocial elements of care, as well as the need to improve monitoring, accountability, and consequences for maltreatment within facilities.

**FCS14.3 SEXUAL AND PHYSICAL VIOLENCE IN CHILDHOOD IS ASSOCIATED WITH ADULT INTIMATE PARTNER VIOLENCE AND NON-PARTNER SEXUAL AND PHYSICAL VIOLENCE IN A REPRESENTATIVE SAMPLE OF RURAL SOUTH AFRICANS**

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**Objectives:** Intimate partner violence (IPV) and non-partner sexual violence is a significant public health issue in South Africa. The country also experiences high rates of physical and sexual violence against children. Theories on cycles of violence suggest that experiencing violence in childhood plays a role in propensity to perpetrate violence or vulnerability to be subjected to violence again. Most research to date on this topic has been conducted in high-resource countries or within delimited populations. We explore the relationship between violence in childhood and adulthood in a sample of 18–49 year old adults in rural South Africa.

**Method:** We conducted a population-based survey (n=1044) using a multi-stage cluster sample in two sub-districts in Northwest Province in 2014. We measured childhood violence before age 15 (forced sexual touching, forced sex and serious physical violence) and IPV victimization and perpetration in the last 12 months, using a modified version of the WHO violence against women instrument. Experience of non-partner sexual violence since age 15 was also measured. The associations between exposure and outcome variables were evaluated with multivariate logistic regression, controlling for education and relationship status. All estimates are weighted to the sub-district population and stratified by gender.

**Results:** More women (2.7%) than men (0.8%) reported childhood forced sex, whereas men reported higher rates of childhood physical violence (7.9% vs. 2%). Men and women reported similar rates of IPV (5.4% vs. 6.8%), IPV perpetration (4.8% vs. 3.3%), and non-partner forced sex (1.2% vs. 1.6%). For men, childhood forced touching was associated with IPV perpetration (AOR: 10.7; CI: 2.9–39.9). For women, childhood forced sex was associated with subsequent experience of IPV (AOR 5.02; CI: 1.1–22.9). Childhood sexual touching (AOR 40.7; CI: 5.1–322.1), forced sex (AOR 173.1; CI: 32.9–910.6) and physical
violation (AOR 28; CI: 4.2–186.7) were all highly associated with non-partner forced sex for women.

Conclusions: Our findings support the theory that childhood experiences of violence can make individuals more vulnerable to violence and more likely to perpetrate violence as an adult. These results align with the literature from other settings and population groups. While our limited sample size precluded precise estimations of the magnitude of these relationships, our results from a low-income, rural community in South Africa contributes to a growing evidence-base. Longitudinal research is needed to explore factors that mediate this relationship, such as alcohol use and mental health, in order to help identify mechanisms to interrupt these cycles of violence.

FCS14.4
RESPONDING TO THE RISK OF SEXUAL AND GENDER BASED VIOLENCE FOR ABDUCTED GIRLS FROM CHIBOK, NORTHEASTERN NIGERIA
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Objectives: More than 200 girls and young women were abducted by an insurgent militant group in North Eastern Nigeria in April 2014. Additional intermittent abductions of smaller groups continued since then. There is great potential risk to them as well as their care givers in the community with regard to reproductive, social and mental health, as well as physical integrity and security. The objective of this activity was to map out the needs of the abductedees and to help develop management guidelines to address the need.

Method: EngenderHealth developed and implemented a rapid needs assessment tool for key individuals and institutions at the forefront of fighting sexual and gender-based violence in Nigeria. The Federal Ministry of Health then formed a collaborative national partnership—“Chibok Girls Support Group” for key stakeholders. EngenderHealth worked with one of the Support Group sub-committees and developed an algorithm that would guide healthcare providers in the management of escaped or rescued abductedees, as well as a tracking tool, to document their socio-demographics and health status.

Results: Through collaborative efforts with the Federal Ministry of Health and the Chibok Support Group Members (UNFPA, WHO, UN WOMEN, FHJ360, IPAS, and others), EngenderHealth developed and produced two vital tools—“Algorithm for Providing Care Treatment and Referral” and “Tracking Tool”. It is expected that the tools will guide healthcare providers at various levels on proper documentation and management of survivors of sexual and gender-based violence in Nigeria and beyond.

Conclusions: Many of the abductedees are still in captivity, reportedly married off to the abductors. Even for the small proportion that were assessed using face-to-face interview during pregnancy and after birth. Logistic regression was performed to analysis the data. The results of this research may help inform primary healthcare centers about factors associated with physical IPV and give some support to women with physical IPV during pregnancy.

FCS14.5
FEMALE GENITAL MUTILATION: AFRICAN WOMEN SPEAK. A QUALITATIVE SYSTEMATIC REVIEW
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Objectives: We aimed to synthesis evidence on the experiences of female genital mutilation on African women's lives. The objective was to understand why female genital mutilation is continuously practised among African women and their daughters despite its hazardous effects.

Method: A systematic review of qualitative studies was conducted utilising a meta-ethnography approach. A number of electronic databases were used to identify studies for inclusion. EMBASE, MEDLINE, Maternity and Infant Care, CINAHL, PsycINFO and the Social Sciences Citation Index were searched from January 1990 until June 2014. 17 qualitative papers matched the inclusion criteria and 727 circumcised women and girls were represented in these studies. The codes were manually coded and a conceptual framework was used to identify a final “line of argument”.

Results: Marriage was reported to be the most important form of social and financial security for the women in these African societies. To help secure their daughter's future parents, continued to support the practice. This is done in an effort to preserve their virginity and therefore marriageability. However in immigrant populations this perception changed over time. African Immigrant families began to accept and adopt western perspective where emphasis was placed on female education and offered the women job security. In these populations women felt more confident to speak out about its harmful effects.

Conclusions: Interventions are needed that break the cycle of female genital mutilation in practising countries. However they need to consider the social aspects of the practise. FGM is a source of pride and a mark of honour for its people. Interventions shouldn't victimise the local women. Implementing projects that offer young African girls opportunities where they no longer need to rely on male provision for survival, through marital ties, is a possible solution to the problem within the African countries. This would give women higher statuses within their society and gradually help the community acknowledge its harmful effects.
FCS14.7
FEMALE GENITAL MUTILATION: KNOWLEDGE, CONFIDENCE, AND APPROACH TO CARE IN CLINICAL PRACTICE OF MIDWIVES AND NURSES IN THE UK

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Objectives: The aim of this study was: (a) to assess medical, legal and safeguarding knowledge, and confidence of midwives and nurses (gynaecology, paediatrics, and the emergency department) in providing care for patients with Female Genital Mutilation (FGM); (b) to gain insight into whether these healthcare professionals feel adequately prepared by their training to help them fulfil their roles in managing patients with FGM - as set out by the UK Intercollegiate Guidelines; (c) to gauge the response of these healthcare professionals with their current training to clinical scenarios that they may face in practice.

Method: An anonymous, structured questionnaire of 19 questions (medical, legal, safeguarding and clinical) was distributed to 75 midwives and nurses at a District General Hospital in the North East of England over 2 months, approved by the trust Research and Development Department. This was based on the UK Intercollegiate guidelines on FGM and a questionnaire previously distributed amongst UK Obstetrics and Gynaecology trainees. Paper and electronic copies were distributed to participants on the wards and subsequently collected. Data was then summarised by calculating percentages of individual responses and analysed using Pearson's Chi-squared test. Qualitative data was analysed for themes and trends.

Results: Of 72 completed questionnaires, 16 (22.2%) had cared for patients with FGM. 12 (16.7%) felt confident caring for patients, 4 (5.6%) felt sufficiently trained, and 56 (77.8%) would inform a child protection officer of a child at risk. Of all participants, 58 (80.6%) were aware that FGM is completely illegal in the UK. Health sequeale identified included: chronic pain (94.4%), difficulty passing urine & faeces (90.3%), HIV & hepatitis (73.6%), pelvic infection (88.9%) and post-traumatic stress disorder (94.4%). 2 (2.8%) participants correctly identified all sequeale.

Conclusions: Fear and anxiety surrounding admission to hospital in women with FGM is exacerbated by lack of confidence in their care, including perceptions of insensitivity and incompetence of healthcare professionals. Our results demonstrate lack of knowledge and confidence of frontline healthcare professionals surrounding FGM. Available guidelines will not facilitate effective care without integration of the subject into basic training providing the skills to implement these guidelines. Poor quality care after FGM may lead to catastrophic consequences. It is imperative that the curriculum of these frontline healthcare professionals is developed to equip them with the necessary skills to care for these women.

FCS14.8
AUDIO COMPUTER-ASSISTED SELF-INTERVIEWING (ACASI) METHOD TO DETERMINE PREVALENCE OF INTIMATE PARTNER VIOLENCE AMONG LATINA WOMEN IN A LOW INCOME CLINIC IN NEW YORK CITY

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Objectives: Intimate partner violence (IPV) is a known public health concern and growing problem. Prevalence may be higher within Latino communities than the general population, which has a number of barriers to reporting IPV. The objective of this study is to determine the prevalence of intimate partner violence among Latina women at Gouverneur Health using ACASI, and to elicit reasons why women do not report domestic violence.

Method: Subjects were approached in the waiting room of a women’s health clinic of Gouverneur Health, a Medicaid and low-income clinic in New York City. A research assistant demonstrated use of the ACASI on an iPad, which included simple yes/no questions and read the questions aloud as well as displayed them on a screen. Subjects were anonymous and filled out the questionnaire independently. Data was collected automatically from the iPad questionnaire using Google analytics into a csv database, and analyzed using Stata v.13.

Results: Physical violence by a current partner has occurred for 16.7%, while 55.5% reporting physical violence by a part partner, though only 37.5% characterized this as physical abuse. Past sexual abuse was reported by 37.5%. Most common reasons for not reporting to a doctor included concerns about being judged and hope that the situation would improve, though 57.1% said that they would have reported if asked. Common reasons for not reporting to police include concerns about being judged, fears about deportation, and financial concerns for the family. Forty percent reported knowing a friend or family member who suffers from domestic violence.

Conclusions: Prevalence of intimate partner violence is high, though women may not recognize certain acts by their partners as physical, emotional or sexual abuse. Women would like to report to an authority figure like a doctor, but concerns about being judged by others, as well as practical concerns of deportation and financial concerns, prevent them from reporting the abuse. The ACASI method is a feasible and acceptable method of screening for domestic violence.

FCS15. Antenatal and Postnatal Care

FCS15.1
CLINICAL PROTOCOLS AND POLICY FORMULATION FOR MISOPROSTOL USE IN AJK, BALOCHISTAN, KP & FATA

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Objectives: The objective is to develop clinical protocols and policy formulation for the use of Misoprostol in Pakistan, as no policy guideline and clinical protocols were available in the country in order to implement its usage. Pakistan has very high MMR 276 per 100,000 with 39% deliveries conducted by SBA. Accessibility of MCH care and emergency obstetric services is important factor of maternal mortality in Pakistan. In Pakistan estimated 890,000 induced abortions are performed annually; with many serious health complications as a result of unsafe abortions. 27% maternal deaths occur due to PPH and most of which can be prevented.

Method: Mercy corps engaged policy and opinion makers at provincial and district level for the development and endorsement of policy and clinical protocols on the use of Misoprostol with the funding from RAF. Process of consultation was initiated after formation of Technical Working Groups (TWGs). The process was participatory in nature and several meeting were held including face to face meeting which were augmented by document exchanges. Comments were sought from all stakeholders regarding these documents. Final draft of the protocols and policy recommendations were approved by TWG and submitted to MNCH Provincial Steering Committees and DG health for final approval.

Results: The main recommendations of the policy formulation for Misoprostol included:
1. Putting PPH and PAC in overall health strategy of AJK, Balochistan, KP & FATA and development of essential health services packages for all levels of health care delivery.
2. Inclusion of Misoprostol in Essential Drug List and ensuring the budgetary allocation for purchase of Misoprostol.
3. Comprehensive trainings of health workers for safe and effective use of Misoprostol for the prevention and treatment of PPH and PAC.

Conclusions:
1. Disseminating clinical protocols and guidelines for all levels of
health service delivery and mandatory trainings of community health workers.

2. Ensuring consistent supplies of Misoprostol at primary health level through LHV in BHUs and CMWs in the community setting.

3. Building community awareness and encouraging community participation for prevention and treatment of PPH and for PAC.

4. Appropriate packaging of Misoprostol to ensure correct usage and clear mentioning of side effects of the drug must be maintained by the pharmaceuticals. Marketing ethics pharmaceuticals is important so as to strictly discourage the misuse of Misoprostol for inducing abortions.

FCS15.2 POSTPARTUM HEMORRHAGE SECONDARY TO PSEUDOANEURYSM OF THE UTERINE ARTERY – A CASE REPORT
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Objectives: In the Philippines, there is only one reported case of delayed postpartum hemorrhage due to ruptured uterine artery pseudoaneurysm. Thus, experience with these kinds of vascular abnormalities is limited in any single institution. We present such a case with immediate results.

Method: A case report of a 26-year-old Gravida 2 Para 1 (1011) eight weeks post cesarean section with profuse vaginal bleeding. After resuscitation, transvaginal ultrasonography with color doppler and Pelvic Angiography were done with subsequent Superselective Coil Embolization of the left uterine artery. Post-operatively, repeat transvaginal ultrasonography with color doppler done to monitor the presence/persistence of the uterine artery pseudoaneurysm.

Results: Transvaginal ultrasonography with color doppler revealed arterio-venous malformation of the cervix with note of high arterial pulsations. Pelvic angiography revealed brisk contrast extravasation and contrast pooling at the fundal branch of the left uterine artery consistent with pseudoaneurysm for which she underwent superselective coil embolization of the left uterine artery. Repeat transvaginal ultrasonography with color doppler after one week showed absence of arterial pulsations on the cervical echogenicity. Follow-up transvaginal ultrasound five weeks after embolization on the third day of menses revealed previously noted hypoechoic structure no longer appreciated.

Conclusions: Uterine artery pseudoaneurysm still remains to be a rare cause of unexplained postpartum hemorrhage, which requires a high index of clinical suspicion for diagnosis. Pelvic angiography and subsequent left uterine artery pseudoaneurysm coil embolization was performed successfully in the case presented, with no short-term complications and regular menses resuming after five weeks. Hence, the diagnostic and therapeutic treatment of choice is still pelvic angiography with embolization. However in hemodynamically unstable patients, a life-saving hysterectomy should be done.

FCS15.3 FACILITATORS AND BARRIERS TO UTILISE THE ANTENATAL CARE CLINIC IN SUB SAHARAN AFRICA
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Objectives: To determine facilitators and barriers for the utilization of ANC clinic in Usman Danfodiyo University Teaching Hospital Sokoto.

Method: In a descriptive cross-sectional study, information was obtained (utilizing a semi-structured questionnaire) from 270 pregnant women selected from the Antenatal Clinic (ANC) of UDUTH. Data analysis was done using frequency table and Chi-square statistic test was used to explore associations. Level of significance was p < 0.05.

Results: Mean age of respondents was 27.63±6. 516 years, 56.6% were among the age group 25 to 34 years. Majority of the respondents (80%) had formal education while 56.7% were housewives who were not gainfully employed. About two third respondents were multipara. The main facilitator was the positive attitudes of the health personnel. However, the main barriers for the utilization of the facility were long waiting periods to see the doctor 66.7% of respondents. About 40% of the women also commented on toilet facility and cleanliness and the distance to the facility as a barrier.

Conclusions: Majority of respondents assessed the overall quality of care received as satisfactory; the barrier to utilization of facility is the length of time spent and poor facility in the ANC.

FCS15.4 PERINATAL MORBIDITY AND MORTALITY FOR EXTREMELY LOW-BIRTH-WEIGHT INFANTS: A POPULATION-BASED STUDY OF REGIONALIZED MATERNAL AND NEONATAL TRANSPORT

Objectives: The aim of this study was to clarify the mortality and long-term outcomes of extremely low-birth-weight infants according to the process of maternal or infant transport and indications for maternal transport.

Method: We conducted a population-based study between 2005 and 2009. The collected data included the process and indications for maternal or neonatal transport, and the diagnosis of extremely low-birth-weight infants. We used the Mann-Whitney U test, the Kruskal-Wallis test followed by the post-hoc paired t-test according to the Dunn procedure, and a Kaplan-Meier survival analysis and the log-rank test in statistical analysis.

Results: The subjects included 195 infants from 189 mothers following 50,632 deliveries. Thirty two infants died and 33 infants had handicaps. The rates of mortality and handicaps among the infants in the maternal transport were 15.2% and 23.2%, respectively, compared to 25% and 44%, respectively, in the neonatal transport. There were no differences in the prognosis of the infants according to the process of maternal transport. There were no differences in the cumulative survival rates based on the institution. The incidence of a poor prognosis was higher among the infants born from mothers transported to the tertiary center due to bulging membranes.

Conclusions: The morbidity and mortality of extremely low-birth-weight infants demonstrated a low incidence following the regionalization of high-risk pregnancies in our region. Further reductions in severe neonatal morbidities may depend on reducing the rate of neonatal transport.

FCS15.5 DOES CERVICAL CERCLAGE AFFECT THE RATE OF CAESAREAN SECTION?
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Objectives: We sought to determine the relationship between cervical cerclage and delivery by Caesarean section in general and secondary due to cervical dystocia.

Method: This is a retrospective cohort study of patients who were high risk for preterm birth and some of them underwent cervical cerclage and others did not, over a six year period (January 2006–December 2011) in settings of major tertiary referral center, King Faisal Specialist Hospital & Research Center, Saudi Arabia.

Results: Our study included 144 women who underwent cerclage and 152 who had no cerclage. There was significant difference in the overall emergency Caesarean sections between the groups (RR 2.02, 95% CI: 1.33–3.07). Cervical dystocia as an indication for emergency Caesarean section was more prevalent in cerclage group (RR 3.08, 95% CI: 0.81–11.61). BMI has no significant impact on the rate of emergency Caesarean section for cervical dystocia in cerclage group.
Primigravida women with cerclage had a significantly higher rate of emergency Caesarean section and these decrease as the number of pregnancies increase (p<0.05).

**Conclusions:** In our study we found that women who underwent cervical cerclage had higher risk of emergency Caesarean section in general. We did not find positive correlation between cervical dystocia and cerclage. Low parity may play important factor in higher rate of caesarean section after cerclage. As the parity increases, the risk for surgical delivery decreases. BMI has no influence on caesarean section rate in pregnancies with cerclage. Whether cerclage indeed influence the rate of cervical dystocia should be further evaluated by larger studies.

**FCS15.6**

**DIAGNOSTIC PERFORMANCE OF TRANSABDOMINAL VERSUS TRANSVAGINAL SONOGRAPHY IN DETECTING SHORT CERVIX**

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**Objectives:** To determine the diagnostic performance of transabdominal sonography compared with transvaginal sonography in the second trimester for detecting short cervix in general obstetric population.

**Method:** This prospective cohort study evaluated a 307 pregnant women between 18 to 23 weeks and 6 days who attended antenatal care were offered ultrasound scan to screen for fetal anomaly and approached to participate transabdominal and transvaginal cervical length measurements were carried out by a single experienced sonographer. The correlation of both measurements and diagnostic performance of transabdominal sonography for detecting cases with a cervical length ≤2.5 cm were evaluated.

**Results:** The diagnostic performance of transabdominal measurement when using cut-off point of ≤2.5 cm for detecting short cervix (≤2.5 cm) on transvaginal ultrasound was 100% sensitivity (95% CI: 69.2%–100%), 99.3% (95% CI: 97.6%–99.9%) specificity, 83.3% (95% CI: 51.6%–97.9%) positive predictive value (PPV) and 100% negative predictive value (95% CI: 98.8%–100%). The mean of transabdominal cervical length was 3.33 cm (SD 0.46 cm) and the mean transvaginal cervical length was 3.46 cm (SD 0.49 cm). The 5th percentile transabdominal cervical length was 2.6 cm and the transvaginal cervical length was 2.7 cm. The mean difference of measurement was 0.14 cm and the correlation coefficient being 0.92 (P<0.01).

**Conclusions:** Transabdominal sonography assessment had high performance compared to transvaginal sonography and could be used initially for cervical length screening together with fetal anomalies screening. Then, if transabdominal cervical length is more than 2.5 cm, it is very unlikely to be short cervix and no need to measure transvaginal sonography and transvaginal sonography could be confirmed if the cervical length less than 2.5 cm or not clearly visualisation.

**FCS16. Antenatal and Postnatal Care**

**FCS16.1**

**THE TOCOLYTIC ROLE OF NIFEDIPINE IN PREVENTING PRETERM LABOUR PAIN: A STUDY IN A DEVELOPING COUNTRY LIKE BANGLADESH**

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**Objectives:** This study was undertaken to evaluate the efficacy of oral nifedipine to reduce preterm labour pain, to complete the doses of steroids in lung maturity and in utero transfer to Neonatal Intensive Care Unit (NICU), and also to evaluate maternal adverse effects if the medicine and neonatal outcome.

**Method:** Diagnosed cases of preterm labour (between 24 to 34 weeks) were randomly selected. Among those 200 patients were given oral nifedipine (n=200) and 200 patients were observed with placebo (n=200). There were no significant differences in age, race, parity, preterm delivery risk factors between the two groups. At first the labour pain was monitored through Contonuous CTG in first hour, then intermittent CTG was done.

**Results:** The patients in the nifedipine group can prolong the pregnancy time 36.0±3.2 weeks than 30.6±3.1 weeks in the control group (p<0.05), as well as neonatal admission to NICU with reduced neonatal morbidity and mortality.

**Conclusions:** Oral nifedipine used as tocolytic therapy in patients with preterm labour pain has significantly prolonged pregnancy with fewer neonatal problems and lesser maternal adverse effects.

**FCS16.2**

**IMPROVING THE QUALITY OF ANTENATAL CARE USING A MOBILE APPLICATION**


**Objectives:** To assess the effects of using a mobile decision support tool on the quality of antenatal care (ANC) services rendered.

**Method:** In 2012, Pathfinder built a mobile application that guides health workers through ANC protocols and collects client data in real-time, with embedded health education audio-clips for standardized counseling. Ten facilities were equipped with phones/tablets and 150 community health extension workers (CHEWs) trained to use the app. Pre-intervention exit interviews were conducted with 266 clients aged 18+ attending their first ANC visit. Endline exit interviews were conducted with the same sample size one year after the intervention began. A 25-indicator quality score covering technical and counseling elements of ANC was developed and data was analyzed to assess change in overall score.

**Results:** Overall, the ANC quality score increased from 13.3 at baseline to 17.2 at endline (p<0.0001), out of a total possible score of 25, with the most significant improvements related to health counseling. For technical elements, the quality score increased from 7.77 at baseline to 8.44 (p<0.0001). The health education domain of the quality score had the highest increase from 5.45 to 8.67 points (p<0.001).

**Conclusions:** Introducing a decision support ANC mobile application had a significant positive impact on the quality of ANC offered by CHEWs in Nigeria. Further research using a more rigorous experimental design will allow determination of the impacts of the application on health outcomes.

**FCS16.3**

**A RETROSPECTIVE STUDY OF FACTORS AFFECTING THE SUCCESS RATE OF EXTERNAL CEPHALIC VERSION (ECV) AT BASE HOSPITAL POINT PEDRO, SRI LANKA**

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**Objectives:** With the publication of term breech trial caesarean section incidence for breech presentation has increased markedly. Successful ECV may half the incidence of non-cephalic presentation at delivery. This study was conducted to assess the success rate of ECV against variables such as age, parity, body mass index (BMI), gestational age, type of tocolytic usage, technique of ECV, estimated fetal weight (EFW) and placental location by ultrasound scan.

**Method:** It is a retrospective observational study at obstetric unit of Base Hospital Point Pedro, Sri Lanka for 2 years from January 2013 to January 2015. Data were collected in a data collection sheet from patient records of 49 mothers. Data were analysed by Student’s T-test for continuous variables and by Chi-Squad/Fisher’s exact test for categorical variables.
Results: Of the 49 ECV procedures, 22 (44.8%) were successful and among the successful cases 20 mothers (91%) delivered by vaginal birth. There was no significant effect of nulliparity (P=0.08) or age of the mother (P=0.97) on ECV success rate. However, the success rate was significantly lower in mothers with BMI < 25 (P=0.047). Gestational week (P=0.52) or EFW (P=0.53) did not have any significant impact on ECV success. Neither nifedipine nor salbutamol had a superior effect among each other on ECV success. Similarly, the success rate was not significantly altered by placental location (P=0.68) or by the technique of ECV (P=0.1).

Conclusions: Success rate ECV appeared to be more promising and reversion rate was very low. High BMI (> 25) had a negative influence on ECV success while other factors had no significant effect. There were no immediate maternal or fetal complications after ECV except one case of cord prolapse with the onset of labour 3 weeks after successful ECV. ECV is a very safe procedure and the practise should be continued including amniotic volume and attitude of breech as additional variables in future studies.

FCS16.4
RECURRENT OBSTETRIC MANAGEMENT MISTAKES IDENTIFIED BY SIMULATION

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Objectives: To develop a simulation-based curricular unit for labor and delivery teams involved in obstetric emergencies to detect and address common mistakes.

Method: A simulation-based curricular unit for hands-on training of four obstetric emergency scenarios was developed using high-tech mannequins and low-tech simulators. The scenarios were eclamptic seizure, postpartum hemorrhage, shoulder dystocia, and breech extraction. The obstetric teams consisted of at least one resident and two midwives. Checklists of actions expected from the teams were handed out to the course’s tutors who observed the “event”. All sessions were videotaped and then reviewed and analyzed by the trainees themselves, who were guided by two experienced tutors. We identified the most commonly occurring mistakes by summing up checklists and by watching the recorded sessions.

Results: Between February 2010 and April 2014, 60 residents in obstetrics and gynecology and 98 midwives underwent the simulation-based course. Forty-two labor and delivery teams completed all four sessions. The most common management errors were delay in transporting the bleeding patient to the operating room (82%), unfamiliarity with prostaglandin administration to reverse uterine atony (82%), poor cardiopulmonary resuscitation techniques (80%), inadequate documentation of shoulder dystocia (80%), delayed administration of blood products to reverse consumption coagulopathy (66%), and inappropriate avoidance of episiotomy in shoulder dystocia and breech extraction (32%).

Conclusions: A curricular unit based on simulation of obstetric emergencies can identify pitfalls of management in labor and delivery rooms that need to be addressed.

FCS16.5
PREINDUCTION CERVICAL RIPENING: A PROSPECTIVE RANDOMISED COMPARISON OF INTRACERVICAL FOLEY CATHETER VERSUS PGE2 GEL

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Objectives: Aim of this study was to compare the efficacy of intracervical foley catheter and PGE 2 gel in preinduction cervical ripening for successful induction of labour.

Method: A randomised prospective study conducted in Deptt of Ob/Gyn, KGMU Lucknow India. Inclusion criteria was term singleton gestation, cephalic presentation, & Bishop score <6. Exclusion criteria was PROM, placenta praevia. Each woman was randomly assigned to receive transcervical foleycatheter or PGE2 gel (dinoprostone). Women assigned to transcervical foley catheter, a 16 F Foley catheter with 30 ml balloon inserted into the endocervical canal. The women assigned to PGE2 gel, received maximum of 3 doses of PGE2 gel in post fornix once every 6 hours. After 6 and 12 hours post induction bishop score was noted.

Results: 206 women enrolled & two excluded because of deviation from entry criteria. According to randomization, all women divided into two groups. Group I (n=100) received Foley catheter, Group II (n=104) received PGE2 gel (Dinoprostone). No significant difference in mean age, parity, gestational age, Bishop score at entry seen. Both group showed changes in bishop score after 6 hours & 12 hours. It was 5.87+1.27 (6hr), 7.12+1.60 (12hrs). In Group I and in Group II it was 4.97+1.33 (6hrs) & 6.79+1.34 (12hrs) respectively (p < 0.001). Mean induction to delivery time was in group I 19.16+2.12 hours as compared to Group II it was 20.16+1.22hrs (p < 0.001).

Conclusions: Cervical ripening with foley catheter has the advantage of low cost, simple, safe and lack of systemic and serious side effects and has significant effect on ripening of cervix.
postpartum anaemia (Hb<12.0 g/dl) in women in Mpig, Uganda.

Method: We assessed Hb levels of 1406 women in the postpartum period (within 6 weeks after delivery) who had participated in a trial of antenatal distribution of misoprostol (for self-administration after home birth or when oxytocin is not available). Women were administered a questionnaire and their blood haemoglobin was examined using portable HemoCue® Hb 301 system. Predictors of postpartum anaemia were estimated using linear and logistic regression analysis.

Results: The mean Hb was 11.4 (+1.76) g/dl and prevalence of anaemia (Hb<12.0 g/dl) was 60.2% (95% CI: 57.6%, 62.8%). After adjusting for measured confounders, factors associated with increased risk of postpartum anaemia were prenatal anaemia (OR: 2.27, 95% CI: 1.74, 2.94), Human Immuno-deficiency Virus infection (OR: 1.74, 95% CI: 1.15, 2.65) excessive bleeding at birth (OR: 1.71, 95% CI: 1.06, 2.75) and caesarean section delivery (OR: 2.11, 95% CI: 1.26, 3.52).

Conclusions: The high prevalence of anaemia in pregnancy in our setting highlights the need to put more effort in the fight against prepartum anaemia and HIV, and also ensure that pregnant women access uterotonics at birth for postpartum haemorrhage prevention.

FCS17. Antenatal and Postnatal Care

FCS17.1
EFFECT OF ANTEPARTUM PERINEAL MASSAGE ON PERINEAL TRAUMA DURING CHILDBIRTH IN ENUGU, NIGERIA: A RANDOMIZED CONTROLLED TRIAL
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Objectives: The study was aimed at evaluating the effectiveness of antenatal perineal massage at reducing perineal trauma during childbirth. The specific objectives were to evaluate the effectiveness of antenatal perineal massage at reducing the rate of episiotomy, spontaneous perineal tear and postpartum faecal and/or flatus incontinence.

Method: A randomized controlled trial of 108 primigravidae at the University of Nigeria Teaching Hospital, Enugu, Nigeria, was conducted from January 2013 to May 2014. The intervention group received antenatal perineal massage while the control group did not receive antenatal perineal massage. Statistical package for social sciences (SPSS) computer software version 16 was used for data analyses. Continuous and categorical data were compared using Student’s t test and Fisher’s exact test, respectively. Relationships were expressed using relative risks and confidence intervals. All tests were two sided, and statistical significance was considered to be at probability value of <0.05.

Results: The intervention group was more likely to have intact perineum after childbirth: 27 (27/53) versus 29.1% (16/55); RR: 1.75, [95% CI: 1.07–2.86; p=0.02]. Similarly, the incidence of episiotomy was less in the intervention group: 37.7% (20/53) versus 58.2% (32/55); RR: 0.65, [95% CI: 0.43–0.98; p=0.03; NNT= 3]. Furthermore, women in the intervention group were less likely to develop flatus incontinence after childbirth: 8.3% (4/53) versus 26.0% (13/55); RR: 0.32, [95% CI: 0.1123–0.9114; p=0.03]. However, the incidence of premature rupture of membranes, pre-term labour, and birth asphyxia were similar between the two groups.

Conclusions: Antenatal perineal massage reduces the incidence of episiotomy and increases the incidence of women with intact perineum after vaginal delivery without increased maternal or neonatal complications. Women should therefore be counselled on the likely benefits of antenatal perineal massage and the information on the procedure provided during antenatal care. Obstetricians should consider the technique as routine prenatal care for primigravidae so as to reduce the incidence of perineal trauma after vaginal birth in this group of women in our environment.

FCS17.2
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Background: Striae gravidarum (SG) major etiology is unknown, its rate arising during pregnancy with a high prevalence of 50%–590 and it may result lack of self-confidence, and personal perceptions of sexuality. There are many requests for its prevention and treatment.

Objective: To evaluate effect of olive oil on occurrence of striae gravidarum during 18–40 weeks.

Method: This is a randomized clinical trial. 100 healthy volunteer nulliparous, with age 20–30, (50 subjects in each group) were enrolled in their 18th to 20th week of gestation till 38th–40th week. Study groups divided to experimental group (using twice in day olive oil on abdominal area skin without massage) and control group. The questionnaire was completed via interview, observation and taking photo. All ethical points were considered.

Results: The rate of SG at the end of the second quarter of pregnancy was 45.7% in intervention group and 62.9% in control group but referring to Chi-square test there were no significant difference. Also at the end of 38–40 weeks SG occurred in 72% of participants, which were mild, moderate, and severe in 32%, 26%, and 6% and in 60% of control group, which were mild, moderate, and severe in 22%, 24%, and 14%. Although rate of severe SG in Olive group were less than control group, there were no significant differences between two groups.

Conclusions: This study showed that olive oil did not have any role in reducing of stria gravidarum. While there are few studies investigating olive oil as a preventing element for striae, just one retrospective study mentioned about its Positive effect.

Acknowledgments: The authors would like to thank Research chancellory of Tehran University of Medical Sciences for support and grants of this study.

FCS17.3
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Objectives: The aim of the study was to investigate the association of perinatal variables with the birth of very low birth weight preterm newborns.

Method: A retrospective study was undertaken based on data collected from clinical records of infants born after spontaneous preterm labor in the period from January 2003 to June 2017. Preterm infants were divided in very low birth weight (VLBW) group (weight <1,500 g) and low birth weight (LBW) group (weight ≥1,500 g and <2,500 g). The variables: maternal complications during pregnancy, childbirth/peri-partum and fetal/neonatal complications were analyzed using the chi-square (χ²) test with the Yates correction or Fisher’s Exact Test; and the Student t test for comparison of group means; P<0.05 was considered significant.

Results: Hemorrhagic comorbidities (P<0.05; RR 1.2) and hypertension (P<0.05; RR 1.5), surgical delivery (P=0.001; RR 0.5), gestational
age <33 weeks (P<0.001; RR 16.7) and Apgar score at 1st and 5th minute (P<0.05; RR 1.6; P<0.05; RR 1.9) were associated with the occurrence of VLBW. Infants with VLBW had a significant association with the occurrence of metabolic comorbidities (P<0.05; RR 1.8), neurological (P<0.05; RR 1.7) and infectious diseases (P<0.001; RR 1.9), hospitalization >4 weeks (P<0.05; RR 1.8) and early neonatal death (P<0.001; RR 2.9).

Conclusions: Hypertension and bleeding comorbidities during delivery and gestational age of less than 33 weeks were associated with the birth of VLBW newborns. This group of infants also showed higher RR for the occurrence of early neonatal death.

FCS17.4
UMBILICAL CORD COILING INDEX IN WOMEN OF SOUTH-EASTERN NIGERIA
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Objectives: Abnormal Umbilical Cord Coiling Index (UCI) is associated with adverse pregnancy and perinatal outcomes. This study was therefore conceptualized to determine the UCI values of parturients, and to identify the clinidemographic variables and associated pregnancy outcomes in those at risk of having an abnormal UCI, as it is believed that this will help identify relevant interventions that will improve pregnancy and perinatal outcomes.

Method: It was a cross-sectional comparative study undertaken over a six months period in a Nigerian tertiary hospital to determine the appropriate UCI values for parturients of Aba and neighboring states of South-Eastern Nigeria in West Africa.

Results: The mean UCI for normal pregnancies was 0.13±0.06. The 10th and 90th percentile UCI values were 0.06-0.06/cm and 0.21 respectively. The prevalence of abnormal UCI was 19.8% and 80.2% were normocoiiled. There was preponderance of hypercoiling (7.8%) and hypociling (7.8%) as compared to the non-coiled cases (4.2%). Abnormal UCI is strongly predictive of caesarean section (OR=4.33 [0.24–79.59]), PROM (OR=4.09 [2.22–7.53]), retained placenta (OR=3.74 [1.89–7.94]), and PPH (OR=3.63 [4.5–9.17]). Other are maternal weight >90kg (OR=2.64 [1.37–5.06]), fetal death (OR=2.35 [0.87–7.54]) and ABD (OR=1.82 [0.71–4.69]). GDM and hypertension’s significance association in the univariate model were attenuated on logistic regression analysis.

Conclusions: The mean UCI was 0.13±0.06 and the 10th and 90th percentile values were 0.06-0.06/cm and 0.21 respectively, and these are lower than the previously reported values for both normal and complicated pregnancies. Adverse pregnancy and perinatal outcomes are associated with abnormal values of UCI.

FCS17.5
CALCITUM SUPPLEMENTATION PROGRAM FOR PREVENTION OF PRE-ECLAMPSIA AND ECLAMPSIA LOOKING AT COVERAGE, COMPLIANCE, ACCEPTABILITY AND FEASIBILITY IN A HILL DISTRICT OF NEPAL
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Objectives: The primary objective of this operations research study was to assess the coverage, compliance, acceptability and feasibility achieved by the antenatal calcium supplementation program for the prevention of pre-eclampsia and eclampsia in one hill district of Nepal.

Method: Capacity was built among antenatal care providers to distribute calcium to pregnant women after completion of the third month of pregnancy. A post-intervention cluster household survey was conducted among women who had given birth in the last six months (recently delivered women) in the intervention district. Secondary data analysis was performed using monitoring data from health facilities and female community health volunteers (FCHVs).

Results: A total of 1,240 recently delivered women were interviewed. 94.6% attended at least one ANC visit and received calcium. Full course of calcium (1g daily for 150 days) was provided to 82.3%. Full compliance was 67.3% of calcium recipients. Significant predictors of completing a full course were gestational age at first ANC visit and number of ANC visits during their most recent pregnancy (p<0.01). 99.2% reported they took it as instructed with respect to dose, timing and frequency. Over 97% of reported their willingness to recommend calcium to others, and would like to use it during a subsequent pregnancy.

Conclusions: Calcium distribution through ANC was feasible and effective, achieving 94.6% calcium coverage of pregnant women in the district. Around 80% women attended ANC early enough in pregnancy to receive the full course and benefit from the intervention. High coverage, compliance, acceptability among pregnant women and feasibility were reported, suggesting this intervention can be scaled up through ANC in other areas of Nepal.

FCS17.6
DOES OBESITY CONFER A RISK OF LOW SERUM PROGESTERONE LEVEL IN EARLY PREGNANCY? A PROSPECTIVE COHORT STUDY
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Objectives: Progesterone is an important biomarker of early pregnancy failure. However, literature is limited regarding factors that influence progesterone levels in early pregnancy. Maternal obesity has been associated with adverse pregnancy outcomes such as miscarriages. We assessed association of body mass index (BMI) with serum progesterone levels in early pregnancy.

Method: We investigated association between maternal BMI and serum progesterone level in first trimester singleton pregnancies for 194 women at a tertiary maternity hospital in Singapore, from January 2012 to February 2014. Maternal characteristics and study outcomes were retrieved from clinical records.

Results: Multivariate analysis demonstrated an inverse relationship between first trimester maternal BMI category and serum progesterone concentration (p=0.012). Obesity, defined as maternal BMI ≥30 kg/m2, conferred an increased risk for low serum progesterone <35 nmol/L (adjusted OR: 9.14; 95% CI: 2.12–39.5; p=0.003).

Conclusions: This study indicates that obesity is associated with low first-trimester maternal serum progesterone, which confers increased risk of adverse pregnancy outcomes. The results suggest that pre-pregnancy weight optimization may be beneficial in the regulation of serum progesterone level and thus the maintenance of healthy pregnancy.

FCS17.7
ORAL MISOPROSTOL PRIOR TO INSERTION OF AN INTRAUTERINE DEVICE IN WOMEN WHO DELIVERED BY CESAREAN SECTION: A RANDOMIZED CLINICAL TRIAL
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Objectives: To evaluate the efficacy of oral misoprostol to facilitate IUCD insertion in women who delivered only by cesarean section. Ease of insertion was the primary outcome. Secondary outcome measures were pain, side effects and insertion related complications.

Method: We conducted a double blinded randomized controlled
trial. Four hundred women who delivered only by cesarean section requesting an intrauterine device were randomly allocated to receive orally two tablets (400 microgram) misoprostol (misoprostol group) or two tablets of placebo (control group) 30 minutes prior to IUD insertion.

Results: Insertion was significantly easier in the misoprostol group (P<0.001, RR 0.27, 95% CI 0.14–0.51). Pain was significantly less in the misoprostol group (P<0.001, RR 0.25, 95% CI 0.13–0.39). The overall side effects did not differ. However, abdominal cramping was more in the misoprostol group (P=0.001, RR 0.25, 95% CI 0.13–0.39).

Conclusions: Using misoprostol at a dose of 400 microgram administered orally thirty minutes prior to intrauterine device insertion in women who delivered only by cesarean section increased the ease of insertion and reduced the incidence of pain during the procedure, although the frequency of abdominal cramps increased. So we recommend standard pretreatment with misoprostol in those who delivered only by cesarean section.

FCS18. Antenatal and Postnatal Care

FCS18.2 DEATH OF ONE TWIN DURING THE PERINATAL PERIOD: A QUALITATIVE STUDY

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Objectives: Perinatal death is one of the most difficult bereavements due to the shock and profound grief experienced by parents. It has been established that such bereavement has life-lasting impact. Twin pregnancy is associated with increased perinatal risk with higher rates of perinatal mortality than singleton pregnancies. To date, few studies have examined the effect of the loss of one twin in the perinatal period. This study aims to gain insight into parent’s views in order to explore the impact of death of one twin in the perinatal period.

Method: In-depth qualitative interviews are being undertaken with parents who have experienced the loss of one baby in a twin pregnancy using purposive sampling from a large tertiary level Irish maternity hospital. To date five parents; comprising of three mothers and two fathers, have undertaken interviews and four parents are scheduled for interview. In this study an interpretative phenomenological analysis was undertaken in order to identify superordinate themes through the close examination of parent’s experiences of the loss of one twin.

Results: Termination of pregnancy is only lawful in Ireland in pregnancies where the mother’s life is at risk. Parents expressed anger that this procedure was not available to them, especially with a diagnosis of fatal fetal abnormality in one twin as the parents perceived the risk of the co-twin dying in utero was greater. After the loss of one twin, parents recalled difficulties in discussing their bereavement. Mothers felt they were encouraged to focus on the surviving twin and that their opportunity to grieve was diminished. Mothers conveyed feelings of deep sadness because one child would always be missing.

Conclusions: Parents recounted how distressed they were when initially informed that there was a complication with their twin pregnancy. Consideration should be given to how to optimise the provision of clear and appropriate information to parents on the possible care pathways for these pregnancies. Although these parents have one surviving twin the level of grief they experience should not be minimised. Healthcare professionals should ensure efforts are made to provide supportive information sensitively following the death of one twin.
17% HIV positive) of baby boys accessing first oral polio vaccine (OPV-1) services at 16 health facilities in Rachuonyo District, Kenya. Consent- ing participants completed a questionnaire administered by a research assistant. We assessed the relationship between delivering outside a facility and demographic characteristics and antenatal care (ANC) measures using chi-square tests or the Wilcoxon Mann-Whitney test. We adjusted for confounding using multivariable logistic regression.

**Results:** Nearly all (98%) women received some ANC. Of these, half (53%) initiated ANC in the first trimester and 82% had at least four visits. One quarter of women (27%) delivered outside a facility. In an adjusted model, factors associated with delivering outside a facility included: age (aOR one year increase 1.04, p=0.05), receiving antenatal care from a TBA (aOR 2.92, p=0.01), the mother participating in the decision about where she delivered (aOR 3.97, p<0.01), and HIV negative serostatus (aOR 2.42, p=0.01). Women with more education and higher socioeconomic status were less likely to deliver outside a facility.

**Conclusions:** One quarter of women (27%) delivered outside a health facility. Cost, time to reach the facility, mode of transport, adequacy of prenatal care, and parity were not associated with home delivery. Barriers to facility-based delivery are complex and may change facility. Cost, time to reach the facility, mode of transport, adequacy of care and SES will have the biggest impact on improving uptake of safe delivery services.

**FCS18.5**

**ALLOPREGNANOLONE LEVELS RELATES TO WEIGHT GAIN DURING PREGNANCY – A LONGITUDINAL STUDY**

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**Objectives:** Large weight gain during pregnancy is a great riskfactor for complications. Excessive weight gain is partly due to the physiological weight increase of the foetus, body water but mainly due to fat increase caused by overeating. Hunger and satiety is regulated in hypothalamus were the Gamma-aminobutyric acid system (GABA) have an important role. Allopregnanolone is a progesterone metabolite and a potent GABA-A receptor modulating steroid. Allo- pregnanolone has been shown to induce overeating in rodents and increases substantially during pregnancy. The objective in this study is to investigate if there is a relationship between weight increase and allopregnanolone concentrations during pregnancy.

**Method:** In this study, 59 women were recruited among women in a larger study. Blood samples for allopregnanolone analysis were taken in the 59 women at two times during pregnancy, gestational week 12 and 35. The women were divided into two groups, those with the highest (n=30) or lowest (n=29) weight gain through a median split at 11 kg. Allopregnanolone analyses were made in at Umeå Neurosteroid Research Center, Umeå University using an earlier described method (Timby et al 2006). Data were analysed using descriptive and nonparametric statistics.

**Results:** There was no difference in weight or allopregnanolone concentrations at the onset of pregnancy. The group of women who gain more weight during pregnancy showed significantly higher serum concentration of Allopregnanolone at 35th gestational week compared to the woman who gained less weight (p=0.006). The change in serum Allopregnanolone from week 12 to week 35 was significant larger in the group of women with higher weight gain compared to the women with a lower weight gain (p=0.011).

**Conclusions:** The results show a relationship between weight gain during pregnancy and increase in serum allopregnanolone concentrations. This finding suggests that allopregnanolone may have an influence on weight gain during pregnancy.

**FCS18.6**

**CHILDBIRTH EXPERIENCE QUESTIONNAIRE: VALIDATING ITS USE IN THE UNITED KINGDOM**

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**Objectives:** The Childbirth Experience Questionnaire (CEQ) has been validated in 920 primiparous women in Sweden in 2010 but has not been validated in the United Kingdom. Measuring the impact of an intervention on a woman’s childbirth experience is arguably as important as measuring its impact on outcomes such as caesarean delivery and yet surprisingly is rarely done. The lack of a robust vali- dated tool for evaluating labour experience in the UK is a topical is-sue, NICE state “a standardised method to measure women’s … birth experiences is urgently required.”

**Method:** The CEQ and the Care Quality Commission Maternity Sur-vey (2010) was sent to 350 women at one month postnatal. The CEQ was sent again two weeks later. The CEQ was tested for face validity among 25 mothers. Demographic data and delivery data was used to establish construct validity of the CEQ using the method of known-groups validation. The results of the scored CEQ sent out twice were used to measure test-retest reliability of the CEQ by calculating the quadratic weighted index of agreement. Criterian validity was measured by calculating the Pearson correlation coefficient for the CEQ and Maternity Survey scores.

**Results:** Face validity of the CEQ in a UK population was demon-strated with all respondents stating it was easy to understand and complete. A statistically significantly higher CEQ score for subgroups of women known to report a better birth outcome demonstrated construct validity of the CEQ. A weighted kappa of 0.68 demonstrated test-retest reliability of the CEQ. A Pearson correlation co-efficient of 0.73 demonstrated a strong correlation between the results of the CEQ and the results of the “gold standard” assessment of childbirth experience in the UK: the Maternity Survey and hence criterion va-lidity of the CEQ.

**Conclusions:** The Childbirth Experience Questionnaire is a valid and reliable measure of childbirth experience in the UK population.

**FCS18.7**

**PATTERNS OF PSYCHOTROPIC MEDICINE USE IN PREGNANCY IN THE UNITED STATES FROM 2006 TO 2011**

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**Objectives:** Psychiatric disorders are equally common during preg-nancy as among non-pregnant women, and many of these conditions are treated with psychotropic medicines. Relatively little is known about patterns of use of many of these agents during pregnancy, and specifically of how rates may have shifted during the last decade. We aimed to quantify the rate of pregnancy related exposures to cat-eories of psychotropic medicines stratified according to the primary indication for use (antidepressants, antipsychotics, anxiolytics, and psychostimulants), trimester of pregnancy, and trends over time and region.

**Method:** We conducted a retrospective cohort study of pregnancies among women in the Truven Health MarketScan database (source population 70 million), which captures person-specific clinical use and includes detailed information on filled prescriptions, hospital-izations and outpatient visits for all privately insured employees and their dependents. We classified psychotropic medicines of interest using ATC level 3 accordingly: antipsychotics (N05A); anxiolytics (N05B); antidepressants (N06A); psychostimulants, agents used for ADHD and cognitive enhancement (N06B). We also examined tem- poral and regional trends in use.
Results: We included 343,299 women who had a live birth between Jan 1, 2006 and Dec 31, 2011, of whom 10.3% were dispensed one or more psychotropic medicines during pregnancy. This rate varied from 6% to 15% between states. The most commonly used psychotropic medicines were selective serotonin reuptake inhibitors (5.1%) and benzodiazepine medicines (3.9%). Among psychotropic users, the most commonly associated psychiatric diagnosis was depression (25.0%), followed by anxiety disorders (24.4%). Approximately 1.6% of women used more than one category of psychotropic medicine in pregnancy, most commonly an antidepressant and an anxiolytic medicine (1.2%).

Conclusions: Given this relatively high rate of use, the lack of evidence that the most frequently used medications improve birth outcomes and the safety concerns associated with both early and late pregnancy use for many frequently-used medications, there is a need for further study of factors driving psychotropic medication use during pregnancy.

FCS18.8
MEASURING CORRECTNESS IN ASSESSING MATERNAL COMPLICATIONS USING A HANDHELD ULTRASOUND DEVICE BY TRAINED MID-LEVEL PROVIDERS AT DISPENSARY AND HEALTH CENTRE LEVELS IN RURAL TANZANIA: A LONGITUDINAL STUDY


Objectives: While health systems in low income countries are obliged to continue delivering quality health care, constraints are many including availability of skilled personnel. Filling in the gap of human resources for health has proved slower than the pace at which world advancement in medicine and technology has happened. We conducted a longitudinal study to measure if health personnel with no background training of radiology or sonology are able to conduct ultrasound scanning using the Vscan and produce correct interpretation and diagnosis compared to that of expert sonologists.

Method: A total of 227 women were scanned and 428 digital images taken. Initial reading, interpretation and diagnosis were made by the health providers in rural health centres and dispensaries in one rural district of Tanzania. The images were later re-read, re-interpreted and diagnosis were made by two independent expert sonologists and results compared with the initial readings of the associate providers.

Results: Eighty one per cent of the images were correctly taken, interpreted and diagnosed by the newly trained mid-level health providers. The quality of images and their corresponding interpretation and diagnosis bettered with practice among the mid-level providers over time through the study.

Conclusions: Following short term training, mid-level providers are able to conduct ultrasound scanning using the portable hand-held ultrasound device and produce quality images, correct interpretation and correct diagnosis. This has a potential for widening up use of ultrasound in routine ANC at primary care level in the Tanzanian health system.

FCS19.1
ANTENATAL AND POSTNATAL CARE

FCS19.1
INTRAVENOUS IRON ISOMALTOSIDE 1000 (MONOFER®) ADMINISTERED BY A HIGH SINGLE-DOSE INFUSION OR STANDARD MEDICAL CARE FOR THE TREATMENT OF FATIGUE IN WOMEN AFTER POSTPARTUM HAEMORRHAGE: A RANDOMIZED CONTROLLED TRIAL

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Objectives: Efficacy and safety of 1200 mg high single dose intravenous infusion of iron isomaltoside 1000 versus standard medical care in treatment of women after postpartum haemorrhage to demonstrate superiority of iron isomaltoside 1000 measured by a patient reported clinical outcome i.e. the Multidimensional Fatigue Inventory (MFI).

Method: Single centre randomized open-label trial including 200 healthy women with a singleton delivery and postpartum haemorrhage exceeding 700 mL within 48 hours after delivery allocated to either a single dose of 1200 mg intravenous iron isomaltoside 1000 or standard medical care. Participants completed the MFI at inclusion and at five visits the following 12 weeks. The primary outcome was the aggregated change in physical fatigue within 12 weeks postpartum. Sample size assumptions were based on 80% power, a minimal clinical relevant difference set to 1.8 for clinical superiority on the physical fatigue subscale of MFI and a SD of 4.2.

Results: Of the 200 women randomized, 196 (intravenous iron n=97; standard medical care n=99) were included in the full analysis set. The difference in aggregated change in physical fatigue score within 12 weeks postpartum was −0.97 (95% confidence interval: −1.65; −0.28, P=0.006), in favour of intravenous iron. We found across visits statistically significant differences in red blood cell and iron related biochemical parameters already within the first week, all in favour of intravenous iron. There were no overall difference in laboratory safety including phosphate, and there were no serious adverse drug reactions.

Conclusions: A high single-dose infusion of intravenous iron isomaltoside 1000 was associated with a statistically significant aggregated change of approximately 1 point on the 16 point MFI physical fatigue subscale, suggesting less fatigue within 12 weeks after postpartum haemorrhage. Iron isomaltoside 1000 treatment demonstrated a fast haematopoietic response and had a good safety profile with no serious adverse drug reactions and no clinical significant hypophosphatemia.

FCS19.2
CROSS-COUNTRY SURVEY OF WOMEN’S KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) ON ANTENATAL CARE (ANC) AND IRON-FOLIC ACID SUPPLEMENTATION (IFA) TO INTEGRATE NUTRITION-RELATED ACTIVITIES INTO PRIMARY CARE AND IMPROVE MATERNAL AND NEWBORN OUTCOMES IN ETHIOPIA, KENYA AND SENEGAL

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Objectives: Annually, ∼287,000 women die because of complications such as post-partum hemorrhage, hypertensive disorders, septis, and obstructed labour. These conditions are often linked with poor neonatal outcomes including low birth weight, premature birth and death. Increasing ANC access and IFA use help improve maternal and newborn outcomes. A multi-country study was conducted to
strengthen the capacity of local health systems and increase uptake and quality of maternal and newborn health services and nutrition interventions. The baseline survey including KAP, focus group discussions (FGD) and key-informant interviews (KII) aimed to determine barriers and enablers to guide program design.

Method: Using mixed methods, women's KAP surrounding ANC and nutrition during pregnancy were assessed. Ethical approval was obtained from each country and/or partner organization's review boards. Women with children 0–11 months were randomly selected from hard to reach communities in Kakamega, Kenya (n=464), Afar, Ethiopia (n=998), and Kolda, Senegal (n=1444). FGDs (Kenya and Senegal=3 groups each) and KII (Ethiopia=19 women), identified participants knowledge and attitudes regarding barriers and enablers for seeking ANC and using IFA during pregnancy. Findings guided the development of community based interventions and will be used to measure the impact of the overall multi-country programs.

Results: Attendance at 4 ANC visits was 4.8% in Ethiopia, 43% in Kenya, and 18.6% in Senegal; 20.7%, 18.5%, and 30.2% of women, respectively attended ANC in the first trimester, and 3.4%, 36.7% and 55.6%, respectively, had taken ≥90 IFA tablets. Qualitative data found lack of family support, misperceptions around the purpose of ANC and low perception of facility care as some of the main reasons for not attending ANC visits or taking IFA. Identified barriers to service accessibility included policy excluding misoprostol through community-level health facilities (Senegal) and frequent stock-outs of IFA (Ethiopia and Kenya).

Conclusions: Findings helped identify intervention adaptations to potentially increase access to ANC and IFA, among other essential interventions, for each unique context. In Ethiopia, family and community actors are being engaged to strengthen health facility referrals. In Kenya, fathers are being involved in ANC discussions and traditional birth attendants' role is changing to “birth companion” at facilities. In Senegal, communities have access to misoprostol and free IFA. These data have enabled the development of evidence-based projects, facilitating national support, with all three governments now playing an active role in identifying components of the program that can be scaled-up.

FCS19.3
IRON CONTENT IN BREAST MILK FROM MOTHERS TREATED WITH A HIGH SINGLE-DOSE INFUSION OF IRON ISOMALTOSIDE 1000 (MONOFER®)

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Objectives: To measure the concentration of iron in maternal milk after treatment with a high single-dose iron isomaltoside 1000 compared to iron content in maternal milk in women treated with standard medical care after postpartum haemorrhage.

Method: We conducted a sub-study of women included in a single centre parallel randomized open-label trial performed at the Department of Obstetrics, Copenhagen University Hospital - Rigshospitalet. Healthy women with a singleton delivery and postpartum haemorrhage exceeding 700 mL within 48 hours after delivery were allocated to either a single dose of 1200 mg iron isomaltoside 1000 or standard medical care. Randomization was carried out by a central computer system. Between February 2014 and September 2014 we collected maternal milk samples from participants three days and one week after inclusion in the trial.

Results: Maternal milk samples were collected from 65 women; 30 participants from the intravenous iron group and 35 participants from the standard medical care group. Mean (± SD) iron content in maternal milk three days after intervention was 72.07±27.36 mg/L and 39.99±17.78 mg/L (P<0.001) in the two groups respectively. One week after intervention the mean iron in maternal milk respectively was 46.75±16.81 mg/L and 44.21±25.23 mg/L (P>0.05).

Conclusions: The results provide information about safety of high single-dose iron isomaltoside 1000 in the lactation period. Treatment with high dose iron isomaltoside 1000 resulted in a transient rise in iron content in maternal milk. The increase disappeared one week after treatment. All measured means of iron in maternal milk were within the normal range of iron content in breast milk.

FCS19.4
MISOPROSTOL AS MEDICAL METHOD OF ABORTION COMPLETION

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Objectives: a: Saving expense in gynaecological & Obstetric practice. We are suffering from so many scarcities in our day to day practice like – 1. Expert Manpower, 2. Money, 3. Time & also 4. Religious obstacle. b: Misoprostol (Prostaglandin E) has the advantage over other methods of abortion completion - it requires no anaesthesia no medical persons. Patient remained ambulant with normal activities.

Method: It is a retrospective study, was done by using misoprostol 200 μg 3 tabs per vaginally start and after 24 hours 1 tab thrice daily by mouth for 2 days and combined oral contraceptive along with last day of misoprostol. Trails were undertaken in the department of Gynaec & Obs. General Hospital Sirajganj from 12th May 2012 upto 11th April 2013. Patient's No. 186 were randomized into group that were treated by misoprostol and control group no. 194 treated by ancient method in 2011.

Results: Data were analyzed between the groups A p-Value of <0.05 was considered as significant. Patients parameters like heart rate, Blood Pressure were not statistically significant between groups. Patient satisfaction were significantly high (100% app.) by misoprostol.

Conclusions: By using misoprostol patient's satisfaction were better achieved with enforcement of COC.

FCS19.5
THE ROLE OF PRIMARY HEALTH CARE FACILITIES IN IMPROVING THE QUALITY OF HEALTH CARE FOR WOMEN WITH GESTATIONAL DIABETES MELLITUS


Objectives: Improving the quality of health care for women with gestational diabetes mellitus.

Method: Analysis of medical documentation. In order to improve the quality of health care for women of reproductive age, patients with diabetes mellitus, a network of specialized cabinets at the national and regional levels were established as part of the “National Program for the prevention, diagnosis and treatment of diabetes in the Republic of Tajikistan for 2012–2017”.

Results: The main role of the cabinets is to ensure the continuity between the centers of reproductive health, family medicine, obstetrics and endocrinological hospitals; verification of risk factors on development of gestational diabetes mellitus (GDM) on primary stage of health care.

As a result of the review of the diabetes mellitus cabinets it was found, that among modern population of women of reproductive age in Tajikistan, the most common risk factors for GDM are: age of 30 years and above, burdened obstetrical history, obesity, large fetus and polyhydramnios.

Conclusions: New methodological and methodical approaches, an introduction of new organizational structures and mechanisms for
continual tactical organization of reproductive health care for women in Tajikistan is a key element in the implementation of the “National Programme for the prevention, diagnosis and treatment of diabetes in the Republic of Tajikistan for 2012–2017” mellitus (GDM) on primary stage of health care.

Among modern population of women of reproductive age in Tajikistan, the most common risk factors for GDM are: age of 30 years and above, burdened obstetrical history, obesity, large fetus and polyhydramnios.

FCS19.6
THE PREVALENCE OF HOOKWORM INFESTATIONS IN ANTENATAL CLINIC POPULATIONS FOR THE IMPLEMENTATION OF FOCUSED ANTENATAL CARE IN AHMADU BELLO UNIVERSITY TEACHING HOSPITAL ZARIA, KADUNA STATE, NIGERIA

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Objectives: The aim of this study is to determine the prevalence of hookworm infestation in antenatal clinic populations with a view to determining the appropriateness of the inclusion of preventive anti-helminthic therapy in the package of focused antenatal care.

Method: The study was a descriptive cross sectional survey that involved laboratory assessments of 194 subjects recruited from the four antenatal booking clinics of the Ahmadu Bello University Teaching Hospital, Zaria network of clinics by stratified sampling technique. Each study subject was recruited by systematic sampling technique after simple randomization of the first subject was done that met the inclusion criteria. Each prospective study subject was duly counseled and consent obtained before enrolment to participate. A structured questionnaire was administered before stool and blood samples were collected from each subject. Informations obtained were analyzed using SPSS statistical software version 20.

Results: The prevalence of hookworm infestation in the antenatal clinic populations was 12.4%. The proportion of women with anaemia and infestation was 33.3%. The difference. Ethnicity, education and occupation were found to be statistically associated with hookworm infestation (P value of 0.000, 0.000 and 0.002 respectively). Marital status, religion and parity did not have any statistically significant association with hookworm infestation (p value of 0.569, 0.104, 0.074 and 0.131 respectively). Also of statistical significance was the association between type of toilets, hand washing with soap after defecation and hookworm infestation (p values of 0.000 for each).

Conclusions: The prevalence of hookworm infestation among ABUTH antenatal clinic populations in Zaria was considerable. The statistically significant relationship observed between hookworm infestation and anaemia, in this study, re-enforces the existing practice of compulsory investigation for hookworm infestation in all anaemic pregnant women.

FCS19.7
STABILITY OF DEPRESSIVE SYMPTOMS OVER THREE MONTHS POST-PARTUM

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Objectives: Prolonged depression during the post-partum period is associated with maternal and infant mortality and morbidity. Less attention has been given to factors that predict the persistence of depression beyond the first three months post-partum.

Method: From a longitudinal cohort of 2,279 women who attended Mazandaran’s primary health centers in 2009, 478 women with Edinburgh Postnatal Depression Scale (EPDS) of 12 or greater in the third trimester of pregnancy were recruited in this study. Persistently depressed women (depressed at all three occasions: during pregnancy, and at 2 and 12 weeks postpartum) were compared with those without depression to determine demographical, cultural, obstetrical and bio-psycho-social predictors for persistence of depression. Data was analyzed using Chi-square test, T-test and logistic regression models.

Results: The stability of depression was found in 193 (46.2%) of 418 depressed cases who followed-up the study period. Of those mothers who scored more than the threshold of 12 during third trimester of pregnancy, 277 (66.3%) and 221 (52.9%) had high EPDS at 2 and 12 weeks of post-partum. Psychological distress from General Health Questionnaire, low maternal parental self-efficacy based on Parental Expectation Survey and perceived social isolation based on Network Orientation Scale were independent predictors of persistent depression in this study.

Conclusions: Fewer depressed mothers in the current study were found to recover during the first three months after giving birth. Psychosocial factors predicted sustained depression from pregnancy to three month’s post-partum in this study. The findings of this study proved the significant of support in enhancing maternal mental health.

FCS20. Assessment of Fetal Wellbeing/Labor and Delivery

FCS20.1
FETAL UMBILICAL ARTERY DOPPLER VELOCIMETRY STUDIES VERSUS CARDIOTOCOGRAPHIC MONITORING AS PREDICTORS OF ADVERSE PERINATAL OUTCOME IN IUGR FETUSES: A RETROSPECTIVE STUDY

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Objectives: A study done on 40 patients with IUGR admitted at the
Results: There were 23 abnormal CTG and 12 abnormal Doppler results, 6 neonatal deaths and 1 antepartum death. Most perinatal deaths occurred in the group were both tests were abnormal. Lead time was 4 days.

Conclusions: Both umbilical artery Doppler studies and CTG are useful predictors of adverse perinatal outcome; however Doppler studies is a better predictor as it recognizes fetal compromise earlier than CTG. Once an abnormal CTG result occurs following an abnormal umbilical Doppler, the worst perinatal outcome is anticipated. In IUGR fetuses wherein pulmonary maturity is already established, it is better to deliver before the CTG becomes abnormal.

FCS20.2
COMPARING AN INNOVATIVE DOPPLER ULTRASOUND FETAL HEART RATE MONITOR TO A PINAR FETAL STETHOSCOPE USING CARDIOTOCOGRAPHY AS A STANDARD IN WOMEN WITH SINGLETON PREGNANCIES IN LABOUR AT MOWBRAY MATERNITY HOSPITAL, SOUTH AFRICA

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Objectives: To assess the accuracy of an innovative Doppler ultrasound fetal heart rate monitor (DFM) and a Pinard fetal stethoscope (PFS) in determining fetal heart rates (FHRs), before and after uterine contractions in labor when compared to a cardiotocography (CTG). Method: Women with singleton pregnancies in the active phase of first stage of labor were enrolled. Women with multiple pregnancy and women with pregnancies which did not require fetal monitorings were excluded. Simultaneous measurements of FHRs were taken with a DFM, PFS and CTG before and after 2 preferably consecutive contractions. Proportion agreement of FHRs recorded with the DFM to the FHRs recorded with the CTG were determined and compared to proportion agreement of FHRs recorded with the PFS to the FHRs recorded with the CTG. Statistical significance of the proportion agreements was done using the Exact McNemar Significance probability testing.

Results: We enrolled seventy six women in the study. The proportion agreement of FHRs recorded with the DFM to the FHRs recorded with the CTG ranged from 0.51 to 0.80. The proportion agreement of FHRs recorded with the PFS to the FHRs recorded with the CTG ranged from 0.36 to 0.51. The proportion agreement of FHRs recorded with the DFM to the FHRs recorded with the CTG were significantly greater than the proportion agreement of FHRs recorded with the PFS to the FHRs recorded with the CTG at 6 of the 8 observations points.

Conclusions: The DFM was more accurate than the PFS in assessing the FHR in singleton pregnancies in the active phase of the first stage of labor when compared to the CTG. These data provide strong evidence for the routine use of a DFM rather than a PFS for monitoring the FHR during labor in low risk singleton pregnancies.

FCS20.3
UMBILICAL COILING INDEX -UCI BY USG AND ITS POSTNATAL CORRELATION

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Objectives: To evaluate the correlation between prenatal Umbilical coiling Index by USG and postnatal coiling of the umbilical cord and its relation to pregnancy outcome.

Method: 150 antenatal women were scanned in second & third trimester at Saveetha medical College & followed till delivery. A distance of 22.6 mm was measured between the 2 pairs of coils from the inner edge of the artery to the outer edge of the same artery at the adjacent umbilical twist along the ipsilateral cord. Normal umbilical cord coiling is approximately 1 coil/5 cm or 0.20 to 0.24 coils/cm. of umbilical cord length & UCI correlated postnatally, calculated by dividing the total number of coils by the total length of the cord postnatally. Mode delivery, fetal outcome are noted.

Results: Hypocoiling was seen in 12% hypercoiling 36%. Normal coiling 52%. Hypocoiling was associated with spontaneous preterm delivery (50%), LBW (38.3%), IUGR (11.1%). Hypercoiling was associated with oligohydramnios 14.8%, Intrapartum fetal distress 33.3%, meconium staining of liquor 16.6%, and NICU admission 1.8%. In Normal coiling no adverse perinatal outcome & had Normal delivery. LSCS 18% in abnormal coiling There was a positive strong correlation between antenatal UCI and postnatal correlation and can predict adverse perinatal outcome.

Conclusions: Antenatal UCI correlates with postnatal UCI. Both hypo coiling & hyper coiling had adverse pregnancy outcome. The umbilical coiling index has been found to be an effective indicator of perinatal outcome.

FCS20.4
RANDOMIZED CONTROLLED STUDY COMPARING HAND HELD DOPPLER AND PINARD FETOSCOPE (PF) FOR FETAL HEART RATE (FHR) MONITORING IN TANZANIA

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Objectives: To compare adverse perinatal outcomes (admitted to a neonatal unit, 5 min Apgar score (AS < 7)death, fresh stillbirth (FSB)) post-delivery between those intermittently auscultated with PF and those by Doppler in both rural and urban setting.

Method: This is an ongoing randomized controlled study comparing the PF versus a hand-held Doppler (Free Play) at Muhimbili National Hospital (MNH; Urban) and Haydom Lutheran Hospital (HLH; rural) between March 2013 to July 2014. Entry criteria: Low risk women in active labor with singletons, cephalic presentation, normal FHR at admission, cervical dilatation of ≥7cm and with consent. Normal FHR was defined as 120–160, abnormal as < 120 or > 160 bpm or not detected.

Results: A total of 1376 (9.2% of 14,985) at MNH and 1623 (23.8% of 6,822) at HLH were randomized. At MNH abnormal FHR was detected more often (30/689 vs. 17/684, p=0.057) with PF vs Doppler; at HLH no difference noted (41/786 vs. 37/837, p=0.842). At MNH AS at 5min < 7 was more common among PF vs Doppler group (31/697 vs.1/697, p<0.0001); more needed bag mask ventilation (BMV) (34/685 vs.13/684 p=0.0008) adverse outcomes were higher (47/697 vs. 12/697, p=0.0001). At HLH, no differences in AS (9/836 vs. 7/786, p=0.70) BMV, 57/733 vs. 59/682 p=0.549) adverse outcome i.e.35/837 vs. 36/786, p=0.705.
Conclusions: At the urban MNH, abnormal FHR was more often detected in the PF group, however, perinatal deaths and admission decreased in the Doppler group. At the rural HLH, no differences were found in the frequency of abnormal FHR detection and outcome. Human factors (nurses’ experience, knowledge, user preferences etc.) and timely obstetrical actions, may account for the observed differences. There is a need for more research.

FCS20.5
COMBINATION OF DIRECT ECG AND CTG (STAN) VERSUS TRADITIONAL CTG IN LABOUR: WHAT’S BETTER IN SUSPICIOUS CTG PATTERNS IN LABOUR?

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Objectives: Fetal distress is one of the major complications during labor. Combined usage of direct fetal ECG and CTG can potentially reduce the rates of neonatal metabolic acidosis and operative deliveries. The main aim of the study was to compare sensitivity and specificity of direct fetal ECG+CTG and traditional CTG in diagnosing of fetal distress during labor.

Method: 480 patients with a singleton pregnancy at term were examined during labor. They were randomly divided into two groups: combination of direct fetal ECG+CTG (n=215) and CTG alone (n=265). Fetal ECG analysis was performed by calculating of the T/QRS ratio and analyzing of the ST-events presence. FHR patterns were classified according to the FIGO guidelines. Patients in ECG+CTG were divided into 3 subgroups - with normal (n=138), suspicious (n=42) and pathological (n=35) cardiotocograms and in CTG group 56, 55 and 50 respectively. Fetal distress was verified by measurement of lactate level and pH in umbilical blood.

Results: The augmentation of oxytocin was higher in subgroups of pathological CTG (RR 2.06, CI 1.1–3.8). The rate of spontaneous labor was higher in ECG+CTG group, than in CTG group: 87.0 vs 76.2%, rate of operative deliveries was lower in ECG+CTG group: 10.2% vs 18.9% respectively. The rate of neonatal metabolic acidosis was lower in ECG+CTG group (6.5% vs 17.1%) Overall sensitivity and specificity of direct ECG+CTG was higher, than CTG alone, especially in suspicious (97% vs 62%) and pathological (88% vs 70%) curves. We found high sensitivity and specificity of lactate level (98% and 79%) in verification of fetal distress.

Conclusions: Usage of oxytocin correlates with pathological CTG. A direct ECG+CTG method of intrapartum fetal assessment is more effective in diagnostics of fetal distress. Fetal monitoring with ST-analysis allows to reduce the rates of neonatal metabolic acidosis and operative deliveries.

FCS20.6
AMNIOTIC FLUID GLUCOSE, LACTATE DEHYDROGENASE AND MATRIX-METALLOPROTEINASE-8 CONCENTRATIONS PREDICTS POSITIVE BACTERIAL PCR AND HISTOLOGICAL CHORIOAMNIONITIS IN WOMEN WITH CLINICALLY ASYMPTOMATIC PPROM

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Objectives: To determine the performance of amniotic fluid glucose and lactate dehydrogenase in the diagnosis of intraamniotic infection in women with asymptomatic PPROM (<32 gestational weeks).

Method: Retrospective analysis of 29 women with clinically asymptomatic PPROM (gestational age 24+2–31+6). All women received broad spectrum antibiotics after confirmed PPROM. Amniocentesis was performed to evaluate amniotic fluid glucose (Am-gluc), lactate dehydrogenase (Am-LD), matrix metalloproteinase 8 (MMP-8) and bacterial PCR. The diagnosis of IAI was established and delivery decision was made if Am-gluc concentration was <0.8 mmol/l or/and Am-LD concentration was >419 IU/L or in presence of positive PCR. MMP-8 analysis was performed after delivery.

Results: Nineteen samples were PCR positive for presence of bacteria in the amniotic fluid. Am-gluc and Am-LD concentrations correlated with positive amniotic fluid PCR and histological chorioamnionitis (p=0.037 and p=0.042, respectively). MMP-8 concentrations showed the best performance in predicting positive amniotic fluid bacterial PCR and histological chorioamnionitis (p<0.001). Both Am-gluc and Am-LD highly correlated with MMP-8 concentrations (p<0.01).

Conclusions: Amniocentesis is a safe and useful in asymptomatic patients with PPROM. Simple and rapid markers of IAI in the amniotic fluid (glucose and lactate dehydrogenase) have very good performance in predicting amniotic fluid positive bacterial PCR and histological chorioamnionitis. By adding MMP-8 determination in the amniotic fluid, the performance of these markers is clearly improved. In cases of PPROM, determination of Am-gluc, Am-LD and MMP-8 levels may improve IAI diagnostic and optimize delivery time.

FCS20.7
NORMAL RANGE FOR UMBILICAL ARTERY DOPPLER CUSTOMIZED BY FETAL BIOMETRY

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Objectives: The objective of this study is to evaluate the performance of fetal biometry, as Biparietal Diameter (BPD), head circumference (HC), abdominal circumference (AC), to predict the pulsatility index (PI) in the umbilical artery (UA) Doppler in the second half of normal pregnancies and compare with the conventional standard of normality, gestational age (GA).

Method: A retrospective study of 909 ultrasound scans in low risk patients were extracted for Fetal Medicine Sector database from January 2010 to January 2012. The exclusion criteria were the cases of fetal malformation, anomalies in amniotic fluid, Doppler or fetal growth. Biometrics of AC, HC, BPD, in millimeters, and the GA in weeks, were classified as independent variables, and the values of PI in the UA Doppler as the dependent variable. We developed predictive models for the PI of the UA from each independent variable. The adequacy of the developed models was analyzed and the coefficient of determination (R²) were calculated.

Results: The results in linear regression models for each parameter analyzed varied, but all were statistically significant (p<0.01). BPD presented the coefficient of determination (R²) equal to 0.1408, as the HC was a R: 0.2714, while the AC coefficient of determination found was 0.3078, which means being able to isolated predict UA PI on 14, 27 and 30%, respectively. Gestational age as an independent variable had a coefficient of correlation of 0.2411, which means being able to predict the UA PI on 24%. Graphics were created to assist the analysis of the model.

Conclusions: UA Doppler is a noninvasive method widely used in the evaluation of fetal well-being, especially in high-risk pregnancies. The use of biometric parameters to estimate fetal functional parameters can increase the accuracy of such estimates and potentially reduce diagnostic errors. Among the various developed models in this study, the variable that alone showed greater ability to predict the UA PI was the fetal abdominal circumference. The performance through linear regression model was superior to GA, the most used parameter in this correlation today. Further investigation in this topic is needed to confirm these findings in fetuses with growth deviations.
FCS20.8
MEDICAL LIABILITY IN PERI-AND POSTNATAL CARE: THE MIDWIFE AND THE OBSTETRICIAN AS PARTNERS IN CRIME?
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Objectives: Through a case study of judicial proceedings of Belgium, the Netherlands and France related to the delivery process, this paper addresses the risks of liability for the midwife and obstetrician during peri-and postnatal care.

Method: A 146 closed cases (facts from 1968–2009) on medical negligence in maternity care in Belgium, the Netherlands and France, were analyzed in depth. Next to mostly legal databases, a minority of the cases were retrieved through contacts with insurance companies and courts. The first juridical analysis concerned the procedural aspects such as time of facts, civil/criminal procedure, the involved health care professional and qualification of liability (personal/vicarious). After the analysis of the medical aspects, the cases were categorized in domains of expertise and then subdivided into types of pathologies. The last analysis concerned the type of damage.

Results: Most cases involved the performance of the midwife/obstetrician in recognizing a specific pathology in time. Two obstetric complications were well documented: uterine rupture and solutio placentae. The highest liability rate (more than eighty percent) was reflected in the category of interpreting fetal monitoring. In some cases an instrumental delivery was the direct cause of the obstetrician’s liability. The medical indication, the positioning of the instrument and the duration of the intervention were assessed. In cases without medical risk factors, shoulder dystocia was considered an obstetric complication, if maneuvers were performed to relieve the shoulders.

Conclusions: Considering the conclusions of the case study four recommendations can be made: “CREATE LIFE”:
1. "Cardiotocography" necessitates "LIFElong learning": Achieving good skills in assessing the necessity for and interpreting continuous fetal heart rate monitoring is the first and most important recommendation.
2. “REcognize” pathology: Particular placental abruption and uterine rupture require immediate response by the midwife and obstetrician.
4. “TEAMwork”: the midwife and the obstetrician should work in team to provide high quality care. Reflect the teamwork and the obstetric policy in the patients medical file, which is very important in case of medical liability cases.

FCS20.9
FEAR, BLAME AND TRANSPARENCY: CAREGIVERS’ RATIONALES FOR HIGH CAESAREAN SECTION RATES IN A LOW-RESOURCE SETTING
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Objectives: In light of a sharp increase in the CS rate at a university hospital in Tanzania, we aimed to explore obstetric caregivers’ rationales for their hospital’s high CS rate in order to identify factors that might cause an overuse of CS.

Method: After participant observations, we performed 22 semi-structured individual in-depth interviews and 2 focus group discus-
FCS21.2 LIFESTYLE AND OUTCOMES OF ASSISTED REPRODUCTIVE TECHNIQUES: A NARRATIVE REVIEW

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Objectives: This review study aimed to identify an ideal lifestyle in assisted reproductive treatment cycle through review of relevant literature to infertile people’s lifestyle and its relationship with ART results.

Method: In this study, researchers conducted their computer search in public databases Google Scholar general search engine, and then more specific: Science Direct, ProQuest, SID, Magiran, Iranmed, Pubmed, Scopus, cochrane library, and Psych info; Cumulative Index to Nursing and Allied Health Literature (CINAHL), using Medical Subject Headings (MeSH) from 2004 to 2013. Firstly, a list of 150 papers generated from the initial search. 111 papers were included. Finally, quality assessment of full text studies was performed by two independent reviewers. Researchers reviewed summary of all articles sought, ultimately used data from 62 full articles to compile this review paper.

Results: Review of literature led to arrangement of nine categories, including: The relationship of ART outcomes with physical health; The relationship between ART results and weight control and diet; The relationship of ART outcomes with exercise and physical activity; The relationship of ART results with psychological health; The relationship of ART outcomes with avoiding medication, drugs and alcohol; The relationship of ART outcomes with disease prevention; The relationship of ART outcomes with environmental health; The relationship of ART outcomes with spiritual health; and The relationship of ART outcomes with social health.

Conclusions: The following was obtained from review of studies: since lifestyle is among important, changeable, and influential factors in fertility, success of these methods can be greatly helped through assessment of lifestyle patterns of infertile couples, and design and implementation of healthy lifestyle counseling programs, before and during implementing assisted fertility techniques.

FCS21.3 CUMULUS CELL ROLE ON MOUSE GERMINAL VESICLE OOCYTE MATURATION, FERTILIZATION, AND SUBSEQUENT EMBRYO DEVELOPMENT TO BLASTOCYST STAGE IN VITRO

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Objectives: The purpose of this study is to investigate the effect of cumulus cells on maturation, fertilization and subsequent development of mouse germinal vesicle oocytes.

Method: A total of 470 G.V. oocytes were used in this project. Collected oocytes were divided into two groups; GV oocytes without cumulus cells and GV oocytes with cumulus cells. The oocytes in both groups were cultured in TCM-199 medium supplemented with 10% fetal bovine serum in a humidified atmosphere of 5% CO2 in air at 37°C. To do in vitro fertilization, matured oocytes from each group were placed in T6 medium and capacitated spermatozoa were added. Then the fertilized oocytes were cultured to obtain blastocyst 120 h after fertilization. Data was analyzed by chi-square test and differences in the values were considerable significant when p < 0.05.

Results: Maturation, fertilization, cleavage and blastocyst rates in denuded oocytes were: 76.32%, 57.49%, 51.15% and 19.14% respectively. In the cumulus-oocyte complex rates were: 89.41%, 80.76%, 75.58% and 45.62% respectively; all in the cumulus-oocyte complex were significantly higher than those of denuded oocytes (p < 0.05).

Conclusions: The present study indicates that cumulus cells have important role during maturation, fertilization and subsequent embryo development to the blastocyst stage.

FCS21.4 CAN SEMI-QUANTITATIVE PREGNANCY TESTS ASSIST WOMEN UNDERGOING IVF TO MONITOR hCG LEVELS OUTSIDE OF A CLINIC SETTING?

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Objectives: Semi-quantitative pregnancy tests (SQPT), that provide assessments of urinary hCG levels in bracketed ranges, have proven useful in assessing ongoing pregnancy following medical abortion. We postulated that the test may also be a useful tool in assisted fertility treatment, improving quality of care for women desiring to become pregnant. To that end, we conducted two pilot studies to examine the feasibility and acceptability of performing repeat SQPTs at home to monitor hCG levels following in vitro fertilization (IVF).

Method: One hundred and one women presenting for IVF treatment (50 at Hung Vuong Hospital in Ho Chi Minh City, Vietnam, and 51 at Stanford University Medical Center in Palo Alto, California) participated in these pilot studies. Women were asked to perform the SQPT at home up to 5 times in the U.S. and up to 6 times in Vietnam in the weeks following embryo transfer and to attend clinical visits, which included serum hCG testing.

Results: There was high concordance between the urine SQPT results and the serum hCG results. Almost all SQPTs (99.1%, n=106/107) showing steady or increase in hCG had a corresponding serum result, and 87.8% (n=43/49) of SQPTs showing negative or decrease in hCG had a corresponding serum result. Three-fourths of all women (73.3%) reported being satisfied or very satisfied with using the SQPTs at-home. Almost all (96.5%) said that the SQPT was easy or very easy to use.

Conclusions: Given its accuracy in assessing hCG trends compared to serum hCG and its high acceptability among participants, the SQPT could be added to standard IVF care as an at-home supplement to current serum testing protocols, or, eventually, to replace them. A home test to identify early pregnancy and its progress might improve the quality of care for infertility clients.

FCS21.5 COMPARISON OF ASSISTED REPRODUCTIVE TECHNOLOGY OUTCOMES IN WOMEN WITH POLYCYSTIC OVARY SYNDROME: CONVENTIONAL IVF, MILD IVF AND IN-VITRO MATURATION (IVM)


Objectives: Women with polycystic ovary syndrome (PCOS) are at risk of developing ovarian hyperstimulation syndrome (OHSS) during ovarian stimulation. Interventions to reduce the risk of OHSS in these patients include in-vitro fertilization (IVF) with minimal use of gonadotropin (mild IVF), and retrieval of immature oocytes followed by in-vitro maturation (IVM). The aim of this study was to compare the outcomes of conventional IVF, mild IVF and IVM in women with PCOS undergoing assisted reproductive technology (ART).

Method: Records of women with PCOS who underwent ART between July 2012 and October 2014 were reviewed. In total, there were 51 conventional IVF cycles, 70 mild IVF cycles and 23 IVM (with/without gonadotropin priming) cycles. The treatment proto-
cols were compared in terms of the number of oocytes retrieved, dose of gonadotropin administered, pregnancy, and incidence of OHSS.

Results: The number of oocytes retrieved was not different between groups (12.2±5.2, 11.6±7.1, and 13.3±8.9 respectively). Dose of administered gonadotropin was higher in conventional IVF compared to mild IVF and IVM group (1550.0±528.1, 771.1±248.1, and 192.4±187.6 respectively, P<0.001). Clinical pregnancy rate was lower in IVM group, but there was no statistically significant difference (56.9%, 45.7%, and 34.8% respectively, P=0.186). Five out of 51 women (9.8%) in conventional IVF group and 7 out of 70 women (10.0%) in mild IVF group developed moderate or severe OHSS, whereas none did in the IVM group.

Conclusions: Mild IVF and IVM seem to be effective treatment regimens in women with PCOS with diminishing the use of gonadotropin and/or removing the risk of developing OHSS.

FCS21.6
THE EFFECT OF INSULIN RESISTANCE ON IN VITRO FERTILIZATION-EMBRYO TRANSFER FOR WOMEN WITHOUT POLYCYSTIC OVARIAN SYNDROME


Objectives: Insulin resistance (IR) plays an important role in the pathogenesis of polycystic ovary syndrome (PCOS); therefore, insulin-sensitizing agents are widely used to improve IR in women with PCOS. However, it remains uncertain whether IR in women without PCOS should be treated. This study aimed to clarify whether IR in women without PCOS affects the outcomes of in vitro fertilization-embryo transfer (IVF-ET) and pregnancy.

Method: Between January 2010 and December 2012, we retrospectively recruited 116 non-PCOS women who underwent first IVF-ET cycle. IR was calculated using the homeostasis model assessment (HOMA) [HOMA-IR = (insulin × glucose)/405]. HOMA values > 2.5 were used to indicate IR. Based on the HOMA index, 28 women were IR(+) and 88 women had normal insulin sensitivity. We retrospectively compared the response to controlled ovarian hyperstimulation, retrieved oocyte number, fertilization rates, pregnancy rate, live birth rates, and incidence of gestational diabetes mellitus (GDM).

Results: There were no significant differences in HMG administration, peak E2, retrieved oocyte number, fertilized embryo number, good quality embryo number, implantation rate, clinical pregnancy rate, miscarriage rate, delivery rate, or OHSS and GDM incidence between groups.

Conclusions: IR in non-PCOS patients has no effect on IVF-ET outcomes or perinatal prognosis.

FCS21.7
NEW APPROACH OF PREVENTION AND TREATMENT OF PREGNANCY COMPLICATION AFTER IVF CONCEPTION

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Objectives: Nowadays numerous ongoing studies are trying to find out whether in the case of successful IVF attempt there is a high risk of complicated pregnancy or it corresponds to the pregnancy complication development in that particular couple regardless of the way of conception. Our research tried to find out likelihood of complicated pregnancy after IVF and reveal underlying causes of such complications and their relation to the way of conception. Also we looked for effective approach to prevent IVF pregnancy from developing complication.

Method: In order to solve this goal 120 pregnant women within their 6–12 week gestation were examined including serum content of IL-1, 6, 8, 10, TNF-α, IgA, Fas-ligand, VEGF, endothelin-1, nitric oxide, lipid peroxidation. 30 women had conceived in natural way, others had fallen pregnant by using IVF (90). 45 of them were managed by usual treatment for IVF in the first trimester, for others 45 ones this treatment was accompanied by direct immunological correction (azoxypen’s bromid) together with ozone therapy.

Results: By assessment of cytokine pattern, immune and endothelial activity the shift in favor of proinflammatory cytokines accompanied by T-cell abnormalities and low serum IgA was revealed. Comparatively to the women whose conception had occurred in natural way there was evidence of activated apoptosis by raised serum Fas-ligand in patients after IVF. The risk of haemostatic disorders in that case ensued from increase of VEGF (346.3±37.4 pg/ml), endothelin-1 (16.5±2.3 ng/ml), reduction of nitric oxide (0.77±0.03 mmol/l) and ratio NO and nitrites (25.4±1.1 mmol/l), activation of lipid peroxidation indicative to neoangiogenesis disturbances.

Conclusions: Pregnancy after IVF conception has a raised risk for development of complications due to shift to proinflammatory activation and neoangiogenesis disturbances that could lead to affected implantation of fertilized egg. Comparatively to traditional treatment new approach clinical efficiency proved to have advantages.

FCS21.8
OVARIAN HYPERSTIMULATION SYNDROME IN IN VITRO FERTILIZATION TREATMENT CYCLES AND EFFECT ON PREGNANCY RATES

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Objectives: This study seeks to determine the effect of this potentially life threatening condition on the pregnancy rates of patients who develop this complication. Objectives were: 1) To compare the overall pregnancy rate with that of women who develop OHSS in their treatment cycle. 2) To compare pregnancy rates among women with varying severities of OHSS.

Method: A retrospective cohort survey of women who had IVF treatment cycles between January and August 2014, an 8 month period, was conducted in The Bridge Clinic Lagos, Nigeria.

Results: A total of 292 patients were recruited. The incidence of OHSS was 7.5%. 2.7% had mild OHSS while 4.8% had moderate OHSS. None had severe OHSS. The overall pregnancy rate was 32.2% while that among patients with OHSS patients 54.5% (p=0.0137). Higher pregnancy rates were noted with increasing severity of OHSS, 18.2% for mild and 36.4% for moderate OHSS. This was however not significant. (p=0.4285) Pregnancy losses were also higher among patients with OHSS 33.3% vs 19.1% (p=0.2539).

Similarly, higher incidences of both early pregnancy losses and mid-trimester losses were observed in the OHSS group which was also not significant.

Conclusions: There is a highly statistically significant increase in pregnancy rates of patients who develop OHSS during their treatment cycle. Pregnancy rates seem to be higher with increasing severity of OHSS but this association was not statistically significant. Pregnancy losses also seem to be higher with OHSS. This association was also not statistically significant.
FCS22.1 Assisted Reproduction

FCS22.1 THE ROLE OF GnRH ANALOGUES IN IMPROVING OUTCOME AT SUPEROVULATION AND INTRA-UTERINE INSEMINATION (IUI) AFTER SURGICAL CORRECTION OF MILD ENDOMETRIOSIS – A RANDOMIZED CONTROLLED TRIAL

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Objectives: The etiology of infertility in mild endometriosis is an enigma. Surgical correction followed by superovulation (SO) and IUI improves pregnancy outcome. While GnRH analogues prior to in-vitro-fertilization (IVF) improves pregnancy outcome, their benefit in IUI is controversial. The objective of this study was to assess the benefit of GnRH analogue (Luprolide 3.75 mg) given post surgically in women with mild endometriosis undergoing superovulation and IUI.

Method: Ninety women were randomized to receive GnRH-a, luteolide acetate, 3.75 mg (study group I, n=45) or no treatment (control group II, n=45) after surgical correction of mild endometriosis (r- ASRM). Superovulation with urinary hMG was followed by IUI in the next cycle in both groups. Women with PCOS, recurrent endometriosis, male factor infertility were excluded. Couples were offered up to three cycles, but analysis was done after one cycle to see benefit of GnRH-a. The primary outcome was clinical pregnancy rate (PR), and secondary outcome was doses and days of gonadotropins, number of follicles > 18 mm, endometrial thickness and miscarriage rate.

Results: Both groups were comparable in age, BMI, duration of infertility and surgical treatment at laparoscopy. Clinical pregnancy rate was 15.5% in group I and 17.7% in group II with difference in proportion of 2.2%, 95% CI of 13.2 to 17.6% (p=0.7). Overall PR was 21.9% in GnRH-a (group I) treated and 23.8% in non treated (group II), (p=0.8). The doses (1102.7 vs 802.5 IU; p=0.5) and duration (12.0 vs 11.2 days; p=1.0) of gonadotropins were comparable in both groups. The number of follicles > 18 mm and endometrial thickness showed no variation between groups. There was no miscarriage in either group.

Conclusions: GnRH analogue addition showed no improvement over surgical management in women with mild endometriosis undergoing SO and IUI.

FCS22.2 PROTECTIVE EFFECT OF EPIGALLOCATECHIN-3-GALLATE (EGCG) ON EMBRYOS FERTILIZED WITH FROZEN-THAWED AND H2O2-INDUCED DNA DAMAGE SPERM

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Objectives: Cryopreservation can induce damage in human spermatozoa, possibly through reactive oxygen species (ROS). To resolve the detrimental effects of oxidative stress-induced DNA damage associated with the sperm cryopreservation process, addition of an antioxidant to the assisted reproduction technology (ART) system may be beneficial. Epigallocatechin-3-gallate (EGCG), which is the principal active ingredient of green tea, is a particularly promising candidate for an ART antioxidant due to its robust anti-oxidation activity and protective effects on cells and DNA. Previous application to an ART system showed that EGCG is capable of promoting embryonic development, but the underlying mechanism of this effect remains unknown.

Method: We first examined the effect of EGCG on embryos fertilized with both fresh and frozen-thawed sperm that collected from epididymis of Kunming mice, were exposed to various concentrations of EGCG in fertilization and/or embryo culture media. The optimal EGCG concentration was determined by comparing the rates of fertilization, one-, four-cell embryos and blastocyst formation. Then, we used H2O2 to simulate cryopreservation and established an DNA damage IVF model system, which resolved the low fertilization rate of frozen-thawed sperm, to investigate whether EGCG could affect cell cycle. Finally, the potential EGCG-mediated effects on pSer1981-ATM were investigated in one-cell embryos by immunocytochemistry.

Results: Optimum concentration of EGCG promoted embryonic development with fresh/frozen-thawed sperm was 10/17.5 μg/mL. These data implied that EGCG, used at the optimum concentration, is beneficial to IVF outcome. Temporal evaluation of cleavage rates of one-cell embryos (from 16.5 hpi to 23.5 hpi) revealed a significant difference at the 17.5 hpi (70% vs. 34%) and 18.5 hpi (83% vs. 68%), and the EGCG group required less time to achieve 50% cleavage. Stronger expression of pSer1981-ATM in zygotes fertilized with H2O2-treated sperm after EGCG addition, only a faint signal was detected in the nuclei of the control group (0.019±0.0103 vs. 0.008±0.0066, P<0.05).

Conclusions: Our study indicates that EGCG supplementation at certain concentrations promote the development of embryos fertilized with oxidative stress-induced DNA damage sperm. There is a possibility that EGCG is exerting the beneficial effect through mediating the activation of ATM and moved up the time to enter into M phase. It may be an effective protectant agent for cryopreserved sperm used in IVF. Ongoing research on molecules involved in DNA damage repair is investigating.

FCS22.3 CLINICAL EXPERIENCE OF RECURRENT MISCARRIAGE MANAGEMENT WITH MESENCHYAL STROMAL CELL THERAPY


Objectives: Habitual abortion often occurs in patients with inadequate endometrium with distorted functional activity and no other obvious causes of reproductive failures. Standard approach of hormonal treatment for enhancement of endometrial function in these patients is not universally beneficial, stimulating search of new therapies. The purpose of this pilot study was to evaluate the safety and efficacy of intrauterine administration of autologous endometrial mesenchymal stromal cells (eMSC) for restoration of the functional activity of the endometrium in patients with inadequate endometrium and habitual abortion.

Method: Patients with a history of ≥3 spontaneous abortions, endometrial thickness ≤5 mm and non-responsive to standard therapy were included. Genetic, infectious, hormonal, autoimmune causes of abortions and intrauterine adhesions were excluded. The pilot study was approved by the ethics committee, informed consent was signed by all patients. Cultures of eMSC were obtained from pipelle diagnostic biopsy of 11 patients, grown in vitro and characterized by flow cytometry (phenotype CD73+/CD90+/CD105+/HLA-DR–/CD14−/CD45−), their proliferative and differentiation potentials were determined, as well as the absence of bacterial and viral contaminations. The patients then underwent a single intrauterine administration of 100–200 million of unmodified autologous eMSCs.

Results: The most important results of study were absence of side effects (allergic, inflammatory reactions) for intrauterine administration of a given quantity of eMSCs in all patients. After eMSCs administration two patients discontinued the study, in 9 patients an endometrial thickness increases from 3–5 mm to 7–8 mm as was registered at US. Five patients from 11 spontaneously conceived, two have by now given birth to full-term infants, one woman is at over 20 weeks of gestation to date, the second - at 9 weeks, and in one case the miscarriage occurred at 7 weeks of gestation.

Conclusions: We consider these results encouraging. Cell therapy with endometrial MSCs may be a new trend in clinical practice for in-
adequate endometrium and recurrent miscarriage. As the main way for enhancing of cell therapy effectiveness we consider increasing the number of administered cells by 200–300 million and frequency of administration to 2–3 procedures, as well as a combination of local and systemic administration of MSCs.

FCS22.4
BATCH IVF – IS IT A BOON FOR RESOURCE POOR COUNTRIES?
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Introduction: A “Batch IVF” is an approach where the menstrual cycles of multiple women are programmed in such a way such that they all can undergo the process of stimulation, Ovum Pick Up and Embryo Transfer at the same time. This is done to get optimum utilization of lab resources and manpower without compromising the outcome. The day for initiating stimulation is calculated retrospectively from the day the visiting embryologist is available at the clinic (day of ovum pick-up).

Objective: To study the success rate of IVF done in Batch IVF.

Method: An observational study was conducted at an IVF and surrogacy centre from Nov 2011–Nov 2014 on women who underwent IVF treatment. Counting Ovum Pickup Day as day1 we stopped OCP in all women 19 days prior to OPU. We added a gonadotropin injection on 7th day of OCP stoppage and an antagonist was added on D6 of stimulation. On D11, trigger was given. D3 Embryo Transfer was done on all. Beta HCG was done on D13/D14 of ET.

Results: 108 women were between 30–35 age group. Beta HCG was positive in 46 women and the success rate was 42%. 57 women were in the 35–40 age group and Beta HCG was positive in 20 women with a success rate of 34%. 25 women were in the 40–45 age group. Beta HCG was positive in 5 women with a success rate of 20%. Among 10 women who were between 45–50 years, Beta HCG was positive in 1 woman with a success rate of 10%.

Conclusions: Our success rate with batch IVF in all age groups is comparable with the success rate of IVF where batch IVF is not performed. This is of great importance for the IVF set up who want to have optimum utilization of their logistics. In India we have the concept of visiting embryologist because of shortage of qualified experienced embryologist. This study clearly demonstrates that with batch IVF the success rates are not compromised.

FCS22.5
THE INCUBATION PERIOD FOLLOWING THE WARMING OF EARLY DAY-5 VITRIFIED BLASTOCYSTS SIGNIFICANTLY IMPROVES CLINICAL PREGNANCY AND IMPLANTATION RATE

Objectives: Since first pregnancies were reported with vitrified/warmed blastocysts more attention has been given to the methodology of vitrification. Many papers deal with the composition of cryoprotectants, time of exposure or period of storage but there is no evidence about the effect of incubation period blastocysts should remain in culture before embryo transfer. Usually, the incubation after warming varies between two and four hours. The purpose of the study was to evaluate whether the prolonged incubation period of early day-5 vitrified blastocysts, for 12 hours before the embryo transfer affects the survival, pregnancy and implantation rate and the pregnancy outcome.

Method: The study was conducted between January 2013 and August 2014. A total of 107 women who underwent the transfer of 214 (2 blastocysts/embryo transfer, ET) aseptically vitrified warmed blastocysts was randomized to either Group I (43 women) or Group II (64 women). Blastocysts were vitrified early on day-5, 115 hours post ICSI, using standard vitrification protocol and closed system. In Group I blastocysts (n=86) were incubated for 4h whereas in Group II blastocysts (n=128) were incubated for 12h before ET. In all blastocysts, assisted hatching was performed prior ET. Survival, pregnancy and implantation rate and pregnancy outcome were evaluated.

Results: The survival rate of vitrified blastocysts and the pregnancy outcome were similar in both groups. However, we found that the percentage of clinical pregnancies in Group II was significantly higher than those in Group I (75% versus 47%, P<0.01) and additionally, the implantation rate was enhanced, too (1.4 versus 1.1 respectively, P<0.05).

Conclusions: To our knowledge, this is the first study which demonstrates that a 12h incubation period of warmed blastocysts statistically improves pregnancy and implantation rate. Our results strongly support that vitrified early day-5 blastocysts need a longer incubation period of more than 4 hours before ET. This prolonged incubation helps blastocysts gain a better level of growth which turns endometrium more receptive.

However, since there is no study referring to the effect of an incubation period between 4 and 12h, incubation for approximately 6 to 8 hours is suggested to be further investigated.
FCS22.7
OCYTE CRYOPRESERVATION (COMPARISON BETWEEN SLOW FREEZING AND VITRIFICATION IN MOUSE OOCYTES)
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Objectives: Various approaches have been utilized in attempting to cryopreserve oocytes, beginning with slow cooling and more recently the technique of vitrification. Now it seems that oocyte cryopreservation is no longer an experimental technique and it is being increasingly utilized in clinics around the world. As successful outcome in oocyte cryopreservation can be assessed by survival through the freeze-thaw process, potential for fertilization, embryo development and dynamics of meiotic spindles. This study aimed to analyze these features in context of vitrification and slow freezing.

Method: Mature MI1 mouse oocytes from F1 (C57BL6/J X CBA) mice (n=43) were divided randomly into two groups of equal numbers and were cryopreserved by slow freezing and by vitrification. Upon rewarming these oocytes were assessed for survival and for fertilization potential. Oocytes were fixed and stained to compare the effect of both protocols on spindle reassembly and chromosome configuration at 10min, 1h and 3h after warming. Unfrozen oocytes were used as controls.

Results: A greater number of vitrified oocytes survived cryopreservat
than slow frozen oocytes (70.3% vs 12.5%; p=0.024). After insemination, fertilization rates were higher for vitrified oocytes as compared to slow frozen oocytes (15.86% vs 4.6%; p=0.046). Morphology of the meiotic spindle was found to be disorganized in configuration in slow frozen oocytes at all time points (10min, 1h and 3h), whereas in vitrified oocytes the spindles were found to be aligned at all time points. Chromosomes were seen to be displaced from equatorial region in both groups.

Conclusions: Cryopreservation of mouse oocytes was conducted with greater success using vitrification, compared to slow freezing with survival, fertilization, and spindle assembly more favorable to a successful outcome in this model.

FCS23. Benign Conditions in Gynecology

FCS23.1
CONTRIBUTIONS OF HISTOLOGY TO COMPLICATIONS OF EARLY PREGNANCY
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Objectives: Histology has been at the forefront of medical diagnosis but advances in technology like ultrasound has led to changes in practice with complications of early pregnancy. The recent advocacy for conservative & medical management of early pregnancy complications may not provide histological confirmation. The presence of molar or partial molar features in the histological diagnosis makes a difference to the management. Likewise the absence of chronic villi in histology specimen of miscarriage may lead to suspicion of ectopic pregnancy. The study is to investigate the position of Histological diagnosis in modern management of complications of early pregnancy.

Method: A retrospectively audit of the histological specimens from miscarriage of pregnancy and suspected ectopic pregnancy over a 12 months period in Royal Berkshire hospital, Reading. UK was done.

Results: 420 surgical procedures were undertaken for miscarriages. Histology specimen obtained in 93% of ERPC, 3% of histology specimens with complete/partial molar pregnancies, 2% specimen with hydroptic degenerative features with no features of trophoblastic disease. One case which was complete trophoblastic disease was missed on ultrasound & CT scan. There were 84 surgical interventions for suspected ectopic pregnancies. Histology specimen obtained on 55pts. 50 pts (91%) have positive histological confirmation. 5 pts (9%) cases with negative histological features. 34 pts (62%) have ectopic confirmed on the right side, 21pts (38%) including 1 cornual on the Left side.

Conclusions: This study showed when scanning for ectopic pregnancy close attention should be on the patients’ right side. The study reiterates that negative histological feature is a recognised complication of surgical management of early ectopic. Patient must be informed pre-operatively as a complication and an appropriate follow up guideline must be in place for surgical managed unruptured ectopic pregnancies. Diagnosis of molar pregnancy has implication for patients’ care because approximately 0.2–5% of patients with partial mole (PM) and 15–25% of patients with complete mole (CM) developed persistent GTD. Histology still remains an important in distinguishing hydroptic changes on scan and partial molar pregnancy.

FCS23.2
FRONTAL ELECTROENCEPHALOGRAM α-ASYMMETRY DURING THE LUTEAL PHASE OF THE MENSTRUAL CYCLE IN WOMEN WITH PREMENSTRUAL SYNDROME
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Objectives: The aim of this work was to assess the resting frontal electroencephalographic patterns in females who meet criteria for PMS and PMDD.

Method: This study conducted on 150 female participants recruited from attendants of the Department of Obstetrics and Gynecology, Tanta University Hospital, during the period from May to November 2013. All cases were counseled about the procedure. Henceforth, a written consent was taken from every patient. The custom PMDD interview involved asking each woman a series of questions concerning PMDD symptoms. Women having PMDD were asked to complete a daily symptom rating checklist for three consecutive cycles.

Results: Seventy percent of women reporting PMS and 75% of women with PMDD exhibited left frontal activity at rest during the luteal phase of the cycle (P<0.0001).

Conclusions: We concluded that resting luteal phase EEG frontal asymmetry must be added to the research criteria for PMDD (DSM-IV-TR).

FCS23.3
A RARE CASE OF THE LARGEST PEDUNCULATED ANGIOMYOFIBROBLASTOMA OF THE VULVA
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Objectives: Introduction: Angiomyofibroblastoma (AMFB) is a rare, usually small, benign mesenchymal neoplasm of the female lower genital tract which was first characterized by Fletcher, et al, in 1992. As of 2012, only 71 cases of AMFB in literature have been reported and to our knowledge, only 8 cases are huge pedunculated AMFB of the vulva. Reported dimensions of the tumor range from 0.5 to 12 cm.

Case report: We report a case of 67-year-old G2P1 (1011) with a 10-year history of a gradually enlarging, non-tender, huge pedunculated left vulvar mass, which measured 25 cm.

Discussion: The working impression of angiomyofibroblastoma was made as guided by the patient’s comprehensive history and physical examination, imaging clues using transperineal ultrasound and CT scan and other laboratory tests, and its correlation with the histopathologic findings. On the other hand, aggressive angiomyxoma (AAM) was considered preoperatively based on the huge size of the mass, which was surgically important because this has no definite plane of dissection.

Conclusions: It is important for a huge pedunculated vulvar mass exceeding 10 cm to be differentiated between AMFB and aggressive
angiomyoxoma (AAM), because the risk of recurrence and local invasion with contiguous structures such as the urethra, bladder and the rectum, is increased in the latter, should surgical excision be inadequate.

FCS23.4
TO INVESTIGATE THE EXPRESSION AND THE MEANING OF MYOCARDIN IN HUMAN UTERINE SMOOTH MUSCLE
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Objectives: To investigate the expression of myocardin in normal uterine smooth muscle, offering a new study direction in the diagnosis and treatment of gynecological disease.

Method: Collect 30 pairs of human uterine leiomyoma tissues and myometrial tissue for primary cell culture. Western blot was used to detect the expression of myocardin in protein level, using real-time PCR to detect the expression of compared mRNA level.

Results: The expression of myocardin in uterine leiomyoma were significantly lower than uterine smooth muscle. Under the concentration gradient of E2, myocardin have a high expression at 1 nM E2, this promoter act can be suppressed with the E2 antagonist.

Conclusions: Myocardin may have the inhibited effect in the occur of uterine leiomyoma, E2 have the promoter actin of the myocardin promoter actin can be suppressed with the E2 antagonist.

FCS23.5
MASTALGIA IN YOUNG WOMEN: INFLUENCE OF OTHER TYPES OF GYNECOLOGICAL PAIN AND FAMILY HISTORY OF BREAST CANCER
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Objectives: To analyse interactions between breast cancer phobia, dysmenorrhea and dyspareunia in the reporting frequency of mastalgia in young women.

Method: An anonymous voluntary questionnaire was handed to female medical students of the University of Coimbra, to collect gynecological and obstetrical history information. Pain was recorded using the WHO numeric scale. All answers were recorded in a database and statistical analysis was made using IBM SPSS version 20.

Results: 670 questionnaires were collected. Average age 21.4 years (18–35). Race was Caucasian in 98.8%. Dysmenorrhea was reported by 73.4%, dyspareunia by 26.5% and mastalgia by 40.8% of responders. Positive family history of breast cancer was reported by 19%. Statistically significant associations were found between mastalgia and dysmenorrhea (p<0.001), mastalgia and dyspareunia (p=0.046) and dysmenorrhea and dyspareunia (p=0.001). The relative risk of reporting mastalgia was 2.55 in patients with dysmenorrhea and 1.50 in patients with dyspareunia. A statistically significant correlation was found between dysmenorrhea and dyspareunia. A positive family history for breast cancer had no association with the frequency of mastalgia.

Conclusions: This study strongly suggests that mastalgia is frequently co-reported with dyspareunia and dysmenorrhea. A positive correlation was found between the scores of dysmenorrhea and dyspareunia. A positive family history for breast cancer had no influence in the reporting of mastalgia.

FCS23.6
AWARENESS OF FEMALE HEALTH WORKERS AND NON HEALTH WORKERS ON CERVICAL CANCER AND CERVICAL CANCER SCREENING: SOUTH-SOUTH, NIGERIA
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Objectives: The aim of the study is to promotion the benefits of early detection by public awareness and knowledge of the diseases and factors; influencing the utilisation of the screening among non health and health workers in Rivers State and Bayelsa State, Nigeria.

Method: This study measured the general public and the health workers awareness, screening, and preventive knowledge of cervical cancer and to sort for information about the condition and suggestive input for the future. To ensure clarity the questionnaire was pretested on medical students at the Niger Delta University Teaching Hospital, Okolobiri, Bayelsa State, Nigeria, and University of Port Harcourt, Rivers State. Those who took part in the pre test were not included in the study. The data from the questionnaire were entered and analyzed using SPSS version 10.

Results: The mean age of the non health workers was 29±9.2 years and 29±9.9 years for the health workers. Degree of awareness on cervical cancer 415 (80.9%) was high, where x² = 25.366; p=0.00; df=1 and cervical cancer screening 382 (74.5%) where x² = 26.371; p=0.00; df=1. Mass media was the main source of information in non-health workers group 115 (56.1%) while health workers 202 (96.2%) received their information from Doctors and fellow health workers. Surprisingly: 232 (60.7%) agreed that, cervical cancer screening is necessary for every sexually active woman. Despite that, only 71 (18.6%) had cervical cancer screening in life.

Conclusions: This result is from a relatively highly educated class of the society, with certain level of economic stability, still the outcome is poor. Therefore of the opinion that, outcome may be worst in the lower income and less educated class. This demands creation of health promotion and disease prevention policies, awareness campaigns and screening programs at all levels of the society. Integration of screening services into already existing programs, like family planning and reproductive health services, cancer and sex education awareness in all level of education. Would be an effective strategy in reducing preventable death in an environment with financial and resource constrains.

FCS23.7
HYSTERECTOMY FOR BENIGN INDICATIONS IN ESTONIA IN 2004–2011
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Objectives: To describe hysterectomy rates in different age groups, proportion of different operation types, and main indications for hysterectomies in Estonia from 2004 to 2011.

Method: Central electronic database of the Estonian Health Insurance Fund was used to obtain data on hysterectomies from 2004 to 2011. On each woman diagnosis according to ICD-10, type of surgery according to NOMESCO, woman’s age, and time of operation was retrieved. Midyear female population statistics was obtained from Statistics Estonia.

Results: The total number of hysterectomies was 12 336, with a yearly mean of 1542. The rate of hysterectomies per 100 000 women/year decreased from 239.1 to 204.9. The proportion of abdominal hysterectomies decreased from 86.0% to 56.1% and the proportion of laparoscopic hysterectomies increased from 6.3% to 34.7%, while the proportion of vaginal hysterectomies remained more or less stable (7.8–9.1%). Most hysterectomies (74.4%) occurred in the age group 35 to 54 years. The main indications for hysterectomies were leiomyoma (61.5% of cases), female genital prolapse (9.0%) and endometriosis (8.8%).

Conclusions: Population rates for hysterectomies in Estonia were similar to those in other countries, but the proportion of abdominal hysterectomies was higher and that of the vaginal ones lower than elsewhere. The proportion of vaginal and laparoscopic hysterec-
tomies should increase, and further studies on possible short and long term complications related to hysterectomies are needed.

**FCS23.8**

**SYSTEMATIC REVIEW OF MAGNETIC RESONANCE-GUIDED FOCUSED ULTRASOUND (MRGFUS) USE IN THE TREATMENT OF UTERINE LEIOMYOMA**

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**Objectives:** To review systematically the use of MRGFUS in the treatment of uterine leiomyoma in symptomatic patients.

**Method:** The keywords used were myoma, leiomyoma, fibroid, high-intensity focused ultrasound ablation, ultrasonic therapy, HIFU, and MRGFUS. The entire composition of this review followed the PRISMA criteria. Selection Criteria: Inclusion: reproductive age women with uterine leiomyoma; women with complaints of menorrhagic cycles, dysmenorrhoea, and increase in abdominal volume; and use of MRGFUS in the treatment of uterine leiomyoma. Exclusion: asymptomatic women, narrative reviews, case reports, cost assessment of therapy method; comparison of the different techniques of the MRGFUS method; evaluation or study of the MRGFUS technique; and studies with different protocols for MRGFUS use.

**Results:** Twenty studies of MRGFUS-treated leiomyoma patients were selected. The data suggest tumor size reduction and symptom improvement in every case. Adverse effects such as abdominal or back pain, menorrhagia, were few and not severe.

**Conclusions:** The review suggests MRGFUS is a safe and quite effective therapy technique. However, further studies with a higher level of scientific evidence are needed to be able to recommend this technique as an alternative in leiomyoma treatment.

**FCS24. Benign Conditions in Gynecology**

**FCS24.1**

**EXPLORING THE PATTERNS AND PRACTICE OF LACTACYD PRESCRIPTION FOR MINOR GYNECOLOGICAL CONDITIONS IN THE MIDDLE EAST**

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**Objectives:** To determine the clinical practice pattern and women profile when Lactacyd is prescribed for Minor Gynecological Conditions (MGC) in the Middle East (ME).

**Method:** 1181 women met the inclusion criteria of being over 18 years of age, sexually active, with no signs or symptoms of cervicitis or sexually transmitted disease, and used Lactacyd to manage MGC at least once within the last month from the data collection visit.

**Results:** Reasons for prescribing Lactacyd were (A) Relief of symptoms such as itching, burning, and discharge (32%). (B) Treatment of vulvovaginitis (26%). (C) Genital hygiene (33%). Dominance of these indications varied in the ME: (A) in Gulf countries (51%), (B) in Lebanon (41%), and (C) in Saudi Arabia (47%). 981 women (78%) had physical examination, 339 (36.8%) of them required microbiological testing. Itching was the most commonly reported symptom (29%). One third of women tried alternative treatments in the past. Women satisfaction scored 7–8 out of 10 on self-assessment questionnaire. Only 10 women (0.9%) discontinued Lactacyd because of lack of improvement.

**Conclusions:** Genital hygiene is highly valued by women in this region and they found Lactacyd a better safe and effective alternative for managing their MGC with affirmative views and awareness of their physicians.

**FCS24.2**

**INDICATORS SUBPOPULATION OF T- AND B-CELLS IN WOMEN OF REPRODUCTIVE AGE DMC DEPENDING ON THE RESULTS OF HISTOLOGICAL EXAMINATION**

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**Objectives:** Dysfunctional uterine bleeding (DUB) – the most commonly observed menstrual dysfunction in women. The pathogenesis of bleeding in the reproductive age is associated with hyperestrogenemia, against which developing endometrial hyperplasia. However, not always with the MQM revealed endometrial pathology. Currently, there is evidence on the role of immune disorders in the pathogenesis of dysfunctional uterine bleeding. Objectives: study performance of subpopulations of T and B cells and the immunoglobulins in women with DMC depending on the results of histological examination of the endometrium.

**Method:** The study included 60 patients of reproductive age with the menstrual cycle. About uterine bleeding all patients were made diagnostic scraping the mucosa of the uterus followed by histological examination and ELISA for immunological research. Identified common lymphocytes subpopulation of T and B cells, immunoglobulins G, M, A, E.

**Results:** Group I with endometrial hyperplasia, group II with identified secretory endometrium transformation, group III with endometrial proliferation. Indicators of total lymphocytes and immunoglobulins in group I were as follows: general limfocytes – 22.5±1.84, CD3 – 53.5±2.54%, CD4 – 26.1±1.24%, CD8 – 28.3±2.24%, CD16 – 10.8±1.45%, CD72 – 13.8±1.37%. Indicators immunoglobulins G, M, A, E respectively constituted: 13.7±1.40 mg/ml, 2.1±0.35 mg/ml, 1.9±0.23 mg/ml 11.4±3.09 mg/ml. Indicators of lymphocytes in group II were 19.8±1.53%, CD3 – 58.2±2.97%, CD4 – 27.0±1.43%, CD8 – 33.7±2.61%, CD16 – 17.4±1.42%, CD72 – 10.8±1.26%, immunoglobulins G, M, A, E respectively constituted: 9.8±2.16 mg/ml, 6.7±2.8 mg/ml, 2.8±0.36 mg/ml, 47.5±6.9 mg/ml. In group III of the common lymphocytes accounted for 20.5±1.80, SD3 – 59.9±2.67%, SD4 – 27.7±0.92%, CD8 – 33.7±2.27%, CD16 – 14.9±1.45%, CD72 – 10.8±1.26%.

**Conclusions:** Changes in the content of subpopulations of T-lymphocytes and immunoglobulins were detected in patients with endometrial hyperplasia. They also noted irregularities in the secretion of IgG and M. In patients with uterine bleeding during the secretory transformation of the endometrium decreased IgM. In patients with uterine bleeding during proliferation of the endometrium is not marked changes in the immune system as compared to the above-described groups. Thus, our findings suggest a role for immune disturbances in the development of dysfunctional uterine bleeding.

**FCS24.3**

**INCIDENCE AND TREATMENT OF HEAVY MENSTRUAL BLEEDING IN PRIMARY CARE – DATA FROM A DYNAMIC COHORT IN THE NETHERLANDS**

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**Objectives:** Heavy menstrual bleeding (HMB) is a common problem in women of reproductive age. Less is known about the incidence of HMB in primary care and the treatment strategy used. Since the re-
vision of the Dutch College of General Practitioners’ (GPs) guideline on Vaginal bleeding in 2008, the levonorgestrel intrauterine system (LNG-IUS) plays a more prominent role and is recommended as an equal treatment option to oral medication. Aim of this study was to investigate the incidence and treatment of women with HMB in primary care and to compare this treatment with the Dutch practice guideline on Vaginal bleeding.

Method: The study used prospectively collected data from the Registration Network Groningen, The Netherlands. This research network consists of three health centers with 17 GPs. We selected data of women visiting their GP for HMB from January 2004 until January 2014. Incidence rates were calculated, descriptive analysis was used to present medication prescriptions, number of visits and referrals to specialist care. JoinPoint regression analysis and non-parametric tests were performed to investigate if there was a trend in the number of LNG-IUS prescriptions respectively the proportion of different medication prescriptions in this 10 year period.

Results: In this dynamic cohort including 23,846 female patients, 881 women visited the GP for HMB in a 10 year period. The mean incidence of HMB per year was 6.5 (95% CI 5.9–7.1) per 1000 person-years. Within three months of diagnosis, 46% of women were treated with hormonal medication, in 44% of cases no medication were started. Within one year of diagnosis, 15% of all women were referred to the gynecologist. There was a significant decrease in the proportion of oral progestogens prescriptions during 10 years (p<0.05), no trend was seen in the number of LNG-IUS prescriptions for HMB.

Conclusions: The incidence of HMB in this cohort was comparable to the incidence found in other studies. Women were treated most often with hormonal medication, mainly the oral contraceptive pill and oral progestogens. No significant increase in LNG-IUS prescriptions for HMB was found in our study. However LNG-IUS are increasingly being inserted by Dutch GPs for indications such as contraception, in the past 10 years. Here is opportunity for improvement, since the LNG-IUS is an effective, relatively non-invasive treatment option for HMB, compared to alternative treatments performed by the gynecologist.

FCS24.5
MUTANT P53: THE MISSING LINK – ENDOMETRIOMA DOES NOT TRANSFORM INTO OVARIAN CANCER
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Objectives: Previously, endometrioma was considered to have similar biomolecular characteristics with cancer, which was associated to the pro-apoptotic and anti-apoptotic characteristics of endometrioma and p53 inactivation (proapoptosis). However, this theory has been proven inaccurate, as shown by the different disturbance involved in the apoptotic process of ovarian cancer compared to endometrioma, with the former being related to the mutant p53 protein in the cell cycle. This study was conducted to determine whether mutant p53 protein expressions differ between endometrioma and ovarian cancer.

Method: This observational descriptive study examined paraffin block from 25 patients diagnosed with endometrioma and 25 patients diagnosed with ovarian cancer. These blocks were immunohistochemically examined for mutant p53 expression using the mutant p53 monoclonal antibody. Immunohistochemical scoring was performed using the Allred score based on Immunohistochemical proportion and intensity.

Results: Based on the Allred score, all endometrioma cases showed a negative p53 mutant expression whereas in cases of ovarian cancer, 52% of samples expressed positive mutant p53. Expression score of mutant p53 differed significantly between the endometrioma (0.36 ± 0.86) and ovarian cancer group (3.08 ± 3.16) with p<0.0001.

Conclusions: Endometrioma shows negative expression for mutant p53, with significantly differed mutant p53 expressions between the endometrioma and ovarian cancer group. This indicates that endometrioma would not transform into ovarian cancer.

FCS24.6
ULTRASOUND-GUIDED HIGH-INTENSITY FOCUSED ULTRASOUND TREATMENT FOR UTERINE FIBROID AND ADENOMYSIS: A SINGLE CENTER EXPERIENCE FROM THE REPUBLIC OF KOREA
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Objectives: To assess the therapeutic outcomes of patients with uterine fibroid or adenomyosis treated by ultrasound-guided high-intensity focused ultrasound.

Method: This study included 618 patients, of which 272 suffered from uterine fibroid and 346 suffered from adenomyosis. Treatment was administrated using the Model Haifu JC Focused Ultrasound Tumor Therapeutic System (Chongqing Haifu Technology, Chongqing, China) under real-time ultrasound guidance. A follow-up was conducted on volume change as well as on symptom improvement using the Symptom Severity Score (SSS) and Uterine Fibroid Symptom and Quality of Life (UFS-QOL) after treatment.

Results: The uterine-fibroid volume reduction rates were 58.08%, 66.18%, and 77.59% at 3, 6, and 12 months after treatment, respectively.
tively. The SSS reduction rates were 55.58%, 52.76%, and 50.39%. The UFS-QOL score increasing rate were 42.66%, 43.50%, and 43.45%. The uterine volume reduction rates for adenomyosis were 43.99%, 47.01%, and 53.98%. The SSS reduction rates for adenomyosis 55.61%, 52.38%, and 57.98. The UFS-QOL score increasing rates for adenomyosis UFS-QOL score were 80.06%, 69.39%, and 85.07%, respectively.

Conclusions: USG HIFU treatment for uterine fibroid and adenomyosis is an effective non-invasive therapy via the assessment of fibroid volume reduction, symptom improvement, UFS-QOL score increase, and acceptable level of side effects.

FCS24.7
FERRIC CARBOXYMALTOSE VERSUS IRON SUCROSE IN THE TREATMENT OF IRON DEFICIENCY ANEMIA DUE TO ABNORMAL UTERINE BLEEDING – A RANDOMIZED TRIAL

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Objectives: Abnormal uterine bleeding is one of the common causes of iron deficiency anemia especially in developing countries. Though the treatment per se for the gynecological pathology causing the AUB is a must, most of these patients suffer from anemia due to the acute or chronic blood loss. The present study was conducted to evaluate the efficacy, safety and improvement in fatigue levels using intravenous ferric carboxymaltose (FCM) versus intravenous iron sucrose (ISC) in the treatment of anemia due to abnormal uterine bleeding (AUB).

Method: A randomised trial was conducted in the department of Obstetrics & Gynaecology at All India Institute of Medical Sciences, New Delhi (India). Sixty women presenting with iron deficiency anemia due to AUB (Hb 6–11g%) were randomized to receive either IV FCM (Group I) or IV ISC (Group II). Iron deficit was calculated according to Ganzoni’s formula. Group I received Inj FCM 1000mg weekly and Group II received Inj ISC 300mg twice weekly. Hematological parameters were done at baseline, after 1, 3, 6 and 12 weeks. Fatigue measurement was done by 4 point numeric scale and linear analogue scale assessment (LASA).

Results: Baseline hematological parameters were comparable in both groups. The mean iron requirement in Gr I & Gr II was 1524.2±261.2 mg & 1462.8±195.8 mg respectively (p=0.3), but the number of doses to build up deficit were significantly less in Gr I. After 12 weeks, 75.9% (22/30) of patients in Gr I and 65.5% (19/30) in Gr II achieved target Hb of ≥12 g/dl. FCM showed significantly higher mean rise in Hb (4.95 g/dl vs 4.31 g/dl) & serum ferritin (112.2 μg/L vs 61.39 μg/L) than ISC. Both drugs caused significant improvement in fatigue levels without any serious adverse effects.

Conclusions: In patients with anemia due to AUB, FCM causes rapid rise in hemoglobin, causes better buildup of iron stores and is well tolerated with minimal side-effects. The main advantages are less number of doses required to build up the deficit, fewer needle pricks, fewer hospital visits and less overall cost of treatment as compared to ISC.

FCS24.8
HIGH INTENSITY FOCUSED ULTRASOUND TREATMENT FOR NON-NEOPLASTIC EPITHELIAL DISORDERS OF THE VULVA: FACTORS AFFECTING EFFECTIVENESS AND RECURRENTNESS

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Objectives: To investigate the effectiveness of High-intensity Focused Ultrasound (HIFU) for treating Non-neoplastic Epithelial Disorders of the Vulva (NNEVD) and to analyze the factors that affect the effectiveness of HIFU and recurrence.

Method: This study included a total of 950 patients with pathologically confirmed NNEVD, who underwent HIFU treatment in our hospital between August 2008 and June 2013 and had completed follow-up data. Treatment efficacy and recurrence were evaluated retrospectively by analyzing the patients’ clinicopathologic data and by following up their symptomatic changes. We also explored factors including age, status of menopause, HPV infection, lesion size, pathological type, symptom severity for their correlation with treatment effectiveness and recurrence.

Results: HIFU was effective in alleviating symptoms and improving vulva signs, with a cure rate of 42.2%, an effective rate of 56.1%, and a low recurrence rate of 9.4%. No severe complications were recorded during and after the treatment. The treatment was statistically more effective in younger patients with squamous hyperplasia and smaller lesions than in older patients with lichen sclerosus and larger lesions (P<0.05). Patients with longer disease course or with lichen sclerosus had significantly higher recurrence rate than those with shorter disease course or with squamous hyperplasia (P<0.05).

Conclusions: HIFU is safe and effective in treating non-neoplastic epithelial disorders of the vulva. Its effectiveness is correlated with age, size of lesion and pathological type whereas post-treatment recurrence rate may be related to the duration of the disease and the pathological sub-types.
ADENOMYOSIS – RISK FACTORS AND SYMPTOMS. A PROSPECTIVE COHORT STUDY IN WOMEN ABOUT TO UNDERGO HISTERECTOMY

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Objectives: To prospectively explore the risk factors and symptoms in a cohort of women about to undergo hysterectomy, where pathological assessment of the uterus for adenomyosis was undertaken in a standardized manner.

Method: A prospective cohort study of women about to undergo a hysterectomy at Mercy Hospital for Women (a tertiary women's hospital in Melbourne, Australia), were recruited for the study. Participants completed a standardized questionnaire to document demographic information and details relating to lifelong contraception use, pregnancies and menstrual symptoms prior to their surgery. Each uterus was then examined using standardized methodology for the presence of adenomyosis by a regular group of pathologists. Histological findings were reported with reference to set descriptive criteria.

Results: Of 80 women recruited, mean age was 46.9 years and mean parity was 10 years and 3.7% were not married. Eighty one women (14.4%) had unintended index pregnancy among antenatal clients.

Conclusions: This prospective study shows a correlation between tubal ligation and adenomyosis. Dysmenorrhoea for >10 years and since menarche was strongly associated with the finding of adenomyosis. There was no association with age, parity menstruation or ovulation pain.

EFFECTS OF ULIPRISTAL ACETATE ON HUMAN EMBRYO ATTACHMENT AND ENDOMETRIAL CELL GENE EXPRESSION IN AN IN VITRO CO-CULTURE SYSTEM

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Objectives: To examine if ulipristal acetate (UPA) used for emergency contraception interferes with the human implantation process.

Method: Human embryos were co-cultured with 3-dimensional in vitro endometrial constructs containing UPA (n=10) or vehicle (n=10) for 5 days. The cultures were then analysed for embryo attachment and endometrial receptivity markers by RT-PCR.

Results: There was no significant difference in embryo attachment rate between the UPA treated group and the control group. 6 out of 17 receptivity genes studied were significantly differentially expressed after exposure to UPA compared with controls.

Conclusions: This study provides new insights on the mechanism of action of UPA on human embryo implantation, demonstrating that UPA in a dosage used for emergency contraception does not affect embryo viability and the implantation process in vitro.

INTRATERINE DEVICE EXPULSION AND PERFORATION MAY DEPEND ON THE SAME PHYSIOLOGICAL MECHANISM

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Objectives: IUD expulsion and perforation may both be due to uterine muscle action as well as insertion technique. This study identifies various forces associated with uterine muscle function to determine if there is a basic common mechanism underlying expulsion and perforation of IUDs.

Method: A search of MEDLINE, EMBASE and POPLINE was conducted to obtain articles linking force measurements with IUDs. These studies were added to studies of intrauterine pressure and surface area of the non-pregnant endometrial cavity. Force values relating to IUD insertion and removal and IUD fracture were found. There were also a number of studies which measured intrauterine pressure under various circumstances. Two studies also measured the surface area of the endometrial cavity of the non-pregnant uterus.

Results: The forces required to insert various IUDs in women of zero and single parity was 1.5–4 Newtons (N). This depends on the presenting surface area of the IUD. It is lower in most multiparous women. The forces required to remove an IUD ranged from 1 to 5.8 N. The force was higher for Gynefix because of its anchor mechanism and ranged from 6 to 9 N. The forces required to fracture an IUD ranged from 1.2 to 16.8 N depending on the type of IUD and whether it was new or used. Calculated maximal uterine forces which range from 30 to 50 N.

Conclusions: Uterine muscle can exert sufficient force to expel an IUD through the myometrium if it is applied asymmetrically. This is good evidence for secondary IUD perforation. The forces required for primary perforation suggest that it is most likely to occur where uterine muscle is weak eg lactation, post-partum, injectable progestogen usage and congenital abnormalities.

PREVALENCE AND DETERMINANTS OF UNINTENDED INDEX PREGNANCY AMONG A GROUP OF NIGERIAN WOMEN


Objectives: To determine the prevalence and determinants of unintended index pregnancy among antenatal clients.

Method: This is a cross sectional survey of antenatal clients attending the Anambra State University Teaching Hospital Awka. Five hundred sixty four consecutive antenatal clients were interviewed using structured and pre tested interviewer administered questionnaire. Data was collected between October 1, 2014 and January 31, 2015. Analysis was performed using the Statistical package for Social Sciences (IBM “SPSS” statistics 21). P value less than 0.05 was considered statistically significant.

Results: The percentage of the respondents was 28±4.9 while the mean parity was 1.41±1.51. 95.2% were married, 1.1% was separated and 3.7% were not married. Eighty one women (14.4%) had unintended index pregnancy. 30.9% of them have had an unintended pregnancy previously. Factors significantly associated with unintended index pregnancy are being presently unmarried (P<0.001), rural residence (P=0.03), and non contraceptive use (P<0.001). Twenty one (26%) women with unintended pregnancy had wished they could terminate the pregnancy. Out of this, six women (7.4%) actually made attempt at terminating the pregnancy.

Conclusions: The findings from this study suggest a fairly high prevalence of unintended index pregnancy among this group of women. This is associated with low social class and poor contraceptive practice. Effort should be made to scale up contraceptive techniques.
FCS25.6
CHINA FEMALE CONDOM (FCc) FUNCTIONALITY STUDY AGAINST AN EQUIVALENT MARKETED FEMALE CONDOM (FC2)
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Objectives: To compare the differences of the rates of total clinical failure and four types of failures (Invagination, Misdirection, Slippage and Breakage) between two kinds of female condoms (FC) [China made FC (FCc) and USA made FC (FC2)] as well as to assess whether each failure of four rates is accord with the standard of WHO.

Method: 300 participants were recruited. A computer-generated randomization sequence was used to assign the 300 participants to one of two groups (1:1). Group A used 5 FCcs first, followed by 5 FC2s. Group B used 5 FC2s first, followed by 5 FCcs. The FC2 is made from synthetic nitrile material and is manufactured by the Female Health Group B used 5 FC2s first, followed by 5 FCcs. The FCc is made of polyurethane and has a dumbbell shape. It is manufactured by Tianjin CondomBao Medical Polyurethane Tech. Co. (Tianjin, China).

Results: The rate of loss to follow-up was 4.2% for FCc and 2.8% for FC2. The total clinical failure rate of FCc was 0.9% (95% confidence interval 0.5–1.3%) compared to 1.1% (95% confidence interval 0.7–1.5%) for FC2. The upper bound of the one-sided 95% confidence interval for FCc total clinical failure rate, minus the FC2 total clinical failure rate is equal to 0.2% (1.5% − 1.3% = 0.2%). The difference of the total clinical failure rates (1.1% vs.0.9%) between FC2 and FCc was statistically not significant (P>0.05). No breakage was found both in FCc users and in FC2 users. The failure rates of invagination, misdirection and slippage of FCc were 1.3%, 1.3% and 1.1% respectively. The failure rates of invagination, misdirection and slippage of FC2 were 1.8%, 0.1% and 2.5% respectively. The difference of slippage rates (2.5% vs. 1.1%) was statistically significant (P>0.05) between FC2 and FCc. Between FCc and FC2 as well as the slippage rate of FCc was lower than the standard of WHO although the slippage rate of FC2 was slightly higher than that of FCc and slightly higher than the standard of WHO. The difference of invagination rates (1.8% vs. 1.3%) was also statistically significant (P>0.05) between FC2 and FCc. Although the rate of misdirection for FCc was higher than that for FC2 (1.3% vs. 0.1%) and although the difference of the misdirection rates between two groups was statistically significant, but the rate of misdirection for FCc (1.3%) is lower than that of WHO standard (1.5%).

Conclusions: (1) The results indicated that the total clinical failure rate of FCc is non-inferior to the total clinical failure rate of FC2; (2) The rates of four types of failure (Invagination, Misdirection, Slippage and Breakage) for FCc was that every failure rate is lower than the standard of WHO. (3) The upper bound of the one-sided 95% confidence interval for FCc total clinical failure rate, minus the FC2 total clinical failure rate is less than 3% (1.5% − 1.3% = 0.2%).

FCS25.7
THE CONTRACEPTION SITUATION OF UNWANTED PREGNANCY IN FEMALE WITH ABDUCTION: A MULTICENTER OBSERVATIONAL STUDY IN WEST CHINA
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Objectives: Investigate the contraceptive pracites and explore its related factors among women undergoing abortion in West China.

Method: A stratified cluster random sampling was performed and 16 hospitals were selected from 8 provinces in West China. From March 1, 2013 to September 1, 2014, we surveyed about 19176 women seeking induced abortion in these 16 hospitals. The questionnaire used in the survey involved questions about marital status, census register, job status, the level of education, reproductive history, number of children, currently used contraception, the cause of this unexpected pregnancy and so on.

Results: Of 19176 participants, no contraceptive use tended to be higher in the population characterized by younger, unmarried and with no history of pregnancy. In urban area, the proportion of the participants who ever had a history of abortion but not a childbearing accounted for 30.4%, compared with the proportion 26.8% (p<0.05), in rural. We also observed a different of the constituent ratio of the contraceptive method in unwanted pregnancy in city and countryside in West China. In the unintended pregnant women in urban, the leading two contraceptive way were condom and rhythm method, while in rural, were condom and IUD.

Conclusions: Among women undergoing abortion in West China, the contraception fail and no use of contraception were the primary reasons for the current unintended pregnancy. The proportion of no use of contraception was higher in rural than in urban. Factors related to the no use of contraception including age, marital status, educational level, history of pregnancy and job status. The practice of the contraceptive methods among women who undergoing abortion in city and countryside was different. The different should be paid attention and individualized services might be provided according to different features and needs.

FCS25.8
PATTERN OF CONTRACEPTIVE UPTAKE AND DISCONTINUATION BY WOMEN IN A TERTIARY HEALTHCARE INSTITUTION AT NNEWI SOUTH-EAST NIGERIA
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Objectives: To determine the contraceptive choices and follow up pattern for the different methods, as well as reasons for discontinuation of contraceptives.

Method: A retrospective study that involved collection of data from the family planning log book of women attending family planning clinic of the Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, Anambra State between January 2008 and December 2012. Statistical analysis was done using SPSS version 17.0 for windows.

Results: A total of 793 attendees were noted. Majority of the clients 400 (50.4%) accepted injectable hormonal contraceptives. This was followed by 376 (47.4%) of clients that accepted intrauterine contraceptive devices and 100.0% for the sub-dermal implants. The followup pattern for the injectables was 95.0%; 71.0% for intrauterine contraceptive devices and 100.0% for the sub-dermal implants. The major reason for discontinuation of contraceptives was the need to achieve pregnancy (98.3%). Other reasons included vaginal discharge and missing strings in clients using the intrauterine contraceptive devices.

Conclusions: The most commonly used contraceptive methods in women attending family planning clinic at Nnewi was the injectable hormonal contraceptives. More so, the follow up pattern was optimal, and the major reason for discontinuation of the different methods was to achieve pregnancy. Strategies to increase proper knowledge and understanding of patients on the different methods of contraception, their efficacy and side effects should be encouraged.
FCS26. Contraception and Fertility Control

FCS26.1 ASSESSING CONTRACEPTIVE KNOWLEDGE, ATTITUDES, AND PRACTICES AMONG HEALTHCARE PROFESSIONALS AND STUDENTS IN RWANDA: A CROSS-SECTIONAL STUDY
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Objectives: Despite the success of healthcare initiatives implemented by the Rwandan government, Rwanda is not on target to meet their Millennium Development Goal of a contraceptive prevalence of 70% by 2015. Physicians, nurses, and midwives play a critical role in the education of family planning strategies and the administration of contraceptives. The purpose of this study was to identify whether contraceptive knowledge gaps, negative attitudes, or lack of practical familiarity among healthcare professionals inadvertently pose a barrier to widespread contraceptive use in Rwanda.

Method: A cross-sectional survey study was conducted at the University Teaching Hospital of Kigali (CHUK) and the University of Rwanda between November 2013 and May 2014. 36 physicians, nurses, and midwives and 79 medical, nursing, and midwifery students were surveyed for contraceptive knowledge, attitudes, and use.

Results: Healthcare professionals’ and students’ mean scores on the contraceptive knowledge section were 73.8% and 59.8%, respectively. Though nearly all participants noted a strong religious affiliation, attitudes towards contraception were positive with 93.9% of participants expressing for contraceptive knowledge, attitudes, and use.

Conclusions: Knowledge deficiencies may need to be addressed to meet their Millennium Development Goal of a contraceptive prevalence of 70%. Physicians, nurses, and midwives should be provided with appropriate training to address these knowledge gaps and challenges that exist.

FCS26.2 ACCEPTABILITY AND SAFETY OF POSTPARTUM INTRAUTERINE CONTRACEPTIVE DEVICES IN 100 CONSECUTIVE PARTURIENTS AT THE MOTHER AND CHILD HOSPITAL ONDO, ONDO STATE, SOUTHWESTERN NIGERIA
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Objectives: Determine the acceptability and safety with voluntary use of postpartum intrauterine contraceptive device (IUCD) insertion among parturients who delivered at a busy maternity centre.

Method: This prospective interventional study was conducted in 100 patients over a 12-month period from July 2013 to June 2014 at the Mother and Child Hospital Ondo, a purpose-built tertiary care maternity centre offering free services (i.e. consultations, admissions, drugs, laboratory tests, blood transfusions and surgeries). Inclusion criteria were multiparous women who gave consent for the contraceptive method in antenatal period or on admission in labour. The Cu-T380A was inserted from 10 minutes to 48 hours after delivery, prior to discharge. The patients were then reevaluated at the family planning clinic after 3 months or whenever they have complaints using a checklist format and results collated and analyzed.

Results: Total number of deliveries in the 12-month period of study was 4,178 with multiparous patients accounting for 67%. One hundred patients were recruited for this study out of the 103 that consented to IUCD insertion giving an acceptability rate of 2.9%. Sixty-five patients were grand-multiparous whilst 5 had 2 previous deliveries. Only 34 respondents showed up for 3-month follow up clinic. Six patients out of 10 that had started menstruating complained of mildly increased menstrual flow. One out of 22 patients having intercourse requested for removal because of spousal discomfiture. Sixty-six patients did not return for the follow up visit.

Conclusions: Postpartum IUCD insertion appears to be acceptable and safe, especially in environments where follow up of patients is poor.

FCS26.3 AWARENESS AND PRACTICE OF DUAL CONTRACEPTION AMONG FEMALE TERTIARY INSTITUTION STUDENTS IN IBADAN, NIGERIA
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Objectives: To determine knowledge, awareness and factors associated with the use of dual contraception among female undergraduates in two tertiary institutions in Ibadan, Nigeria.

Method: This is a cross-sectional study using a semi-structured self-administered questionnaire to assess the knowledge and practice of dual contraception among female undergraduates in two tertiary educational institutions – University of Ibadan and Polytechnic of Ibadan as well as factors associated with its use. A total of 1,200 undergraduate students were interviewed and data obtained were analyzed by SPSS version 18.

Results: 1118 were satisfactorily returned. Most respondents (84.6%) were unmarried, 871 (77.9%) have been sexually exposed and 793 (70.9%) had heard of dual contraception, main source of information was media. More than two-third (79.2%) of those who had been sexually exposed were aware of dual contraception but only 41.6% uses it. 67.1% have become sexually active by age 19. Those who had multiple sexual partners and lower coitarche were more likely to use dual contraception (P<0.05). There was significant association between history of previous STI (OR=3.06, 95% CI: 2.03–4.62) and unwanted pregnancy (OR=3.53, 95% CI: 2.82–4.74) with the use of dual contraception.

Conclusions: In spite of good knowledge of dual contraception among the students, uptake has remained low. Efforts need to be further concentrated on determining and addressing the challenges that are responsible for the lower uptake of dual contraception among female undergraduates who are at higher risk of unwanted pregnancy and STIs. Involvement of the male counterparts and empowerment of the female students to negotiate safe sex practices and promotion of consistent use of dual contraception are pertinent in maximizing the benefits of dual contraception in our environment.

FCS26.4 ATTITUDES AND BEHAVIOURS OF MEN TOWARDS MODERN FAMILY PLANNING: FINDINGS FROM A COMMUNITY BASED STUDY IN A DEVELOPING COUNTRY

Objectives: To determine if there is a role for men towards improving uptake of modern family planning (FP) methods in Nigeria by investigating their knowledge, attitudes and extent of involvement in family planning choice and use by the couple.

Method: Semi structured interviews were used to collect information from 152 married men residing in Gwagwalada in Nigeria’s federal capital territory, while qualitative methods using focused group
discussions involving a total of 64 discussants and in-depth interviews were used to get information from various groups including married men, married women, religious leaders, community leaders and FP providers. Quantitative data was analysed using SPSS version 16.0 while content analysis was done for the qualitative data.

Results: Men had supportive attitude towards FP as 65.1% would accompany their wives to the clinics, 76.3% would approve the use of modern contraception by their wives and 86.8% of men desired to know more about family planning. Husbands were the major decision takers on family size in the community. There was statistically significant association between educational level and approval of use of FP methods by wives of respondents ($\chi^2=12.330, P=0.006$) Barriers to the use of FP in the communities included desire for more children, fear of side effects, lack of adequate information and costs.

Conclusions: Involving men and obtaining their support and commitment to FP is of crucial importance in Nigeria as most decisions concerning fertility goals and FP are made by them.

FCS26.5
PREVALENCE AND ASSOCIATED VARIABLES OF REPEAT TEENAGE PREGNANCIES IN UMLAZI, KWAZULU-NATAL

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Objectives: Teenage pregnancy is associated with adverse maternal and perinatal outcomes and poor socio-economic and psychological consequences. Repeat pregnancies among adolescents compound this public health challenge. Although the prevalence of teenage pregnancy has been widely documented in South Africa the prevalence of repeat teenage pregnancies remains unclear. We sought to determine the prevalence of repeat pregnancies among teenagers, the time taken to the subsequent pregnancy and to compare sexual and reproductive characteristics of first pregnancies (FP) and those with repeat pregnancies (RP).

Method: A prospective observational study was conducted in Umlazi, KwaZulu-Natal at Prince Mshiyeni Memorial Hospital (PMMH) between May to September 2013. Teenagers between 13 and 19 years were recruited from the antenatal clinic, labour ward, post natal wards and termination of pregnancy clinic (TOP). A structured questionnaire was administered to collect data on demographics, reproductive and sexual history of participants. Over the study period 341 teenagers were interviewed. Over the study period 341 teenagers were interviewed.

Results: There were 281 (82%) FPs and 60 (18%) RPs; forty five (75%) of the repeat pregnancies occurred within 24 months after the first pregnancy. Overall contraception use was low (17.0%), few teenagers knew of emergency contraception (46%) or even used it (8.2%). Although 74% of RP teenagers had prior contraception initiation, largely Depot Medroxyprogesterone acetate injection (93.1%) all defaulted within 12 months. RP were associated with having a partner that was five or more years older (64.4% vs 46.0%, $p<0.0001$), having more than one sexual partner in the past 12 months (35.0% vs 12.5%; $p<0.0001$) and higher HIV prevalence (30.5% vs 9.5%; $p<0.0001$).

Conclusions: Preventing the first teenage pregnancy remains paramount as subsequent pregnancies tend to follow rapidly in our setting. There are indeed complex social and economic factors that come into play in modifying behaviors of teenagers and shape the trajectory of their health; therefore strategies to curtail this need to take cognisance of the context in which these pregnancies arise and target risk factors through a multi-sectoral response. The provision of LARCs to teenagers is a promising public health strategy but its success will depend on uptake and retention rates of this method as well as the coherence of the health system to deliver this.

FCS26.6
EVALUATION OF PELVIC INFECTION IN WOMEN USING LILETTA™, A NEW 52 mg LEVONORGESTREL-RELEASING INTRAUTERINE SYSTEM, FOR UP TO 2 YEARS

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Objectives: Evaluate pelvic infection rates over 2 years following placement of the Liletta™ 52 mg levonorgestrel-releasing intrauterine system (IUS).

Method: A total of 1,751 nulliparous and multiparous women enrolled in a multicenter trial designed to evaluate the efficacy and safety of Liletta for up to 7 years. Participants had Chlamydia screening at study entry and yearly if they were 25 years and younger. Women who changed sexual partners during the trial had Chlamydia and gonorrhea testing. No prophylactic antibiotics were used for IUS placement. Pelvic examinations were performed after 12 and 24 months and when clinically indicated during visits at 3, 6 and 18 months after placement and unscheduled visits. Pelvic infection included any clinical diagnosis of PID or endometritis.

Results: Pelvic infection was diagnosed in 9 (0.5%) participants over two years, including 3 women within 7 days, 1 woman at 39 days, and 5 women six or more months after placement. Seven women received outpatient antibiotic treatment and two (diagnoses between 6 and 12 months after placement) received inpatient treatment. IUS removal was performed in 2 (0.1%) subjects related to infection (6 days; 7 months), both of whom received outpatient treatment. Sexually transmitted infection testing was positive in 26 (1.5%) women at baseline (Chlamydia n=22, gonorrhea n=3, both n=1); all were treated without IUS removal and none developed pelvic infection.

Conclusions: Pelvic infection in the first month after Liletta placement is rare (0.2%) and is more likely to be diagnosed remote from the time of IUS insertion. Pelvic infection was successfully treated in most women with outpatient antibiotics and typically did not require IUS removal.

FCS26.7
AMENORRHEA RATES IN WOMEN USING LILETTA™, A NEW 52 mg LEVONORGESTREL INTRAUTERINE SYSTEM, FOR UP TO 4 YEARS

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Objectives: Evaluate amenorrhea rates in women using the Liletta™ 52 mg levonorgestrel-releasing intrauterine system (IUS) for up to 4 years.

Method: A total of 1,751 women aged 16–45 years were enrolled in a multicenter clinical trial designed to evaluate the efficacy and safety of Liletta for up to 7 years. For the first 24 months of the study, participants maintained a daily diary to provide bleeding information. After 24 months, participants answered interview questions regarding their bleeding pattern during scheduled study contacts every 3 months. Amenorrhea is defined as no bleeding or spotting in the preceding 90 days. We evaluated amenorrhea rates among women who reached the end of each study year.

Results: Overall, 1,714 women had successful Liletta placement. In
this ongoing study. 1,444, 1,028, 368 and 302 women have completed 12, 24, 36 and 48 months of Liletta use, respectively and contributed data to this analysis. Only 1.8% of women discontinued Liletta use for bleeding irregularities; no women discontinued for amenorrhea. Amenorrhea prevalence at 12, 24, 36 and 48 months of Liletta use is 18.6%, 28.3%, 37.8% and 40.4%, respectively. Of the 269 women who were amenorrheic at 12 months and had completed subsequent years of follow-up, 69.1%, 43.3% and 34.6% were amenorrheic at 24, 36 and 48 months, respectively.

Conclusions: Amenorrhea prevalence with Liletta use increases over time during 4 years of use. Women who become amenorrheic by the end of one year may experience bleeding or spotting in future years.

FCS26.8
INVESTIGATING AUSTRALIAN WOMEN'S CHOICE AND UPTAKE OF POST ABORTION CONTRACEPTION IN THE MARIE STOPES INTERNATIONAL CLINICS
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Objectives: To examine the use of post-abortion contraception and the uptake of long-acting reversible contraceptive (LARC) methods amongst women seeking abortion in Australia.

The main outcome measure was the uptake and immediate provision of LARC methods post abortion.

Method: This is a cross sectional study of post abortion contraception choices and uptake in all Marie Stopes International (MSI) clinics across Australia between September and December 2012. The analysis was based on the 6348 women with completed demographic details. The statistical analysis was done using SAS 9.3.

Results: Only 27.4% women chose a LARC method for use after abortion and of those immediate provisions occurred in 71%. Women aged 20–24 were more likely to choose a LARC method. Also LARC method choice was associated with number of children, with the likelihood of LARC choice increasing with the number of children. Immediate insertion occurred more frequently in women aged over 30 as compared to younger women and in women who were Australian or African born. Women in the lowest socio-economic quintile were the least likely to get the LARC method inserted. LARC provision occurred more often after surgical abortion.

Conclusions: Abortion services recognise the need to ensure women leave their services with reliable contraception. The findings of our study probably reflects the fact that women have to pay an additional amount of money, over and above the cost of abortion, to have the contraceptive method supplied. Given the good evidence that LARC provision can reduce the chance of repeat abortion, there needs to be greater emphasis on ensuring that LARC methods are made more accessible and affordable. This will enable more women to avoid a further unintended pregnancy and in turn reduce repeat abortions.

FCS27. Contraception and Fertility Control

FCS27.1
IMPLEMENTATION AND EVALUATION OF AN INNOVATIVE ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH SCHOOL-BASED PROGRAM IN RURAL RWANDA
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Objectives: Unplanned pregnancy and sexually transmitted infections in adolescents occur despite the best contraceptive strategies as young people lack knowledge about sexual and reproductive health (SRH), contraception, and service acquisition. Successful pregnancy prevention programs require support from education, healthcare, and community sectors. Effective implementation can foster greater health knowledge, better access to youth friendly services, improved uptake of contraception, and subsequently, behavioral change. Our goal was to utilize data from a needs assessment of a large cohort of Rwandan adolescents to design and implement a secondary school level SRH education program and assess change in knowledge and uptake of contraception.

Method: A multifaceted reproductive health program was initiated at a private Rwandan secondary school. One hundred thirty-two male and 181 female students, ages 13–30 participated in the program. Field trips to a youth friendly local health center were organized for students. A clinic log book tracked adolescent utilization of contraceptive services.

Classroom didactics included lectures covering human sexuality, reproductive anatomy, sexual myths and facts, pregnancy, contraception, STI/HIV, sexual violence, and clinic etiquette. Lectures were delivered by trained Rwandan teachers. Pre-and post tests were administered and scores were compared using paired t-tests to evaluate effectiveness.

Results: Three hundred thirteen students took both pre and post tests covering 7 SRH topics. Post-course improvement was seen in 5 of 7 (71%) of the topics: sexuality, anatomy, sex myths, pregnancy, and contraception (p < 0.0001). When assessing for differences between age groups and gender, older students, age > 21, had greater STI/HIV post-course improvement (p = 0.0117) compared to the younger students under 21 years and females performed better than males on the topic of sexuality (p = 0.007) only.

The health center log book recorded family planning service activity among 44 adolescents in the year since the program initiation.

Conclusions: A multifaceted school based SRH program, which is well integrated into the school curriculum is an effective way to improve the foundation of sexual and reproductive health knowledge. Integrating classroom activity modules and field trips to the local health facilities, may improve access to contraceptive tools and encourage safer sexual practices among sexually active adolescents in rural Rwanda.

FCS27.2
RANDOMIZED-CONTROLLED TRIAL OF CONTRACEPTIVE USE AT 3- AND 6-MONTHS POST-ABORTION
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Objectives: To measure contraceptive use, 3 and 6 months post-abortion, after a no-cost contraceptive implant and new and standardized post-abortion contraceptive counseling tool (CCT) intervention.

Method: All women receiving care Fundación Orièntame over a one-month period were randomized into one of 4 groups: Application of a new standardized contraception of counseling tool (CCT); offer of a no-cost implant with CCT (combined intervention group) or without CCT (implant-offer group); or regular contraceptive counseling (control group). All women were offered an IUD at no additional cost, as is the usual practice at this clinic. Eligible women were 18 years or older, willing to be called for 3 and 6 month follow-up, and able to provide informed consent.

Results: Overall 88% participants selected a contraceptive method at baseline. Women in the combined intervention group had increased odds of any method uptake and LARC uptake, and women in the implant-offer group had increased odds of reporting any contraceptive use, and women in the combined intervention and implant-offer groups had increased odds of reporting use
of LARC methods. At 6 months, women in the combined intervention and implant-offer groups had increased odds of reporting LARC use. **Conclusions:** Our new standardized contraceptive counseling tool increased post-abortion contraceptive use at 3 months, while free and immediately accessible implants, increased post-abortion LARC uptake and use at 3 and 6 months, with and without the CCT.

**FCS27.3**

**CLINICAL VERSUS LABORATORY SCREENING FOR SEXUALLY TRANSMITTED INFECTIONS PRIOR TO INSERTION OF INTRAUTERINE CONTRACEPTION AMONG WOMEN LIVING WITH HIV/AIDS – A RANDOMISED CONTROLLED TRIAL**

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**Objectives:** To determine if laboratory testing versus no additional testing for STI after syndromic screening reduces the rate of infectious morbidity among WLHA using IUC at Mulago Hospital, Uganda. **Method:** We enrolled WLHA from 2nd September to 6th December 2013 and followed until 31st December 2014. After syndromic screening, 703 women free of STIs were randomised to either additional laboratory screening or no additional screening for STI before IUC insertion. All women randomised had an IUC inserted and in all 672 participants completed the one year follow-up. The study staff that followed up the participants was blinded to the study allocation groups. Survival analysis was conducted and cox’s proportional hazards ratios used to compare instantaneous risks of infectious morbidity between the two groups. **Results:** The rate of IUC related infectious morbidity was 10.6% (35/331) in the no additional screening group and 10.3% (35/341) in the additional laboratory screening group (hazard ratio 1.04 (95% CI 0.89–1.20). Unscheduled clinic attendances were similar in the two groups at one year of IUC insertion 13.6% (45/331) in the no additional screening group and 12.3% (42/241) in the additional laboratory screening group. During the one year after IUC insertion, only five women, three from the no additional screening group and two from the additional laboratory screening group developed PID, as defined by established criteria. **Conclusions:** Infectious morbidity among WLHA opting for IUC is low. Syndromic screening for STIs could be sufficient in identifying WLHA who are suitable for IUC use. However our findings are only generalizable to women in HIV/AIDS care who have access to good follow up. However the.

**FCS27.4**

**ASSOCIATION BETWEEN LEVONORGESTREL EMERGENCY CONTRACEPTION AND THE RISK OF ECTOPIC PREGNANCY: A MULTICENTER CASE-CONTROL STUDY**

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**Objectives:** With the widespread use of levonorgestrel emergency contraception (LNG-EC) in China, cases of ectopic pregnancy (EP) following LNG-EC failure have been reported continuously, but whether there is an association between EP risk and LNG-EC is unclear and paradoxically. Therefore, we designed a case-control study to explore the association between LNG-EC and the risk of EP. **Method:** We conducted a multicenter case-control study in five medical institutes in Shanghai, to explore this association by recruiting 2,411 EP patients as case group, and 2,416 women with intrauterine pregnancy and 2,419 non-pregnant women as control groups. The ORs and their 95% confidence intervals were calculated and adjusted for potential confounding factors to estimate the association between the risk of EP and previous or current use of LNG-EC. We also adjusted ORs and their 95% CIs in a mixed effects model by using institutions as a random effect. **Results:** Compared to women who did not use contraceptives, current use of LNG-EC reduced the risk for intrauterine pregnancy (AOR1=0.20), but did not increase the risk for EP (AOR2=1.04). However, in the case of EC failure, LNG-EC users were more likely to have an EP (AOR2 = 5.29, 95% CI: 4.07–6.87). Furthermore, compared to women who did not have further act of intercourse, women with unprotected further act of intercourse were at a higher risk of EP, and women with repeated use of LNG-EC for further intercourse during the same cycle was also associated with a higher risk for EP. **Conclusions:** We conclude that with the wide use of LNG-EC, a better understanding of the risk of ectopic pregnancy associated with levonorgestrel emergency contraception failure could help to optimize the way in which this form of contraception is used.
FCS27.6
NEGOTIATING COLLECTIVE AND INDIVIDUAL REPRODUCTIVE AGENCY – THE STRATEGIES AND TACTICS OF REPRODUCTIVE CONTROL AMONG YOUNG WOMEN IN RURAL INDIA. A QUALITATIVE STUDY
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Objectives: By using the concepts of strategies and tactics structured in a framework of agency we aim to explore young rural Indian women’s opportunities to make reproductive decisions and means of practicing reproductive control available to them, in the context of social expectations.

Method: We carried out 24 in-depth interviews with 19 women during 2013/14 in rural Rajasthan, India, using a naturalistic inquiry approach allowing continuous development of the interview guide. Data was structured through thematic analysis.

Results: Findings highlight that women have reproductive intentions, and that new social norms; the two-child norm and prolonged inter-pregnancy intervals, are desired and socially accepted. However, effective means to fulfill these norms of reproduction are not accessible. Childbearing and fertility is determined by collective strategies within the family and supported by community values, while reproductive control relies on women’s individual tactics in an attempt to adhere to existing social expectations. Rural youth rarely use modern contraceptive; instead, women resort to traditional methods resulting in their pragmatic resort to abortion. The changing social norms observed argues for opportunities for individual reproductive control.

Conclusions: The found agentic opportunities increase young women’s possibilities, desire and need to find effective means of reproductive control. However, the lack of response from the health system is deterring these opportunities. Hence, making contraceptive counselling more patient-centred by considering women’s opportunities to influence their reproduction is crucial to motivate contraceptive use among young women. Additionally, better use of contraceptive counselling opportunities post-abortion and delivery are central.

FCS27.7
PLASMA LEVONORGESTREL LEVELS OVER 36 MONTHS IN NON-OBESE AND OBESE WOMEN USING LILETTA™, A NEW 52 mg LEVONORGESTREL-RELEASING INTRAUTERINE SYSTEM
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Objectives: Evaluate levonorgestrel pharmacokinetics in women using the Liletta™ 52 mg levonorgestrel-releasing intrauterine system (IUS) or Mirena® for up to 36 months.

Method: Sixty women age 16–35 years enrolling in a clinical trial designed to evaluate the efficacy and safety of Liletta for contraception up to 7 years were included in a substudy to evaluate plasma levonorgestrel levels. Forty non-obese (BMI < 30 kg/m²) participants were randomized to Liletta (n=21) or Mirena (n=19; 2 had no specimens drawn). An additional 20 obese (BMI ≥ 30 kg/m²) participants were assigned to Liletta of whom 1 had unusable data. Plasma levonorgestrel levels were measured at enrollment, days 7 and 14, and months 1, 3, 6, 9, 12 18, 24, 30 and 36.

Results: Among non-obese women, Liletta and Mirena users had comparable mean levonorgestrel levels during week 1 (310±140 pg/mL vs. 341±145 pg/mL, respectively) and week 2 (279±107 pg/mL vs. 331±144 pg/mL, respectively). From months 1 to 36, mean levels remained similar (month 12 levels of 192±36 pg/mL and 187±42 pg/mL, respectively; month 36 values of 153±38 pg/mL and 152±56 pg/mL, respectively). Mean levonorgestrel levels at each time point were 28% to 41% lower in obese than non-obese subjects, averaging 31% lower over the 36 months. In the larger clinical trial, we observed no difference in efficacy between obese and non-obese LNG20 subjects over the first 3 years.

Conclusions: Plasma levonorgestrel levels are comparable through 36 months in non-obese women using Liletta and Mirena. Plasma levonorgestrel concentrations in obese Liletta users are about 30% to 40% lower than levels in non-obese women. Because Liletta has similar efficacy in non-obese and obese women, this finding is not relevant for contraception. However, this information may be useful for future investigation of systemic side effect profiles among obese and non-obese women using hormonal intrauterine contraception.

FCS27.8
INTRAUTERINE DEVICES AND THE RISK OF UTERINE PERFORATIONS: FINAL RESULTS FROM THE EURAS-IUD STUDY
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Objectives: Uterine perforation is a potentially serious complication of intrauterine device (IUD) use. The absolute risk of uterine perforation associated with levonorgestrel-releasing IUDs (LNG-IUD) is unknown. It is also unknown whether the perforation rate is higher with this IUD than with copper IUDs. Aim of the study is to determine the uterine perforation rate in women using Intrauterine Devices (IUD).

Method: Large, comparative, multinational, prospective, non-interventional cohort study with new users of different types of IUDs: LNG-IUDs and copper IUDs. The combined cohort included more than 60,000 women in six European countries (Germany, Austria, UK, Finland, Poland and Sweden). The study was conducted from 2006 to 2013. Both the women and their treating physicians received a follow-up questionnaire 12 months after enrolment. All patient-reported outcomes of interest were validated by the women’s treating physicians. A multifaceted 4-level follow-up procedure ensured low loss to follow-up rates. The analysis was based on Cox regression models comparing the cohorts.

Results: 61,448 women were recruited (70% LNG-IUDs, 30% copper IUDs). In total, 61 perforations with LNG-IUD (1.4 per 1,000 insertions (95% CI: 1.1–1.8)) and 20 with copper IUD (1.1 per 1,000 insertions (95% CI: 0.7–1.7)) occurred. The risk ratio (RRadj) adjusted for age, BMI, breastfeeding and parity was 1.61 (95% CI: 0.96–2.70). 63 of the 81 perforations were associated with previously suspected risk factors for perforation. Breastfeeding at time of insertion led to a six-fold increase in total perforation risk (RR 6.1, 95% CI: 3.6–9.6). None of the perforations led to serious injury to intraabdominal or pelvic structures.

Conclusions: Perforation rates for intrauterine devices are low. The adjusted risk ratio for perforation comparing LNG-IUS and copper IUDs was 1.61. An association of this magnitude identified in observational research is too low to discriminate among bias, confounding, causation, and chance as alternative explanations. Perforation rates were significantly higher among women breast feeding at the time of insertion compared to those not breast feeding.
**FCS28. Contraception and Fertility Control**

**FCS28.1 UNWANTED PREGNANCIES IN WOMEN USING INTRAUTERINE DEVICES: FINAL RESULTS FROM THE EURAS-IUD STUDY**

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**Objectives:** Intrauterine devices (IUDs) are a well accepted and widely used method of contraception and have shown high contraceptive efficacy in clinical trials. Complications associated with unintended pregnancies during IUD use have been previously poorly described. The primary objective of the analysis is to determine the rate of unwanted pregnancies in women using IUDs and describe associated complications.

**Method:** Large, comparative, multinational, prospective, non-deceptive efficacy in clinical trials. Complications associated with unwanted pregnancies during IUD use have been previously poorly described. The primary objective of the analysis is to determine the rate of unwanted pregnancies in women using IUDs and describe associated complications.

**Results:** 61,448 women were recruited (70% LNG-IUDs, 30% copper IUDs). Women in the LNG-IUD cohort were slightly older (37.4 yrs vs 33.3 yrs). A total of 118 contraceptive failures have been reported (26 LNG-IUS, 92 copper IUD), giving a pearl index (PI) of 0.06 for LNG-IUS and a PI of 0.52 for copper IUD. The hazard ratio adjusted for age, BMI and parity for LNG-IUS vs. copper IUD was 0.16 (95% CI: 0.10–0.25). 21 pregnancies (7 LNG-IUS, 14 copper IUD) were ectopic pregnancies, giving an adjusted hazard ratio of 0.26 (95% CI: 0.10–0.66).

**Conclusions:** The contraceptive failure rate for both cohorts was low, with LNG-IUD having a significantly lower contraceptive failure rate compared with copper-IUD. Physicians should have a high index of suspicion for extra-uterine gravida if they suspect a pregnancy under IUD use.

**FCS28.2 PREDICTORS OF IMPLANT UPTAKE AMONG POSTPARTUM MALAWIAN WOMEN**

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**Objectives:** The contraceptive implant is a method that is not user-dependent and whose efficacy rivals sterilization, though it is reversible. However, in sub-Saharan Africa, including Malawi, implant use is less than 2%. Our objective was to determine if correct implant knowledge is associated with implant uptake in a population of postpartum Malawian women.

**Method:** We conducted a prospective cohort study of 634 postpartum women. Women were enrolled immediately after delivery of a live infant. Data were collected at baseline and by telephone at 3, 6, and 12 months postpartum. Women were asked about knowledge of contraception, contraceptive use and timing, and contraceptive continuation. Differences in the baseline characteristics of women with and without correct baseline implant knowledge were calculated using Pearson’s χ² tests. Hazard ratios were calculated to examine the relationship of correct implant knowledge to time of implant uptake using unadjusted and adjusted Cox proportional hazards regression models.

**Results:** Of the 634 participants, the median age was 25 (IQR 21, 29), and median parity was 2 (IQR 1, 3). Follow-up data were collected from 539 (85.0%), 480 (75.7%), and 331 (52.2%) participants at 3, 6, and 12 months, respectively. One hundred and thirty-three women reported implant use during the follow-up period. Among women who reported implant placement, median time from delivery to implant placement was 3 months (IQR 2–5 months). Correct implant knowledge was associated with higher implant uptake in unadjusted analysis (HR: 1.60 95% CI 1.02, 2.52) and after adjustment for age (HR: 1.62 95% CI 1.03, 2.55).

**Conclusions:** In this study, correct baseline knowledge about the contraceptive implant was associated with implant uptake. Correct contraceptive knowledge can be increased through counseling of patients by providers and community education campaigns. Identifying modifiable characteristics to increase uptake of long-acting reversible methods, such as the contraceptive implant, is important to address an unmet need in family planning.

**FCS28.3 FAMILY PLANNING KNOWLEDGE AND USE AMONG WOMEN RESIDING IN REFUGEE CAMPS IN EASTERN DEMOCRATIC REPUBLIC OF CONGO**

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**Objectives:** This survey of reproductive-aged women displaced by conflict and residing in refugee camps in eastern Democratic Republic of Congo (DRC) aims to describe their family planning awareness and needs in order to inform the development of a family planning program and improve contraceptive access for this highly vulnerable group of women.

**Method:** The study was conducted at the Mugunga I and II refugee camps in North Kivu in March 2014. UNHCR estimates over 2.6 million internally displaced persons in DRC and the Mugungu camps currently house 22560 residents. A sample of reproductive-aged women were recruited by three independent researchers in the camps. Informed consent was obtained and participants completed an individual verbally-administered survey assessing their obstetrical history including induced abortion, and family planning knowledge, interest, and prior use. Surveys were conducted and recorded by researchers. Analysis was performed and descriptive statistics were obtained.

**Results:** N=155, 93.5% were camp residents for ≤2 years. The median parity was 4.0. 33 women (21.3%) reported an induced abortion. 59% self-induced using medication or herbs and 35% received care from a healthcare provider. 83.8% received contraception counseling – 50% during prenatal care and 17% from an NGO. 34.8% knew ≥2 methods and 30.3% reported having ever used contraception with median use 6 months. Women who had experienced an induced abortion were 2.3 times more likely to have used contraception (p <0.044); Women who had never used contraception cited lack of interest (61.7%) lack of knowledge (20.6%) and religious opposition (12.2%).

**Conclusions:** Eastern DRC has been embroiled in a regional conflict since 1994. This conflict has resulted in massive population displacement and a long-term displaced persons situation. Women with formal refugee status residing in camps had moderate levels of contraceptive knowledge but low levels of usage and a significant history of induced abortion. Family Planning efforts for this population must focus on helping women avoid unintended pregnancy through improved access to contraception, especially long-acting methods, as well as safe abortion and post-abortion care.
FCS28.4
LOW RATES OF COMPLICATIONS IN CLIENTS THROUGHOUT THE RAPID SCALE UP OF POSTPARTUM IUCD (PPIUCD) SERVICES IN INDIA
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Objectives: To identify the drivers of quality that helped in keeping rates of complications in PPIUCD clients low during rapid scale up of PPIUCD services in India.

Method: Given high unmet need for family planning during postpartum period and increasing institutional deliveries, PPIUCD services were initiated in 5 facilities in 2 states of India in 2009–10 and by 2014, PPIUCD services were scaled up in > 1000 facilities in > 425 districts in 19 states.

Monthly reports from facilities were compiled and analyzed. During 2009–2014, over 390,000 PPIUCD insertions were performed, indicating > 9% of total institutional deliveries. About 52% of PPIUCD acceptors (204,966) were followed up after 6 weeks of insertion during 2011–2014 and follow up findings of these clients specify the post-insertion outcomes, which reflect on quality of care.

Results: Rates of Expulsions, which is the major concern with PPIUCD, remained below 3.4%; rates of infection remained below 2.2%; though removal increased from 1.6% (2011) to 6.2% (2014). Nonetheless, majority of clients opted to continue using the IUCD and 88% of PPIUCD clients, have no complaints. No perforation was reported at 6 weeks follow up. However, 2 women returned at 6 months with complaints resulting from perforations. These 2 cases were successfully managed and clients were satisfied with outcomes.

Conclusions: Key contributors for low levels of complications:
• Minimum performance standards set by stakeholders for counseling, service provision, follow up, management of services and record keeping
• Hired dedicated counsellors trained and equipped with appropriate job-aids, counselling corner established for privacy
• Providers’ competency built through insertion on humanistic models and supervised insertion in clients during training. Supportive supervision addressed gaps
• Insertions allowed by trained providers. Pre-insertion screening and infection prevention measures kept infection rate low
• Clients followed-up at 6 weeks; facilities duly maintained registers
• Separate studies and quality review provided important feedback

Above system-based approach ensured quality during rapid scale up.

FCS28.5
“IT’S DIFFICULT HERE, BECAUSE YOU NEED SOMEONE TO LOOK AFTER THE CHILDREN”: A QUALITATIVE ANALYSIS OF AFRICAN REFUGEE WOMEN’S POST-RESettlement PERCEPTIONS REGARDING FAMILY SIZE AND FERTILITY
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Objectives: To understand conceptualization of family size and fertility desires among a group of African refugee women after resettlement to the United States.

Method: Focus groups (FG) were conducted with resettled Somali (n=41) and Congolese (n=26) refugee women in Salt Lake City, UT. Participants were recruited via community leaders and refugee service organizations. Three Somali and three Congolese FG occurred between May and August 2014. FG undertaken in the women’s native language using a semi-structured interview guide of open-ended questions designed to elicit understanding of family size conceptualization and future fertility desires. FG audio recordings translated and transcribed verbatim by externally located certified translators then checked for accuracy. Two researchers utilized deductive and inductive coding to analyze transcripts and develop themes using Atlas.ti software.

Results: Somali women were older (mean: 38 v. 33), more likely married (68% v. 33%) and resettled longer (median 54 v 19.5 months) than Congolese women. Both groups indicated families with many children (>5) were preferable to those with fewer children; Somali women were likely to attribute this belief to religious tenets while Congolese women cited the influence of non-religious cultural norms. Evolving parenting concepts as women transitioned from community dwelling in home/host countries to nuclear family isolation in the United States was prevalent. Despite perceptions of increased difficulty raising children after resettlement, women maintained the community preference for many children.

Conclusions: These results indicate that pre-displacement societal norms persist in post-resettlement environments despite evolving concepts regarding parenting roles and family models. The preference for more children does not seem correlated with time since resettlement. Contextual understanding of family planning goals and desires, as well as societal norms, is crucial for appropriate family planning counseling of resettled refugee women.

FCS28.6
IMMEDIATE VERSUS LATER INSERTION OF THE LEVONORGESTREL-RELEASEING INTRAUTERINE SYSTEM AFTER MEDICAL ABORTION BETWEEN 9 TO 12 WEEKS OF GESTATION – A RANDOMIZED CONTROLLED STUDY
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Objectives: Intrauterine contraceptive devices and systems (IUD) are the most effective contraceptive methods in prevention of repeat abortions. Conventionally, an IUD insertion is scheduled at few weeks after medical abortion. However, up to half the patients fail to attend the follow-up appointment. IUD can be inserted after vaginal birth immediately after the placental expulsion, but the rate of IUD expulsion is increased up to 24%. The aim of our study was to compare expulsion rates between immediate vs. conventional insertion of IUD after medically induced abortion.

Method: This randomized controlled trial included 102 women undergoing medical abortion between 9 to 12 weeks of gestation. It was conducted at Helsinki University Hospital between January and December 2013. Women were randomized between immediate (on the day of termination) vs. conventional insertion of the levonorgestrel-releasing intrauterine system (LNG-IUS) at the follow-up visit 2 to 4 weeks later. Expulsion rates and possible complications were registered at follow-up visits at 2 to 4 weeks and 3 months.

Results: LNG-IUS was inserted in 50 out of 51 women (98.0%) in the immediate group vs. 41 of 51 (80.4%) in the conventional group, p=0.008. Numbers of total expulsions at 3 months were similar between the groups, 2 of 43 (4.7%) vs. 1 of 31 (3.2%), p=1.00. However, there were more cervically or istmically displaced LNG-IUSs in the group of immediate insertion than in the group of conventional insertion, 12 (27.9%) vs. 1 (3.2%), p=0.009. No cases of uterine perforation occurred. The rate of infection (12.5% vs. 15.6%, p=0.74) or curettage (20.0% vs. 26.5%, p=0.65) did not differ between the groups.

Conclusions: An immediate insertion of the LNG-IUS after medical abortion resulted in a higher rate of initiation of intrauterine contraception without increasing the rate of complications. The rate of complete IUD expulsions was comparable to those seen after surgical abortion. Following immediate insertion the rate of expelled or displaced IUDs was parallel with that observed after post-placental insertion following vaginal delivery. Immediate insertion of LNG-IUS after medical abortion is a safe alternative to ensure long-acting contraception, especially when the patient’s compliance with the follow-up visit is uncertain.
Improving Evidence-Based Practice for LARC: Evaluation of the Ryan LARC Program

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Objectives: The Ryan LARC program supplies free LARC devices (IUDs and implants) to 59 ob-gyn departments across the US, with two goals:
1. To expand training for nursing students, medical students, residents and family planning fellows in evidence-based utilization of LARC; and
2. To increase patient access to LARC in a clinical scenario outside the typical interval insertion setting, specifically immediately post-partum, immediately post-abortion or in medically or socially vulnerable patients.

Our objective was to evaluate program progress toward these goals.

Method: Non-identifying data on LARC insertion are collected monthly. Women are eligible to receive Ryan LARC if they face significant financial barriers to obtaining contraception and present for LARC outside the typical interval insertion setting. Medically vulnerable populations are defined as patients advised by their physicians to prevent pregnancy because of significant medical problems. Examples include patients with cardiovascular disease, neurological conditions, autoimmune disease, and transplant patients. Socially vulnerable populations are defined as patients desiring to prevent pregnancy because of social circumstances. All LARC insertions should be completed or observed by a trainee. We assessed program progress and trends over time.

Results: Between May 2008 and December 2014, 32,629 women received Ryan LARC devices. 63% of these women had LARC inserted immediately post-abortion, 23% immediately postpartum, and 14% were characterized as being a part of a medically or socially vulnerable populations. 91% of insertions involved a trainee (nursing student, medical student, ob-gyn resident or family planning fellow). The area with the biggest expansion from 2008 to 2014 was immediate postpartum LARC insertion. These insertions increased from 3% to 25% of all Ryan LARC insertions. 20% of women in vulnerable populations were categorized as being socially vulnerable.

Conclusions: The Ryan LARC Program has successfully exposed trainees to a variety of evidence-based scenarios where it is safe and effective to provide LARC. The Program has also increased access to LARC for women who experience financial barriers to contraception and women who are part of medically or socially vulnerable populations.

Post-Abortal Intrauterine Contraception in Women at High Risk for Infection: Is There a Dilemma?

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Objectives: To determine whether prevalence of Chlamydia trachomatis (CT) and Neisseria gonorrhoea (GC) is lower among women who select an IUD for post-abortal contraception than among those who choose other methods. To assess whether this reduction in STI rates shifts the IUD group from “high-risk” to “low-risk<3% prevalence.

Method: This study is a retrospective review of 4,227 women who underwent first trimester surgical abortion at a large public hospital between May 2011 and April 2012. Rates of CT and GC were compared between women who selected IUDs and those who chose other methods for post-abortal contraception.

Results: The overall combined rate of CT/GC was 13.2%. In the IUD subgroup, CT/GC rate was 9.5% (2.3–15.7% when stratified by age) compared to 14.2% (4.9–23.5% when stratified by age) in the group of women selecting other methods (p=0.0015). While there was risk reduction amongst IUD selectors, no age subgroup or the aggregate reached low risk status of <3% for combined CT/GC or CT alone.

Conclusions: Women choosing IUDs had lower rates of CT/GC than the comparison group, however rates were still within the high risk range. Current evidence does not support post-abortal IUD placement in women at high risk or positive testing for CT/GC. In such settings, when infection status of a woman is unknown at the time of abortion, it is difficult to balance guidelines endorsing immediate insertion and, at the same time, protect patients against the negative sequelae of potential infection.

Contraception and Fertility Control

Mass Media Exposure and Family Planning in West African Adolescents

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Objectives: Francophone West Africa has lower rates of contraceptive use as compared with other regions in Sub-Saharan Africa; this is especially true in adolescents (ages 15–19). Mass media campaigns are one strategy to increase awareness and attitudes towards family planning (FP). Previous studies suggest that mass media campaigns are associated with improved attitudes toward FP and increased contraceptive use, but little data exist for adolescents in West Africa. The goal of this study is to examine whether FP messaging is reaching adolescent women in West Africa, and whether such messaging is associated with increased contraceptive uptake.

Method: We pooled data from the 2010 Demographic and Health Surveys (DHS) for Senegal and Burkina Faso (N=32,775, women ages 15–49). We accounted for the complex survey design using survey weights. Age was treated as a categorical variable with women grouped in five-year age bands. We used descriptive statistics to examine the association between individual and household-level socio-demographic characteristics and exposure to FP messaging (via TV, radio, and/or print). Multivariable logistic regression was used to test the association between self-reported exposure to FP messaging and modern contraceptive use in married adolescents (N=1966, women ages 15–19).

Results: A higher proportion of women living in urban areas (62.2%), from the highest wealth quintile (70.6%), and with the smallest gaps in educational achievement (81.2%), reported exposure to any mode of FP messaging compared with rural (42.3%), poorest (33.2%), and least educated (45.5%) women (p<0.001 for all). A smaller proportion of adolescents (42.12%, 95% CI: 40.29–43.97%) reported exposure to FP messaging compared with all other age categories. Among married adolescents, exposure to FP messaging was positively associated with use of a modern contraceptive method after adjusting for residence type, wealth quintile, and educational achievement gap (OR 1.87; p=0.017).

Conclusions: Mass media campaigns are not reaching the most vulnerable populations in West Africa, such as adolescents and poorer rural women. Adapting mass media campaigns to address these gaps is important for increasing exposure to FP messaging and hopefully, the desired outcome of increased contraceptive uptake.

Contraception and Fertility Control
FCS29.2
MEDICAL ABORTION OUTCOMES AND REPEAT PREGNANCY FOLLOWING QUICKSTART OF CONTRACEPTIVE IMPLANTS AND DEPOT-MEDROXYPROGESTERONE ACETATE

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Objectives: Providing progestin-containing contraceptives to medical abortion patients concurrently with the mifepristone could reduce future pregnancy risk, but interactions between the progestin and mifepristone could increase risk of abortion failure. We designed two randomized trials to assess the effects of co-administration of mifepristone with etonogestrel implants (Trial A) and depot-medroxyprogesterone acetate (Trial B) on abortion outcome and 6-month pregnancy rate.

Method: We enrolled women who requested abortion with mifepristone and misoprostol and desired etonogestrel implants (A) or depot-medroxyprogesterone acetate (B) for post-abortion contraception. We randomly assigned each woman to receive the method either on the day of mifepristone ingestion (quickstart group) or after complete abortion (afterstart group). We collected data at ≤ 1, 4, and 7 months after enrollment.

Results: Trial A enrolled 476 women, of whom 9/236 (3.81%) and 9/240 (3.75%) in the quickstart and afterstart groups, respectively, had surgery to complete the abortion. The difference of 0.06% (90% CI: -3.1%, 3.2%) excluded our pre-specified non-inferiority margin of 5%. We found no evidence of a difference between groups in unscheduled clinical visits, abortion-related pain, bleeding, or serious adverse events. Women in the quickstart group were more satisfied with their group assignments. To date, Trial B has enrolled 461 of 475 planned subjects. We will present final results on abortion outcomes in Trial B and repeat pregnancy outcomes in Trial A.

Conclusions: Concurrent administration of etonogestrel implants with mifepristone did not decrease medical abortion success and was preferred by women. This option should be routinely offered to patients.

FCS29.3
FINAL RESULTS FROM THE INAS-SCORE STUDY – VTE AND ATE RISK IN USERS OF DIFFERENT COMBINED ORAL CONTRACEPTIVES

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Objectives: Primary objective of this study is to investigate the cardiovascular long- and short-term safety of a new 26-day regimen combined oral contraceptive (COC) containing estradiol valerate (EV) and dienogest (DNC), known as Qlaira (and Natazia in the US), compared to established COCs.

Method: The “International Active Surveillance Study – Safety of Contraceptives: Role of Estrogens” (INAS-SCORE) is a large, prospective, controlled, non-interventional, long-term cohort study carried out in the US as well as in Austria, France, Germany, Italy, UK, Poland and Sweden. Women who receive a new COC prescription (either for the first time or as a switch) are asked for study participation by their prescribing physicians. During the follow-up phase, the woman is contacted regularly and asked about hormonal contraceptive use and serious adverse events. All self-reported clinical outcomes of interest are validated by health care professionals. All analyses make allowance for confounding, using multivariate techniques such as Cox regression models.

Results: Interim analysis is based on 98,234 women-years (WY) of observation and 72,160 WY of OC exposure. Overall, 57 VTEs and 15 ATEs have occurred. For Qlaira, the VTE incidence is 6.4/10,000 WY and for Other COCs 7.5/10,000 WY. The crude HR for Qlaira vs. Other COCs is 0.8 (95% CI: 0.4–1.8). Adjustment for age, BMI, duration of current OC use and family history of VTE lead to an adjusted HR of 0.5 (95% CI: 0.2–1.6). ATE incidences were very low with 0.8 ATE/10,000 WY for Qlaira and 2.2 ATE/10,000 WY for Other COCs. Final results will be shown at ISPE.

Conclusions: The results do not suggest a higher VTE or ATE risk of Qlaira users compared to users of Other COCs in a study population that is representative of actual users.

FCS29.4
EFFECTIVENESS OF DIFFERENT COMBINED ORAL CONTRACEPTIVES – FINAL RESULTS FROM THE INAS-SCORE STUDY

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Objectives: Oral contraceptives are the most popular method of birth control and widely used. The secondary outcome focuses on unintended pregnancies and is compared between the two user cohorts: Qlaira (Natazia in the US) and established COCs in the US and Europe.

Method: The “International Active Surveillance Study – Safety of Contraceptives: Role of Estrogens” (INAS-SCORE) is a large, prospective, controlled, non-interventional, long-term cohort study carried out in the US as well as in Austria, France, Germany, Italy, UK, Poland and Sweden. It is conducted as a Post-Authorisation Safety Study (PASS) requested by the Medicines Evaluation Board (MEB). A network of prescribing physicians enroll women with a new COC prescription. During the follow-up phase, the woman is contacted regularly and asked for information about unintended pregnancy as a secondary outcome. Self-reported pregnancies are being validated by health care professionals.

Results: Interim analysis is based on 98,234 women-years (WY) of observation and 72,160 WY of OC exposure. Overall, 608 unintended pregnancies were reported, of which 33 occurred under Qlaira use (Pearl Index: 0.2; 95% CI: 0.2–0.4) and 545 under Other COC use (Pearl Index: 1.0; 95% CI: 0.9–1.1). Crude, age-adjusted and fully adjusted HR for Qlaira vs. Other COCs are: for the US: 1.5 (95% CI: 0.8–3.1), 1.7 (95% CI: 0.8–3.4) and 1.8 (95% CI: 0.9–3.5) and for Europe: 0.5 (95% CI: 0.3–0.7), 0.6 (95% CI: 0.4–0.9) and 0.7 (95% CI: 0.5–1.1). Final results will be shown at ESG.

Conclusions: OCs have a high contraceptive effectiveness. Differences were seen between Europe and the US, with only a limited number of unintended pregnancies in the US Qlaira cohort. Although the European Qlaira cohort is older, age doesn’t seem to have the strongest effect on unintended pregnancies.

FCS29.5
A PHASE III, SINGLE-ARM STUDY OF A 13.5 MG TOTAL DOSE LEVONORGESTREL INTRAUTERINE CONTRACEPTIVE SYSTEM IN POSTMENARCHEAL ADOLESCENTS

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Objectives: To explore the safety of the 13.5 mg levonorgestrel in-
trouterine system (LNG-IUS13.5mg [total content]; Jaydess®) over 12 months of use in postmenarcheal adolescents. Secondary objectives were to evaluate efficacy and characterize the pharmacokinetics (PK) of levonorgestrel (LNG) after placement of LNG-IUS13.5mg in adolescents using a population PK model, to evaluate the impact of age and body weight on individual LNG exposure, and to compare LNG PK after placement of LNG-IUS13.5mg with that previously observed in adults participating in the pivotal Phase III study.

**Method:** In this single-arm Phase III study, nulliparous and parous subjects aged 12–17 years with regular menstrual cycles (21–35 days) requesting contraception, were recruited to use the LNG-IUS13.5mg for 1 year. For the PK evaluation, one blood sample per subject was taken at one of the study visits or the end of study visit (Months 1, 3, 6, 9, or 12). Serum LNG concentrations were evaluated using population PK modeling, applying non-linear mixed-effects models. The full analysis set comprised 304 subjects (mean age 16.2 years; 97.7% nulliparous) for whom at least one attempt at LNG-IUS13.5mg placement was made (successful in 303/304).

**Results:** Treatment-emergent adverse events (TEAEs) were reported by 82.6% of subjects, leading to discontinuation in 13.8%. Serious TEAEs were reported by 7.6% of subjects, leading to discontinuation in 0.7%. There were no cases of pelvic inflammatory disease, ectopic pregnancy, or uterine perforation. Ten subjects (3.3%) expelled their LNG-IUS13.5mg (one complete, nine partial expulsions). No pregnancies were reported; 83.2% completed the 12-month study. Geometric mean serum LNG concentrations at 1, 3, and 12 months were 145.0, 110.0, and 77.8 ng/L, respectively (adults: 131.0, 99.8, and 71.0 ng/L). Covariate analysis revealed that per kilogram of body weight, LNG clearance increased linearly by 1.5%.

**Conclusions:** Efficacy and safety data for LNG-IUS13.5mg in this adolescent population were consistent with previously reported data for LNG-IUS13.5mg in adults in the pivotal Phase III study. No new or unexpected safety events were reported. The continuation rate (83.2%) was very favorable for an adolescent population. Serum LNG concentrations were slightly higher in adolescents than in adults, but ranges for adolescents lie completely within adult ranges. This slight difference is attributed to a lower average body weight for adolescents combined with a covariate effect of body weight on LNG clearance; the resulting lower clearance in adolescents leads to higher LNG exposure.

FCS29.6

**A PHASE III STUDY OF A 19.5 MG TOTAL DOSE LEVONORGESTREL INTRAUTERINE CONTRACEPTIVE SYSTEM OVER 5 YEARS OF USE**

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**Objectives:** To evaluate the efficacy and safety profile associated with a new 19.5 mg (total content) levonorgestrel intrauterine contraceptive system (LNG-IUS19.5mg), which has a 28 mm ×30 mm T-frame, over a period of up to 5 years in a multicenter, open-label, Phase III study. The primary objective was to evaluate the Pearl Index (PI, number of pregnancies per 100 woman-years). Secondary objectives included the evaluation of the Kaplan–Meier cumulative failure rate, the adverse events (AEs) profile, and the discontinuation rates (overall and due to AEs).

**Method:** Nulliparous and parous women aged 18–35 years with regular menstrual cycles (21–35 days) were randomized to use the 13.5 mg (total content) LNG-IUS (LNG-IUS13.5mg) or the LNG-IUS19.5mg for 3 years. After 3 years, women using the LNG-IUS13.5mg had it removed; women using the LNG-IUS19.5mg had the option to continue using it in an extension study for up to 2 more years (5 years in total). Here, we report 5-year outcome data for the LNG-IUS19.5mg. All analyses were based on the full analysis set of 1452 women for whom at least one attempt at LNG-IUS19.5mg placement was made.

**Results:** Mean age at baseline was 27.1 years; 39.5% were nulliparous. The cumulative 5-year PI was 0.29. The 5-year cumulative failure rate was 1.4%.

FCS29.7

**A RANDOMIZED PHASE III STUDY COMPARING THE 13.5 MG TOTAL DOSE LEVONORGESTREL INTRAUTERINE CONTRACEPTIVE SYSTEM (LNG-IUS13.5MG) WITH THE SUBDERMAL ETONOGESTREL (ENG) CONTRACEPTIVE IMPLANT OVER 12 MONTHS OF USE**

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**Objectives:** To reduce the high rates of unintended pregnancy, various guidelines encourage more widespread use of long-acting reversible contraceptive (LARC) methods. LARC methods include the 13.5 mg (total content) levonorgestrel intrauterine contraceptive system (LNG-IUS13.5mg; Jaydess®) and the etonogestrel (ENG) implant (Nexplanon®).

The objectives of this open-label, randomized, Phase III study conducted in six European countries (Austria, Finland, France, Norway, Sweden, and the UK) were to compare the LNG-IUS13.5mg with the ENG implant with regard to the 12-month discontinuation rate (primary outcome), reasons for discontinuation, and user satisfaction.

**Method:** Healthy nulliparous and parous women aged 18–35 years with regular menstrual cycles (21–35 days), requiring contraception, were randomized to use the LNG-IUS13.5mg or the ENG implant for 12 months. Women were excluded if they were known or suspected to be pregnant, were lactating, or had had a vaginal delivery, Cesarean delivery, or abortion ≤6 weeks before screening.

In total, 766 women were randomized to use either the LNG-IUS13.5mg (n=385) or the ENG implant (n=381). In the LNG-IUS13.5mg and ENG implant groups, respectively, the mean age was 24.8 years and 25.0 years, and 76.2% and 72.2% were nulliparous.

**Results:** The 12-month discontinuation rates were 19.6% and 26.8% in the LNG-IUS13.5mg and ENG implant groups, respectively. This ~7.2% difference was statistically significant (95% CI: ~13.2%, ~1.2%). Fewer women in the LNG-IUS13.5mg group than the ENG implant group discontinued because of increased bleeding (3.2% vs 11.3%) and AEs (14.3% vs 21.8%), or reported acne as an AE (9.9% vs 15.5%). At 12 months, more women in the LNG-IUS13.5mg group than the ENG
implant group were “very/somewhat satisfied” with their bleeding pattern (60.9% vs 33.6%) and reported a preference to use their study treatment after the study (70.1% vs 58.5%).

Conclusions: The LNG-IUS13.5mg was associated with a significantly lower 12-month discontinuation rate compared with the ENG implant; this was mainly because women using the ENG implant more frequently discontinued due to increased bleeding. Accordingly, almost twice as many women in the LNG-IUS13.5mg group than the ENG implant group reported being “very/somewhat satisfied” with their bleeding pattern, which may have contributed to more women in the LNG-IUS13.5mg group than the ENG implant group reporting a preference to use their study treatment after the study. These results reinforce the importance of discussing the bleeding changes associated with different LARC methods during contraceptive counseling.

FCS29.8
EFFICACY AND SAFETY OF THE 13.5 MG (TOTAL CONTENT) LEVONORGESTREL INTRAUTERINE CONTRACEPTIVE SYSTEM IN AN ASIA-PACIFIC POPULATION: RESULTS OF A PHASE III STUDY
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Objectives: To explore the efficacy and safety of the 13.5 mg (total content) levonorgestrel intrauterine contraceptive system (LNG-IUS13.5mg; Jaydess®) over 3 years of use in an Asia-Pacific population.

Primary objective: to determine the Pearl Index (PI, number of pregnancies per 100 woman-years), Secondary objectives: to evaluate the 3-year Kaplan-Meier cumulative failure rate, the incidence of treatment-emergent adverse events (TEAEs) and drug-related TEAEs, the incidence of adverse events of special interest (ectopic pregnancy, pelvic inflammatory disease [PID], uterine perforation, and complete/partial device expulsion), and to evaluate return to fertility among women who discontinued because of a wish to become pregnant.

Method: In this single-arm Phase III study conducted in China, Australia, and Korea, nulliparous and parous women aged 18–40 years, with regular menstrual cycles (21–35 days), requesting contraception, were recruited to use the LNG-IUS13.5mg for 3 years. Main exclusion criteria: known/suspected pregnancy; current lactation; or vaginal delivery, Cesarean section, or abortion 76 weeks before LNG-IUS13.5mg placement. Women who discontinued to become pregnant were followed for up to 12 months after discontinuation.

The full analysis set comprised 925 women (mean age 31.6 years; 6.4% nulliparous; 92.6% Asian) for whom at least one attempt at LNG-IUS13.5mg placement was made (successful in 918/925).

Results: The overall PI was 0.35 and the 3-year cumulative failure rate was 0.9%; 4/8 pregnancies were ectopic. The incidences of TEAEs and drug-related TEAEs were 70.1% and 31.2%, respectively. The most frequent TEAE and drug-related TEAE leading to discontinuation was device expulsion (4.4%) and vaginal hemorrhage (3.0%), respectively. Crude incidences of uterine perforation and complete/partial expulsion were 0.1% and 4.4%, respectively. There were no cases of protocol-defined PID. Overall, 72.1% of women completed the 3-year study.

Follow-up data were available for 10/12 women who discontinued to become pregnant; 5/10 conceived within 3 months; an additional 2/10 conceived by 12 months.

Conclusions: The LNG-IUS13.5mg was as effective in this Asia-Pacific population as in the previously reported pivotal Phase III study conducted at study centers in Europe, Canada, the US, and Latin America. This was demonstrated by the low overall PI of 0.35 and the low 3-year cumulative failure rate of 0.9% (0.33 and 0.9%, respectively, in the pivotal Phase III study). No new or unexpected safety events were reported. Furthermore, a rapid return to fertility was observed after removal of the LNG-IUS13.5mg in women desiring pregnancy. Overall, this study suggests that the LNG-IUS13.5mg is suitable for women in the Asia-Pacific region.

FCS30. Contraception and Fertility Control
FCS30.2
CLIENT-REPORTED QUALITY OF FAMILY PLANNING SERVICES IN MEXICO: ARE THERE DIFFERENCES BY AGE?
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Objectives: Unplanned pregnancy is associated with health risks and social costs, especially among adolescents. Evidence suggests that the quality of services is associated with initiation and continuation of contraception. In Mexico, access to family planning services is free, but adolescents have very low levels of use. One explanation for the low prevalence of contraceptive use among adolescents could be an experience of poorer quality of care. We hypothesized that adolescents would report lower quality of contraceptive care compared with young women.

Method: We pooled the most recent waves (2006 and 2009) of the ENADID, a nationally–representative demographic survey. Women who reported current use of a method responded to five questions about technical and interpersonal measures of quality of care. We restricted the analysis to unsterilized women aged 15–29. We created an indicator of a positive response to all five quality items, and also examined technical and interpersonal quality indicators separately. We included individual and household characteristics, and used descriptive statistics and multivariable regression models with survey weights to test the association of age and client-reported quality of services by method type.

Results: Our sample included 6,587 women (N=3,108,546); 13% were 15–19, 42% 20–24, and 45% 25–29 years old. Only 58% of adolescents responded positively to all five quality items, versus 64% of women aged 20–29 (p<0.001). Compared with older women, adolescents reported lower odds of overall quality (OR=0.65, 95% CI: 0.45–0.95), adjusted for socio-demographic and facility-level covariates. In the subsample of users of hormonal methods (n=1281), adolescents reported lower odds of quality compared with women 25–29 (OR=0.31, 95% CI: 0.15–0.63).

Conclusions: In this sample of current contraceptive users in Mexico, adolescents report lower quality of family planning services than young women ages 20–29. High quality services are essential from both a human rights and clinical perspective. A key strategy to improve contraceptive use by adolescents may be to improve the quality of care. More research is needed to develop valid and sensitive measures of patient-reported quality of reproductive health services. More evidence about client-perceived quality of family planning services in Mexico is needed to inform efforts to improve services, increase adolescent contraceptive use, and decrease unplanned pregnancy.
FCS30.3  THE INTERNATIONAL CONTRACEPTIVE ACCESS (ICA) FOUNDATION, THE LEVONORGESTREL-RELEASING INTRAUTERINE SYSTEM (LNG-IUS) AND THE BRAZILIAN NETWORK EXPERIENCE

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Objectives: The ICA Foundation is a public-private partnership between Bayer Healthcare and Population Council. It is a not-for-profit organization registered in Finland in 2003. Bayer Healthcare donates the LNG-IUS to ICA which provides donation to public health organizations such as multilaterals, governments, or NGOs. It seeks to serve the reproductive needs of women in resource-poor settings in developing countries. The priority is women who want long-term effective/reversible contraception and with heavy menstrual bleeding (HMB) or other diseases in which Copper IUDs are unsuitable. The objective of this presentation is to share the experiences on introduction strategies and service models in Brazil.

Method: To obtain assistance from the ICA Foundation, a service delivery organization submits a proposal; LNG-IUS is registered or special permission to import product is sought from country of donation. Training materials are provided regarding LNG-IUS insertion/removal and comprehensive family planning provision and counseling. LNG-IUS is incorporated into existing service delivery strategies. Donation recipient provides updates on numbers of insertions as well as progress and possible challenges of distribution. To date cumulative donations reach 67,140 LNG-IUS (February 2015). The countries which received donations were at Latin America and the Caribbean, Africa and Asia.

Results: The role of networks is important. Partnerships with service delivery networks, like Marie Stopes International (MSI), International Planned Parenthood Federation (IPPF), AmeriCares and Partners In Health, allow for efficient delivery of LNG-IUS in multiple countries through existing infrastructure, and assist in meeting the Foundation’s objectives. They potentially have greater capacity for training, supervision and logistics management as well as meeting reporting requirements. The Brazilian network, managed by the University of Campinas, includes 20 University services which received the LNG-IUS. The network received 14,740 LNG-IUS and inserted 11,538. More than 300 HCP received training, some of them are now trainers.

Conclusions: The ICA Foundation is an excellent resource to obtain an LNG-IUS to help women from the underprivileged segment of the society to achieve their reproductive goals as well as to improve the quality of life in women suffering of HMB. The Brazilian experience is a successful example. International development and public health organizations can apply for LNG IUS for use in their programs. LNG-IUS donations are not available for biomedical research purposes, including clinical trials. Interested applicants should complete a project proposal form on ICA Foundation’s website and submit it for assessment and approval. For information: E-mail: information@ica-foundation.org; Website: http://www.ica-foundation.org.

FCS30.4  IMPLEMENTATION SCIENCE RESEARCH: PROVIDER TRAINING OF LONG-ACTING REVERSIBLE CONTRACEPTION

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Objectives: The U.S. has a persistently high rate of unintended pregnancy of over half of all pregnancies. Professional medical organizations including the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics, have recommended increased access to IUDs and implants among adolescents and young adults. Evidence from recent studies have shown the impact of increased use of IUDs and implants on contraceptive continuation and reduced pregnancy among adolescents and young adults - the age groups at highest risk.

Method: We developed and tested in a randomized trial a provider training intervention, which resulted in patient-centered counseling that improved women’s contraceptive knowledge and reduced pregnancy in family planning clinics, a landmark in the US for clinic-based interventions. For our implementation science research, post-trial (2012–2015), following diffusion of innovation theory, we brought our training intervention to 260 diverse community clinics and hospital settings, and delivered our scientifically-tested curriculum. We used data from pre and post-intervention surveys to measure changes in provider attitudes and knowledge and clinic service statistics for changes in contraceptive use.

Results: We delivered the intervention to 1,330 clinic staff serving an estimated 465,000 annual contraceptive clients during the implementation science phase. In the clinician practicum CME-evaluation, the overall training quality was rated 4.6 (scale 1–5). There were significant changes in the proportion who felt experienced enough to counsel on the implant (40% change) and the IUD (24% change), as well as in those who would consider an IUD for a patient with a history of PID (61%), post-abortion (33%) and adolescents (21%). Clinic service statistics also showed significant changes in IUDs and implants inserted during 6-months pre and post-training.

Conclusions: This implementation science research disseminated an evidence-based intervention, tested in a randomized trial, to a variety of practice settings including primary care across the U.S. The training was well-received outside of the clinical trial framework, and succeeded in increasing provider competency and knowledge as well as client use of high-efficacy contraceptives. Dissemination efforts will continue until access to the range of contraceptives including high-efficacy methods becomes routine practice in the U.S.

FCS30.5  HIV STATUS IS ASSOCIATED WITH DUAL METHOD USE AMONG MALAWIAN WOMEN

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Objectives: Dual method use, defined as using condoms with another modern contraceptive method (pills, injection, implant, intrauterine device, or sterilization) to prevent unintended pregnancy and sexually transmitted infections (STIs), is an important health tool in settings with high HIV prevalence. Dual method use can help prevent HIV acquisition among HIV-infected women and HIV transmission by HIV-infected women. The objective of this analysis is to determine if HIV status has an impact on dual method use.

Method: This was a secondary analysis of sexually active women who completed the 12-month survey in a prospective cohort study of postpartum women in Malawi between May-November 2014. HIV-infected and HIV-uninfected women were recruited immediately postpartum at a 1:2 ratio. They completed baseline surveys about contraceptive history, knowledge, and contraceptive method intention and telephone surveys about contraceptive use 3, 6, and 12 months later. Differences between women who did and did not report dual method use were calculated using Pearson’s χ² tests. Odds ratios were calculated using multivariable logistic regression to examine the relationship between HIV status and dual method use.

Results: Of the 634 women enrolled, 317 sexually active women completed the 12-month follow-up survey. Nineteen (6.0%) reported no contraceptive method, 14 (4.4%) reported condom use only, 223
Method:

Pulsion rate at 6 weeks, reasons for removal/discontinuation.

Objectives:

To assess safety in terms of pain, bleeding, and assess expulsion.

K. N. M. Asharani, Vijaynagar Institute of Medical Sciences, Ballari, Karnataka/South, India

Conclusions:

PPIUCD is very effective temporary method of contraception [vaginal/C section] in women delivering at VIMS govt hospitals.

10% of spontaneous expulsion reported.

F. Bunza
EXPERIENCES FROM WOMEN’S HEALTH PROJECT (WHP) NIGERIA
Services International (PSI), Washington DC, USA; 2Society for Family Health (SFH) Nigeria, Abuja, FCT, Nigeria

Objectives:

The objective of this study is to determine the effect of WHP’s social franchise interventions on the uptake of LARCs in the intervention sites.

Method:

A total of 216,550 women accessed LARCs (IUDs and implants) from 308 facilities between January 2011 and December 2014. The number increased from 635 per month (average of 2 per month) in January 2011 to 5,721 per month (average of 19 per month) in December 2014. The number of women who accessed IUDs increased from 500 per month in January 2011 (average of 2 per month) to 4,248 in December 2014 (average of 14 per month).

Number of women who accessed implants increased from 135 per month (less than 1 per month) to 1,473 in December 2014 (average of 5).

Results:

A retrospective analysis of routine service data from the franchise facilities for the period January 2011 to December 2014. Data was collected from 308 franchise facilities in 22 states in Nigeria. Key interventions included provider training and equipment supply, routine support supervision and quality assurance, community demand generation, and supply of subsidized LARCs.

Conclusions:

Building the capacity of the private health sector through multiple support interventions to providers including training and support supervision, in conjunction with a robust demand generation program, increases access to and use of LARCs. Scale up of the model to other parts of Nigeria is in progress. This model can also be implemented in other developing countries with similar needs and a large private health sector base.

FCS30.8
SHORT-ACTING AND LONG-ACTING REVERSIBLE CONTRACEPTION: COMPARING EFFECTIVENESS USING A PARTIALLY RANDOMIZED PATIENT PREFERENCE TRIAL

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Objectives: To generate unbiased estimates of contraceptive continuation rates, make valid comparisons and better understand the potential role that long-acting reversible contraception (LARC) can play in reducing unintended pregnancy.

Method: We recruited women aged 18–29 who were seeking a short-acting method (pills or injectable) from Planned Parenthood of Central North Carolina. Participants chose their preferred method or elected to be randomized to one of two method categories: short-acting reversible contraception (SARC) or LARC. Under randomization, participants received free methods and chose a specific product. Participants were followed prospectively. Kaplan-Meier techniques were used to estimate method continuation rates. Intent-to-treat principles were applied for comparing incidence of unintended pregnancy.

Results: Of the 894 participants, 57% chose to be in the preference group and 43% in the randomization group. Loss to follow-up was <2%. The 12-month method continuation rates were 66% (62–70%) (preference-SARC), 55% (47–62%) (randomized-SARC) and 81% (75–87%) (randomized-LARC) [p < 0.001]. The 12-month unintended pregnancy rates were 5.6% (3.8–8.2%) (preference-SARC), 8.8% (5.1–15.2%) (randomized-SARC) and 0.7% (0.0–4.8%) (randomized-LARC) [p = 0.011]. The 24-month unintended pregnancy rates were 14.5% (10.3–19.9%) (preference-SARC), 12.7% (7.2–22.2%) (randomized-SARC) and 3.8% (1.4–10.3%) (randomized-LARC) [p = 0.007].

Conclusions: Even in a typical population of short-acting method users, LARC proved highly acceptable. Women randomized to LARC experienced superior protection from unintended pregnancy; this finding is attributable to the technology and not underlying factors that often bias observational studies. Benefits of increased voluntary uptake of LARC may extend to wider populations than previously thought.

FCS31. Women’s Health Issues and Policy

FCS31.1
MINERAL MICRONUTRIENTS STATUS IN IRANIAN PREGNANT WOMEN AND RELATED POLICIES: A REVIEW OF CURRENT EVIDENCE

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Objectives: Pregnancy is one of the most important periods in the life of the mother and her fetus. Various factors, including nutrition, are effecting on the maternal and fetal health in this period. For optimal nutrition during pregnancy, diversity and balance is important and nutrition dietary should contain recommended amounts of protein, carbohydrates, dietary fiber, essential fatty acids, minerals and vitamins micronutrients. This review wants to survey the status of four mineral micronutrients in Iranian pregnant women and related polices in 10 years ago.

Method: This study examined published results about four mineral micronutrients in Iranian pregnant women and related polices in sci-
entific databases such as Pubmed, Google scholar, WHO, Emro, Iranmedex, SID between 2003–2013. For data gathering, articles were searched that had one of the keywords: nutrition in pregnancy, Mineral micronutrients deficiency in pregnancy, Micronutrients in pregnancy, Iron deficiency in pregnancy, zinc deficiency in pregnancy, calcium deficiency in pregnancy, iodine deficiency in pregnancy, micronutrient deficiency prevalence alone and with guideline. Finally 69 related articles were found and used.

Results: Review Literature indicated deficiency of iron, zinc, calcium and iodine micronutrients in Iranian pregnant women. During this period, there is guide for iron supplementation in Iran, only. For preventing of iron, calcium and zinc deficiency, balance and diversity of diet and for iodine, use of iodized salt program has been recommended.

Conclusions: For reduce the risk of micronutrient deficiency in pregnant women, policy interventions to promote awareness of health care providers and pregnant women in the field of healthy nutrition, and interventions, such as the Supplementation, food fortification with Micronutrients, use of powders with micronutrients and iodine supplementation in areas with a shortage of these micronutrients is recommended.

FCS31.2
OBSTETRIC FISTULA PREVENTION, TREATMENT AND REINTEGRATION: ADDRESSING THE URGENCY TO END SUFFERING AND NEED FOR LONG-TERM APPROACHES WITHIN A HUMAN RIGHTS PERSPECTIVE
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Objectives: The subject of this paper is twofold. 1) to strengthen a productive interaction between the areas of public health, policy making and critical social theory, which suffers from lack of exposure to each other’s conceptual advances. 2) to identify and understand the mechanisms of exclusion that produce maternal mortality and obstetric fistula in certain women, and, offer guidance for what can be done to push back or reverse the accumulative processes of loss of access to human rights that many women with fistula experience.

Method: Desk review of existing documents on fistula, including policy documents issued by the UN; conversations with key-informants; and participatory observation in a policy group and a community consisted of 2432 women older than 45 years of menopause. The non-probability sampling method has been used to collect data referred.

Results: Review Literature indicated deficiency of iron, zinc, calcium and iodine micronutrients in Iranian pregnant women. During this period, there is guide for iron supplementation in Iran, only. For preventing of iron, calcium and zinc deficiency, balance and diversity of diet and for iodine, use of iodized salt program has been recommended.

Conclusions: For reduce the risk of micronutrient deficiency in pregnant women, policy interventions to promote awareness of health care providers and pregnant women in the field of healthy nutrition, and interventions, such as the Supplementation, food fortification with Micronutrients, use of powders with micronutrients and iodine supplementation in areas with a shortage of these micronutrients is recommended.
And the attitudes of 69.98% women positive, 20.43% neutral, 9.58% had a negative attitude. Between education level and socioeconomic status, parity, and low awareness of the causes of menopause, there was a significant relationship (p<0.0001). Between awareness of the symptoms of menopause, education level, socioeconomic status, history of abortion and used contraceptive methods had a significant correlation. (p<0.0001, p<0.0001, p=0.027, p=0.036).

Conclusions: According to the results, it can be said that socio-economic status and educational level of knowledge about the symptoms, etiology and attitudes toward menopause had positive effects. Therefore, by raising the level of education of women and improving the socio-economic status and education on knowledge of women of the etiology and symptoms this period can be symptoms of menopause have increased and the consequences of the lack of information prevented the passage of these changes easily and without a specific crisis and the Health pass.

FCS31.5
WORKING WITH LOCAL CHAMPIONS TO SECURE GOVERNMENT COMMITMENT TOWARDS FAMILY PLANNING

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Objectives: Through a designed advocacy strategy, Kebbi State Ministry of Health (SMOH) establishes a budget line for family planning (FP) in the state by 2015.

Method: Pathfinder Nigeria, working with FP/reproductive health (RH) managers in the SMOH, identified and trained 10 FP champions as advocates using Advance Family Planning’s SMART Framework. The tool ensured that the strategy for securing a budget line within the annual budget of the SMOH was attainable, and that champions refined a strategic vision, set an objective, and identified an advocacy “ask” and “target”. Pathfinder worked closely with the champions and supported activities within the workplan they developed. Activities included visits to identified advocacy targets, including policymakers and traditional and religious leaders.

Results: After a series of visits to advocacy targets where strategic messaging was utilized, the Kebbi SMOH now has a budget line for FP/RH for fiscal year 2015. To ensure effective and prioritized use of budgeted funds, a costed workplan for FP/RH for Kebbi was also developed.

Conclusions: FP is one of the most cost-effective interventions at reducing maternal mortality, which is high in Kebbi at above 1,000 deaths/100,000 live births. FP services in Kebbi have been inadequate and largely donor funded (apart from free commodities from the federal government). Supporting local champions in getting a budget line for FP/RH services in Kebbi is a significant feat not easily achieved in northern Nigeria. Pathfinder intends to continue providing support to FP champions and FP/RH managers in Kebbi to ensure that budgeted funds are released for FP/RH services.

FCS31.6
WOMEN’S HEALTH ISSUES AND POLICY – DISABILITY AWARENESS

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Objectives: As part of its maternal and newborn capacity building programme, CCBRT worked to promote maternal and newborn health care that is disability inclusive. CCBRT lobbied local munici-
pal leaders and health facility governing boards to improve or offer disability inclusive care and disability accessible facilities, and also trained service providers from Reproductive and Child Health Clinic and labour wards in sign language.

Method: Hearing disabled patients were frequently receiving inadequate care, so CCBRT hosted trainings aimed at improving service providers’ ability to serve hearing disabled patients. Sign language trainees would review sign language and screen films on maternal health in sign language to help reinforce the concept to trainees. CCBRT trainers also screened these films in the facility waiting areas for the patients to view. These trainees also made an effort to inform patients and staff on the rights of people with disabilities. CCBRT also stressed the importance of providing equal services to disabled patients to HFGBs and municipal leaders.

Results: Approximately 288 healthcare providers received sign language training from CCBRT trainers between 2010–2013. The service providers became more aware of people with disabilities and they learned how to create a more inclusive environments for disabled patients. As a result of CCBRT’s advocacy efforts, ninety nine members HFGBs and municipal leaders promised to advocate on behalf of people with disabilities to ensure accessibility and equitable care in the health facilities.

Conclusions: It is possible to effectively raise awareness and improve the care of people with disabilities if efforts are made to train service providers and lobby leadership for disability friendly and inclusive care, facilities, and policies.

FCS31.7
ATTENDANCE FOR POSTPARTUM GLUCOSE TOLERANCE TESTING FOLLOWING GESTATIONAL DIABETES AMONG SOUTH ASIAN WOMEN IN AUSTRALIA: A QUALITATIVE STUDY

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Objectives: To conduct an in-depth exploration of the experiences of and perspectives on postpartum Glucose Tolerance Test (GTT) screening of South Asian women diagnosed with gestational diabetes mellitus (GDM) in Melbourne, Australia.

Method: Using an exploratory qualitative methodology, this study was carried out in two phases: the first phase involved face-to-face in-depth interviews with 17 recent immigrant women from South Asia. In the second phase 23 GDM diagnosed South Asian women were interviewed. All interviews were conducted at a place and time of the women’s choice. Thirty-three of 40 South Asian women who were interviewed antenatally after GDM diagnosis also participated in telephone interviews conducted between nine and 52 weeks post-partum.

Results: Women were aware that they had an increased risk of developing Type 2 diabetes but a number of barriers caused them not to attend, or to postpone their postpartum GTT screening, such as: lack of physical and emotional support after birth, busyness of daily life, and traveling overseas after birth. Women found it difficult to maintain dietary and exercise recommendations after birth, largely because health messages were not conveyed in a culturally appropriate manner, which led to discontinuation of lifestyle adopted in pregnancy after GDM diagnosis.

Conclusions: Despite difficulties, South Asian women with previous GDM eventually presented for postpartum GTT screening and follow-up care within six-nine months of birth. Although awareness of follow-up and risk of Type 2 diabetes was high, some women found it extremely difficult to continue with the changes to diet and exercise they had adopted in pregnancy.
FCS31.8 CONTRIBUTION OF VERBAL AUTOPSY IN THE STUDY OF CANCER MORTALITY AMONG REPRODUCTIVE AGE WOMEN IN TUNISIA

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Objectives: The aim of this paper is to study the use of verbal autopsy in order to assess cancer mortality among Tunisian women in reproductive age (WRA).

Method: A retrospective national RAMOS survey (Reproductive Age Mortality Study). This survey was conducted in 2010 and included all deaths of women aged 15–49 years which occurred in 2008 and were due to cancer. Data were collected from civil status records and information gathered from families and from health institution’s registers. For all deaths of women aged 15–49 years, the detailed circumstances and the sequence of events leading to death were grouped on a folder called “clinical record of verbal autopsy”. Then; all folders were submitted to the independent expert.

Results: During the study period, 1729 deaths among women of reproductive age (WRA) were the subject of a verbal autopsy against only 708 recorded by the National death information system (NDIS). Cancer is the leading cause of death among WRA. The specific rate of cancer mortality is 17.83 per 100,000 WRA against only 7.91 per 100,000 WRA estimated by the NDIS. Breast cancer is the leading cause with 35% of all cancers and specific death rate of 6.3 per 100,000 WRA against 2.48 per 100,000 WRA recorded by the NDIS.

Conclusions: Verbal autopsies Verbal autopsy remains an interesting method for measuring cancer mortality in women of a reproductive age especially in countries with a defective national death information system.

FCS32. Women’s Health Issues and Policy

FCS32.1 OBSTETRICS OF SUSTAINANCE AMONG PRIVATE SECTOR PROVIDERS IN A RESOURCE LIMITED SETTING

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Objectives: The Merck Sharp & Dohme (MSD) project under PACE (Programme for accessible communication & Education in health) is a three year project to expand the provision of private sector maternal health care in up to 30 districts of Uganda. The MUM partnership’s approach aimed to increase informed demand for maternal health products and services, while simultaneously increasing the availability of high-quality products and services in the private sector and reinforcing critical linkages to higher-level referral facilities and services.

Method: PACE Quality Assurance Officers mainly clinical officers, PACE Reproductive Health Coordinators mainly midwives and selected private service providers who included a medical officer and nursing officers from 7 regions of the country were trained. They were taken through didactic lectures, practical demonstrations, plenary sessions and hands on sessions in two referral Hospitals. This was followed by, a 5 day field mentorship to the 7 regions. During the mentorship key aspects from the trainees i.e. attitude, knowledge, skills, communication abilities, ethics and ability to give constructive feed back to those they mentored in the key selected EMNOC areas were assessed.

Results: Seventeen PACE quality assurance officers and regional health coordinators were trained and empowered with EMNOC knowledge and mentorship skills above their routine tasks. Ten private service Providers also were also trained as regional mentors. There were knowledge gains of up to 35%. By the end of the mentorship all trainees except two were knowledgeable, confident and able to stand alone. Gaps were noted in the areas of newborn Care and resuscitation and Partograph use across all the regions. PACE was able to create a pool of regional mentors to easily carry on the mentorship process.

Conclusions: Experienced, self motivated, multi tasking and knowledgeable health providers based in the regions can form a solid foundation for sustainability of safe motherhood initiatives if given the right training, exposure and support.

FCS32.2 1303 CASES OF ADNEXAL MASS MANAGED DURING CESAREAN SECTION: A 21-YEAR EXPERIENCE

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Objectives: To outline and discuss the clinical features, management and outcomes of adnexal masses those were encountered during cesarean section (CS) at a university affiliated hospital in China.

Method: The medical records of the patients with adnexal mass observed during cesarean section were collected retrospectively at Women’s Hospital, School of Medicine, Zhejiang University from January 1991 to December 2011. The data was processed with the SPSS 11.5 software.

Results: 1303 cases of adnexal masses were diagnosed at CS. The incidence was 16.38 in 1000 CS. The most common pathologic diagnosis was benign ovarian tumor. The second was ovarian tumor like condition. The third was ovarian ednometriosis cysts. The fourth was paraovarian-paratubal cysts. Ovarian malignancies were 13 cases. 388 cases were detected by ultrasound before surgery. Seven cases received emergency CS due to abdominal pain caused by torsion, rupture and ovarian enlargement. 13 cases with ovarian ednometriosis cysts were found ruptured cysts during CS without any clinical manifestation. No maternal and fetal complication related to surgery was observed.

Conclusions: Preconception care and routine prenatal care maybe optimize for the detection and management of adnexal mass. Since most adnexal mass emerged during pregnancy were benign and asymptomatic, expectation is reasonable for those with adnexal mass during pregnancy. Abdominal pain might be the clue for cyst torsion or rupture. Thea lutein cysts might be huge and exsit throughout the whole pregnancy period. Ednometriosis cysts (> 5 cm) detected before pregnancy could be the indication for surgery.

FCS32.3 FEMALE GENITAL MUTILATION (FGM): A MALE PERSPECTIVE

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Objectives: This cross sectional, federal government funded study aims to elicit the attitudes of young, Sub-Saharan African migrant males residing in Australia on FGM. In addition we aim to quantify the effectiveness of an education package as an interventional strategy in changing male attitudes towards FGM.

Despite the traditional practice of FGM being outlawed in Australia, it means a growing issue due to increased migration. By building the knowledge base of the perceptions of young, migrant males towards FGM and the factors which influence these perceptions, we take a definitive step towards abandoning this practice on Australian shores.

Method: An activity day was run in Townsville, Australia. Participants who met the inclusion criteria of being male, 16–30 years old and a Sub Saharan African, migrant were consented and offered to
take part in an FGM module. Participants filled out a pre-piloted questionnaire, which gauged their attitudes towards FGM. These perceptions were then correlated with the socio-demographic variables of age, number of years spent in Australia, religion and education level. Then, an anti-FGM educational package was delivered to the participants before they were handed the same questionnaire one week later. Multiple logistical regression was used to analyze the data.

Results: 63 participants met the inclusion criteria with 22 being followed up. Data analysis has not been formally completed but preliminary findings show that overall 29% of participants agree with the continuation of FGM. Furthermore, 43% of participants stated that they would consider the FGM status of a potential marriage partner. The awareness of the medical complications of FGM increased significantly with education level. While the longer migrants had resided in Australia, the less likely they become to support FGM. Across all parameters used to assess participant attitudes on FGM there was a positive shift in the post-education questionnaire.

Conclusions: A substantial proportion of young, Sub-Saharan African, migrant males residing in the North Queensland region are in favour of the continuation of FGM. The socio-demographic variables of having a basic level of education (high school only) and having recently migrated (<2 years ago) were associated with an increased likelihood of attitudinal support for FGM. Education campaigns are an effective way of changing attitudes of young, migrant males on FGM.

Thus it can be concluded that effective interventional strategies which target young, migrant males need to be developed as a means of tackling FGM on Australian shores.

FCS32.4
MEETING THE SEXUAL AND REPRODUCTIVE HEALTH NEEDS AND RIGHTS OF PERINATALLY-INFECTED YOUNG WOMEN LIVING WITH HIV: A QUALITATIVE STUDY IN A HIGH HIV PREVALENCE SETTING, SOUTH AFRICA

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Objectives: A decade ago, South Africa’s HIV perinatal HIV transmission rate was approximately 20%. Due to improved lifelong antiretroviral treatment (ART), perinatally HIV-infected youth are currently living long and productive lives. Like other high HIV-burden countries, South Africa faces challenges in providing comprehensive sexual and reproductive (SRH) services to youth living with HIV (YLWH). This study describes the experiences and needs of young South African women living with HIV in disclosing their HIV status to a romantic partner, practicing safer sex, preventing unintended pregnancies and being equipped for safer conception, pregnancy and birth, should they wish to have future children.

Method: In this qualitative study, in-depth interviews were conducted with 21 perinatally infected YLWH (11 females, 10 males) aged 15–20, attending a youth ART centre in a low socio-economic residential area in Cape Town, South Africa. Youth were stratified into 15–17 year and 18–20 year groups. Ethical approval and individual informed consent (and in the case of youth <18 years additional caregiver consent) were obtained. Face-to-face interviews were conducted by same-sex interviewers in participants’ language of choice, audio-recorded, transcribed and translated. Transcripts were coded using a computer program, Nvivo 10 and analysed using a thematic approach.

Results: We report on young women study participants’ findings. Key themes emerging on romantic relationships, safer sex, unintended pregnancies and future reproduction were: difficulties negotiating pleasurable romantic relationships – some delayed sexual debut and others had coerced sexual debuts; fears of partner HIV transmission, but challenges in consistent condom use because of concerns about rejection on HIV disclosure to a romantic partner. Adolescents in particular, were uninformed about contraception and STIs. Although desires for future biological children were strong, women had scant information on safer conception, pregnancy and birth. They received inadequate SRH counselling and services at the youth ARV clinic.

Conclusions: Supportive and youth-friendly SRH services during youth women living with HIV’s transition to adulthood are urgently needed. Integrated SRH-HIV counselling and services are required for them to deal with unwanted sex and unintended pregnancies. Safer conception counselling and services, depending on the status of their intimate partners, are needed for safer pregnancy and childbirth, particularly for younger women at increased risk for maternal complications. Insights from the study contribute to global knowledge, particularly in the hyper-endemic HIV southern African region, on developing appropriate SRH services for a generation of youth perinatally infected with HIV.

FCS32.5
STANDARDS OF MENOPAUSE MANAGEMENT: AUDIT OF CURRENT PRACTICE

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Objectives: Several guidelines exist on the management and documentation of a menopause consultation. This study aims to evaluate if women presenting with menopausal symptoms are managed according to the guidelines published by the American Congress of Obstetrics & Gynecology (ACOG), British Menopause Society (BMS) and the Royal College of Obstetricians & Gynaecologists (RCOG).

Method: A retrospective analysis of the electronic patient records of women aged 45 – 55 years who had a consultation at the National University Hospital (NUH) General gynaecology clinics and Menopause service from March to April 2014 was performed. Six standards of menopause management were selected: documentation of severity of menopause symptoms, last menstrual period (LMP) & contraception usage, contraindications to hormone replacement therapy (HRT), risks to HRT, osteoporosis risk assessment and encouragement to participate in national screening programmes. The standard to be achieved was set at 90% documentation rate.

Results: 229 patients were included in the study, of which 185 were from the General clinics, while 44 attended the Menopause clinics. Out of these, 48 patients from the General clinics and 43 patients from the Menopause clinics were assessed for menopausal symptoms. Patients who consulted at the specialist Menopause clinics were generally more adequately assessed than the patients in the General clinics. 5 out of 6 standards were achieved in the Menopause service, as compared to 1 out of 6 standards achieved in the General clinics.

Conclusions: The audit revealed some inconsistencies in the management and documentation process of menopause consultations between the General clinics and the specialist Menopause clinics. Standards in the management of menopause were not met in the general clinic except in promotion of breast & cervical screening. There was room to improve the documentation of personal/family medical history & risk with HRT use in the specialist menopause service. An action plan to improve documentation and menopause management has been formulated and disseminated to the Department of Obstetrics & Gynaecology at NUH.

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Objectives: The objective of this international web-based survey was to collect experiences from women with previous symptoms of foul-smelling vaginal discharge, the most pronounced symptom at bacterial vaginosis, with the aim to gain information about prevalence, recurrence rate, treatments used, and how women experience the condition. The gained information was then planned to be used as guidance in the development of a new treatment for bacterial vaginosis.

Method: A questionnaire of 25 questions was set up using Quest Back’s web-based platform and was translated into English and German. Panels of women, aged 18–52 years, from the general population in the U.K., Germany and the U.S.A. were contacted via email and asked to complete the questionnaire online (n=2913). They were informed that the responses were anonymously given and that the responses would give important knowledge when developing a new treatment against bacterial vaginosis, a condition where foul-smelling vaginal discharge is common. Due to the sensitive nature of the questions, the response alternative “prefer not to answer” was included.

Results: The response rate was 91%. Symptoms of foul-smelling discharge during the previous year were reported by 19%. Among the 69% that had treated their symptoms (antibiotics – 43%, pH-modifiers – 21%, and/or lactobacilli-based products – 21%), 56% had recurrent symptoms at least once a year and 34% relapsed within three months. Among women using intra-uterine-device (8%), 42% had experienced foul-smelling vaginal discharge (vs. not using, p<0.05). 17% had tried preventive treatment, whereas 41% were positive to try. 40% answered that their daily life was negatively affected by the symptoms. Most common answers were sense of uncleanness, and/or negatively affected sex life.

Conclusions: An apparent potential for improvement of information around the condition and its treatment was shown. This would in line with international recommendations include an exhortation to avoid a frequent use of antibiotics. Additionally, a potential for improvement of the user-friendliness of non-antibiotic efficacious treatment alternatives, both in terms of administration frequency and cosmetic properties as smeariness, was noticed. New over-the-counter products with improved user-friendliness would probably encourage more women to treat themselves.

AN OVERVIEW OF WOMEN HEALTH ISSUES AND POLICY

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Objectives: To analyze women health issues leading to high maternal and neonatal mortality and policy measures.

Method: The review of literature of different studies conducted in the country with in all four provinces, and the the maternal and newborn health research and advocacy fund (RAF) a five years funded programme funded by DFID and AusAID which aims to support the research and advocacy initiatives to influence pro-poor policy and practice reforms related to MNH in Pakistan analyzed in detail.

Results: MNH outcomes in Pakistan is well documented. Despite the efforts by the government of Pakistan (GOP) to respond the international commitments, such as the MDGs, Pakistan lags behind most developing countries. The Pakistan Demographic and Health Survey (PDHS 2007) provides the latest Credible statistics on maternal, newborn health. Statistics of MNH in Pakistan Shows the total fertility rate 4.1 births per woman, Contraceptive prevalence rate 22%, Infant mortality rate 78 per 1000 live births, neonatal mortality rate 58 per 1000 live births, under five child mortality rates 94 per 1000 live births. Maternal mortality rate 276 per 100,000 live births.

Conclusions: The direct causes of high maternal and neonatal mortality are.

Lackof provision of adequate basic health services, trained staff, adequate medical supplies and equipment, while underlying causes are socio cultural structures, which discriminate against women and girls particularly those who belong to poor and marginalized group. Policy revision on the basis of adequate health budget, improvement of MNH system is the strong need.

EFFECT OF A COMMUNITY-BASED HEALTH COMMUNICATION PACKAGE ON KNOWLEDGE AND BEHAVIORS RELATED TO MATERNAL AND NEWBORN HEALTH: A QUASI-EXPERIMENTAL STUDY IN SIX GOVERNORATES OF EGYPT

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Objectives: The two-year SMART initiative (December 2011–December 2013) worked with community development associations (CDAs) to conduct community health outreach and communication activities in six of Egypt’s 27 governorates and encourage the adoption of proven practices for maternal, newborn, and child health. The analysis answers the following questions: Did mothers’ knowledge and behaviors on maternal and newborn care and child nutrition improve significantly in intervention areas? Was there greater improvement in intervention areas than comparison areas? and if there is a dose-response relationship between exposure to SMART activities and mothers’ knowledge and behaviors.

Method: This study employed a quasi-experimental design to assess the impact of the project: two rounds of household surveys conducted before and after the intervention collected information in both intervention and comparison areas. Multi-stage sampling was used to select survey respondents. The endline survey also asked about exposure to SMART activities.

A total sample size of 6,400 mothers of children under age 24 months in each survey round – evenly. The survey used a 30-cluster sample methodology. The survey team started from the center of the village and followed “next-door” sampling methodology to identify households with a mother who had child u 2.

Results: Exposure to project activities was greater in Upper Egypt, where 91% of respondents reported receiving home visits and 84% attended group sessions, than in Lower Egypt (58% and 48%, respectively).

Knowledge of danger signs related to pregnancy, delivery, and newborn care increased in intervention areas were significantly greater than in comparison areas in both regions. Changes in behavior were fewer and smaller than for knowledge, and differences between intervention and comparison areas were significant for only two of five behaviors.

In Upper Egypt, there was a dose-response relationship between exposure to SMART activities, all knowledge indicators, and most behavioral indicators.

Conclusions: In Egypt, many women still do not have access to the information, and support they need to maintain the health of their families. We have demonstrated the ability of local civil society organizations to bring effective counseling to pregnant women and new mothers via CHWs, increase knowledge, and promote behaviors associated with better health outcomes. The success of the SMART is
especially impressive given its short duration, CDAs’ and CHWs’ lack of experience in the health sector, the minimal inputs made to improve health services, and the civil unrest and disruptions in public services that occurred during the intervention period.

**FCS33.2**
**BARRIERS TO OBSTETRIC FISTULA TREATMENT IN DEVELOPING COUNTRIES: A SYSTEMATIC REVIEW**
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**Objectives:** Despite the near eradication of obstetric fistula in the developed world, it continues to persist in many developing countries where an estimated 2 to 3.5 million women are currently living with untreated fistula. Women suffering from fistula face several barriers which prevent them from receiving timely treatment, and many live with the condition for years. The main objective of this systematic review was to identify the barriers that women living with fistula face in developing countries, which prevent them from deciding to seek care, prevent them identifying and reaching medical centers, and/or prevent them from receiving adequate and appropriate care.

**Method:** Bibliographic databases, grey literature, journals, and network and organization websites were searched in English and French that were published between 1980 and June 2014. We used key search terms and specific inclusion and exclusion criteria. Experts also provided recommendations for additional articles to be included in the review. Articles were reviewed for discussion of barriers to fistula treatment. Once these specific articles were identified they were sorted into 5 categories based on the extent to which barriers to treatment were discussed. Any articles concerning interventions targeting barriers to fistula care were analyzed further.

**Results:** Out of 3,972 articles screened, 110 were reviewed in detail. Nine barriers to treatment were identified: psychosocial, cultural, awareness, social, financial, transportation, facility shortages, quality of care, and political barriers. Five further categories emerged: barriers as primary study focus (2); factors that researchers perceived as barriers (39); article briefly mentions barriers (29); barriers mentioned in a needs assessment, review or report (28); and interventions to treatment barriers (12). Interventions primarily focused on facility shortages, transportation, and awareness, and outcome data covered only short-time periods; the success of interventions in providing long-term alleviation of barriers is unclear.

**Conclusions:** Results from the review indicate that while barriers to fistula treatment may be easily identified, their alleviation is difficult and requires sustainable interventions that target several barriers. Additionally, there is a lack of scientific studies with regards to fistula, including a lack of prevalence studies, and a lack of studies focusing on barriers to fistula treatment. The results presented in this review identify current research gaps that must be addressed, and information that can be utilized to plan and implement future interventions to improve access to fistula treatment in the developing world.

**FCS33.3**
**STRATEGIES FOR UPDATING NATIONAL CERVICAL CANCER PREVENTION GUIDELINES: EXPERIENCE FROM CENTRAL AMERICA**
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**Objectives:** Updating country guidelines is essential to implementing change in practice in any country. Our work aimed to enable Central American governments to update their national cervical cancer screening and treatment guidelines to reflect new evidence and be aligned with the new WHO guidelines for cervical cancer control. Barriers to countries updating their own guidelines included the need for expert guidance, a rapidly changing cervical cancer landscape in country, and competing priorities within the ministries of health, including a lack of dedicated cervical cancer staff. PATH sought to catalyze change by incorporating new evidence-based practices into country guidelines through technical assistance.

**Method:** Our intervention in Guatemala was a nine-month process led by the Ministry of Health (MOH) with technical assistance by PATH. The activities included a meeting of regional and international experts and local stakeholders to present and consider the latest evidence on screening and preventative treatment; engaging a local consultant to work with the MOH to develop updated guidelines; gathering input from local and international advisors on guidelines drafts; and facilitating MOH review and approval of the updated guidelines. The process concluded with a launch event where the Minister of Health presented the guidelines to the broader health community.

**Results:** The process for updating the national guidelines required the involvement of multiple stakeholders in country, as well as discussing the proposed updates with local and global experts. It was important to have a local champion in the MOH who was pivotal for catalyzing the discussion with multiple opinion leaders. Guatemala’s guidelines now reflect the latest evidence in cervical cancer screening and include adapted versions of WHO algorithms appropriate to the local context. Health care providers at all levels now have a basic reference point and institutional support for moving forward with new screening strategies including HPV testing.

**Conclusions:** Our work strongly suggests that technical assistance can greatly accelerate the process of revising cervical cancer screening and treatment guidelines; involving local and global stakeholders can help overcome political roadblocks; and leadership demonstrated by the MOH in this project contributes to overall political momentum for cervical cancer prevention programs, enabling other long-term change. We are now beginning a similar intervention in other countries in the region.

**FCS33.4**
**MEN AS PARTNERS: ROLE OF MEN IN INCREASING WOMEN’S ACCESS TO WOMEN’S REPRODUCTIVE HEALTH SERVICES – A STUDY IN 4 SOUTH ASIAN COUNTRIES BY IPPF SOUTH ASIA REGIONAL OFFICE – TO STUDY ATTITUDES AND PERCEPTIONS OF MEN SAMPLED IN INDIA, PAKISTAN, NEPAL AND BANGLADESH – FOR RECOMMENDATIONS FOR ENGAGING MEN IN SRH PROGRAMMING**
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**Objectives:** The study assesses the status of men’s knowledge and attitude towards sexual and reproductive health and related behaviour of women - especially regarding STIs, mensural problems, Safe Motehrhood, Abortion and Contraception. The specific research objectives are as follows: To assess men’s knowledge and attitude towards gender equality and sexual and reproductive health needs of women and men – including Men’s perceptions related to Violence, contraception, Abortion, STI, SRH and Safe Motherhood – in order to recommend greater men engagement in womens SRH programming.

**Method:** In India (Gwalior), Bangladesh (Jamalpur), Nepal (Sunsari) and Pakistan (Faisalabad). A systematic random sampling frame was applied within a 1.5–2km radius of selected clinics run by IPPF Member Associations. The study used quantitative and qualitative methods, including bilingual semi-structured questionnaires with married men (15–54), semi-structured questionnaires with health service providers and focus group discussions with men and women of the same communities. 1475 married men were interviewed, 12 FGDs with men &12 with women using PRA – 55 health providers interviewed The study also used GEM scale to find out men’s views on the roles and behaviors of menand women.

**Results:** There are interesting findings within the countries- where...
Men in India and Nepal achieving higher scores in GEM than others. There are significant differences in the perceptions held by men and women regarding pregnancy and childbirth. While men suggest that they provide considerable support during this period, women do not share this opinion. More men in India and Nepal followed by Bangladesh have a positive attitude towards abortion in contrast to Pakistan. The proportion of men who knew about the conditions under which abortion is legal in their respective countries was higher in India than in Nepal.

**Conclusions:** The importance of training health workers who are active in the area of SRH to better understand masculine behaviours and anxiety, as well as in methods of collecting such information in order to incorporate it into all SRH programmes. The importance of integrated programmes needed to change social norms around masculinity that undermine men’s and women’s health. Hence, the importance of addressing beliefs that grow out of the relationship between cultures of masculinity and, say, contraception. Given the significance of the relationship between contraception, gender equality and SRH, the belief that contraceptives may lead to “promiscuity” must be addressed directly.

**FCS33.5**

**ABORTION HOSPITALIZATIONS TRENDS IN MEXICO 2000–2013: ANALYSIS OF COMPLICATED VS. UNCOMPICATED CASES USING THE ICD-10 CLASSIFICATION**

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**Objectives:** The objective of this study is to analyze absolute numbers and rates of abortion-related hospitalizations in Mexico over the last decade, and to specifically identify the proportion of overall complicated cases, according to the ICD-10 classification system. Additionally, the objective is to identify existing trends of specific subset of complications. The analysis is limited to the public health sector - federal or state hospitals - and to women eligible for coverage by the Ministry of Health (SSa), who lack social security system or private health insurance.

**Method:** We analyzed all hospitalizations, recorded in the Automated System of Hospital Discharges (SubSistema Automatizado de Egresos Hospitalarios: SAEH) from Mexican Ministry of Health, for years 2000–2013. All ICD-10 codes O00-O08 “pregnancy with abortive outcome” were included. The overall level of complications was calculated as the proportion of cases with fourth-character decimal subcategories of 0.0, 0.1, 0.2, 0.3, 0.5, 0.6, 0.7 and 0.8 (for ICD-10 codes O03-O07) and the whole O08 category among all abortion-related hospitalizations.

The number of women aged 15–44 were used to calculate the denominator for the rates, according to official population projections for the corresponding years.

**Results:** Overall, 1,473,167 women were hospitalized in this period, with absolute numbers increasing from 72,905 in 2000 to 126,957 in 2013. Uncomplicated cases represented 85.6% of abortion hospitalizations overall, with no changes in the years; complications accounted for 8.47%, decreasing from 9.85% in 2000 to 7.67% in 2013. Ectopic and molar pregnancies increased from 4.77% to 6.13% during the period. Rates for abortion hospitalizations, uncomplicated cases were 557,475 and 55 per 100,000 women 15–44 years, respectively in 2000; and 705,605 and 54 per 100,000 in 2013. Infectious complications decreased significantly in the period.

**Conclusions:** According to official database analysis, in the last 14 years, abortion-related hospitalizations have increased, and abortion overall looks “safer”: complicated cases show a steady decline, both in terms of absolute numbers and in rates. Types of complications have shifted, with decreasing rates of infections, slight increase of bleeding/haemorrhage and very low rates of traumatic complications. An increase in hospitalizations due to ectopic and molar pregnancies is also documented.

**FCS33.6**

**ASSESSING THE BURDEN OF MATERNAL MORBIDITY IN INDIA**

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**Objectives:** Maternal mortality has been referred to as “the tip of the iceberg”. For every woman who dies, 20 or 30 more suffer morbidity related to pregnancy and childbirth. The major burden of these complications occurs in women living in low and middle-income countries. The aim of our research is to identify and measure maternal morbidity using a newly developed standardised, method. A better understanding of the burden of ill health during and after pregnancy will help inform care packages that aim to improve maternal health outcomes in low resource settings.

**Method:** A descriptive cross-sectional study in India to assess maternal morbidity in pregnant and postnatal women using a new electronic data collection tool that consists of a full health consultation during which a comprehensive questionnaire is administered in a face-to-face interview. The sections of the detailed questionnaire include general demographics, details of previous and current pregnancy complications, medications, domestic violence, use of alcohol, tobacco and substance abuse psychological wellbeing, and quality of life. Clinical (general, obstetric and/or pelvic if indicated) examinations and basic urine and serological investigations (haemoglobin, malaria, CRP, syphilis and HIV) are performed.

**Results:** For preliminary analyses we reviewed data for 500 women. 7% of women self-reported feeling poor and 1% very poor. Regarding quality of life, 24% were not satisfied. 78% of women self report at least two physical morbidities. 93% of all women reported currently taking tablets. 30% of women self-reported suffering physical domestic violence from husbands and/or other family members. 2% of women were hypertensive. 2% of women were pyrexic (T>38.0C). 50% of women were anaemic (Hb <11g/L) and 12% of women very anaemic (Hb <8g/L). To date no women has tested positive for malaria, syphilis or HIV.

**Conclusions:** Descriptive preliminary analyses demonstrate that it is possible to determine and identify the key components of maternal morbidity to create a “morbidity score” that can be used as a key maternal health indicator to monitor and evaluate maternal health programs both in the antenatal and postnatal context in middle-income settings. We await full data collection in mid May on a larger population scale (2000 women) in order to conduct full and comparative statistical analysis.

**FCS33.7**

**THE DEMOGRAPHICS OF PATIENTS WITH FEMALE GENITAL MUTILATION ATTENDING A SPECIALIST ANTE-NATAL CLINIC IN THE UNITED KINGDOM**

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**Objectives:** With the advent of increasingly multicultural societies in the Western World, coming across patients with female genital mutilation (FGM) is no longer limited to developing countries. The aim of this study is to investigate the demographics of patients with FGM attending a specialist ante-natal clinic in the UK.

**Method:** City Hospital, Birmingham, UK serves a multicultural inner-city population. This is a retrospective analysis of 273 patients with FGM who attended our specialist ante-natal clinic between March 2012 and December 2014. The patient’s age, country of origin, religion, language for consultation, occupation, and type of FGM were recorded.

**Results:** The mean age of the patients was 29.9 (range 19–42) years. There were 75 (27.5%), 55 (20.2%), 42 (15.4%), 32 (11.7%), 24 (8.8%) and 18 (6.6%) patients from Somalia, Eritrea, Gambia, Sudan, Nigeria,
and Iraq respectively. 27 (9.9%) patients were of other nationalities. 140 (51.3%) patients spoke English but 133 (48.7%) patients required interpreters. There were 197 (72.2%) Muslims and 76 (27.8%) Christians. There were 163 (59.7%) housewives, 73 (26.7%) employed, 20 (7.3%) unemployed and 17 (6.2%) students. There were 70 (25.6%), 118 (43.2%), 60 (22%) and 0 patients who had types 1, 2, 3 and 4 FGM respectively. The type was not recorded in 25 (9.2%) patients.

**Conclusions:** These findings demonstrate the wide diversity of patients with FGM seen in our specialist ante-natal clinic and will be used to enhance patient care. The demographics of patients with FGM should be established not only at the individual hospital level but also at a national level. This is of paramount importance to health practitioners and providers if effective health care strategies and preventative policies are to be appropriately planned and implemented.

**FCS33.8**
TRANSFORMING LAW INTO POLICY AND PRACTICE: THE CASE OF MAKING ABORTION SAFER IN RWANDA

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**Objectives:** To document the process Rwanda Ministry of Health (MOH) undertook to operationalize the exemptions for abortion in the Penal Code of 2012 (PC2012). PC2012 allowed for exemptions for abortion in cases of rape, incest, forced marriage, or when pregnancy jeopardizes the health of the unborn baby or pregnant woman. The MOH successfully led the operationalization of the PC2012 to provide safe abortion services starting from eight initial health facilities. This success story was documented to demonstrate the transition from law and orientations; generation of evidence based on assessment of health among the clerics. The median score for the worst performing health facility was 11.3% and 82.3% for the most improved in the pre-test and post-test results respectively. The annual target for community awareness was set at 15,000 persons to be reached. The data collected for the first quarter comprise of 10,269 (68% of the annual projection) of the annual target, with Roman Catholics contributing 3348 (22.3%), protestants 4818 (32.1%) and Muslims 2103 (14%). Some treatment sessions in Uganda to equip them with knowledge and skills to disseminate maternal health promotion and fistula prevention messages.

**Method:** Three of the largest religious denominations were targeted for the communication strategy (Roman Catholics 41.9%, Protestants 42%, Muslims 12.1%). Training was conducted using a curriculum that promotes maternal health for the prevention of obstetric fistula with key messages on: access to fistula treatment, male involvement, birth preparedness, utilization of antenatal and maternity services and family planning. The training was tailored towards the core beliefs and values of each denomination. Understanding was measured using pre and post-tests. Action plans were developed and data collection tools were given to document awareness raising activities integrated in the Religious leader's routine messages.

**Results:** Pre-test results revealed low knowledge regarding maternal health among the clerics. The median score for the worst performing religious leaders was 11.3% and 82.3% for the most improved in the pre- and post-test results respectively. The annual target for community awareness was set at 15,000 persons to be reached. The data collected for the first quarter comprise of 10,269 (68% of the annual projection) of the annual target, with Roman Catholics contributing 3348 (22.3%), protestants 4818 (32.1%) and Muslims 2103 (14%). Some treatment clients reported having received information from religious leaders and mass media.

**Conclusions:** There's evidence that if the capacity of religious leaders is built using an appropriate curriculum tailored to their values and beliefs, they can use their advantageous positions of having a voluntary followership as well as proximity to their communities to promote maternal health and prevent obstetric fistula. They have been identified to be a resource for mobilizing women with obstetric fistula for treatment.
no functional data review committee in place and only 4 staff at the facility were trained in using health data for decision making. Specific systems were put in place to address these weaknesses. Key decisions were made based on the data analyzed and presented.

Results: There was a marked improvement in completeness of maternal health data, accuracy of monthly summaries and timeliness of reporting into the DHIS2 increased from 27% to 81% within one year. Health facility data use improved and revealed weaknesses such as low antenatal and postnatal clinic attendance, occurrence of 14 maternal deaths mostly from PPH and contributory factors - shortage of blood for transfusion and misoprostol. Partograph use in labour monitoring was low with only 56% monitored. Community sensitization was intensified on the importance of ANC and PNC. Logistical systems were improved and all staff mentored in partograph use.

Conclusions: Maternal health data quality, management and use were improved using cost effective measures. Consistent data use at the health facility level is only possible if it is of high quality and the management is committed to linking the key decisions they make to the routine data analyzed.

FCS34.3 HEALTH AND SOCIO-DEMOGRAPHIC PROFILE OF WOMEN IN REPRODUCTIVE AGE OF 12 RURAL COMMUNITIES IN SOUTHERN MOZAMBIQUE

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Objectives: Reliable data on numbers and causes of maternal and child morbidity and mortality are scarce in developing countries. Similar situation can be found in Mozambique, mostly because many cases occur at home and even those that reach health facilities are badly reported. This information is crucial for developing effective national and international health policies for prevention and control maternal and child mortality. The aim of this study was to create a platform for the collection of community-level demographic health information in order to provide reliable socio-demographic data to support the planning of the Community Level Intervention for Pre-eclampsia (CLIP) study.

Method: This study utilized a retrospective household survey of women of reproductive age (12–49 years) living in Maputo and Gaza Provinces of Mozambique. Data from each region were collected using a customized ODK tablet application and aggregated to estimate total population rates. Rates calculated include pregnancy incidence over the past 12 months and within the woman's lifetime; perinatal, infant and Woman of Reproductive Age (WRA) deaths in the past 12 months; and proportions of hypertensive disorders of pregnancy and seizures. Perinatal (PMR) and neonatal (NMR) mortality ratios were reported per 1000 live births; WRA mortality was reported per 1000 WRA.

Results: Between March and October 2014 50,493 households were surveyed and 80,237 women of reproductive age (mean age 26.9) identified. 14,621 pregnancies were reported in the past 12 months resulting in 61.2% (8942) live births, 3.3% (249) stillbirth and 3.5% (250) miscarriages while the remaining were still pregnant. Of the pregnancies, 3,607 (24.4%) reported history of high blood pressure and 3,914 (26.4%) reported history of seizures in the past 12 months. The PMR was 58.7/1000; 95% CI (53.8–64.0); NMR was 30.9/1000; 95% CI (21.1–42.8) and the death rate of WRA was 3.1/1000; 95% CI (1.1–8.8).

Conclusions: This study is the first successful rural community-based data analysis providing socio-demographic and health estimates among women of reproductive age in Mozambique. We were able to estimate population level mortality ratios that can be used for the planning of effective health interventions in these regions.

FCS34.4 IMPACT OF EBOLA: HOW DISTRIBUTION OF CESAREAN SECTIONS BETWEEN HEALTH CARE PROVIDERS HAVE CHANGED DURING THE EPIDEMICS IN SIERRA LEONE

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Objectives: Before the Ebola Virus Disease (EBV) epidemic, Sierra Leone had the highest Maternal Mortality Rate in the world, and limited access to emergency obstetric care. Cesarean section (CS) rates have remained below the recommended 5%, but efforts such as the Free Healthcare Initiative and programmes for surgical task shifting, were being made to reduce MMR. During the EVD epidemic, several hospitals have closed or have had reduced capacity for CS. This study aims to examine changes in volume of CS performed in the governmental and private sector in Sierra Leone during the EVD epidemic in 2014, compared to 2012.

Method: Weekly data on CS were retrieved from previous data collections mapping all 60 facilities performing major surgery in Sierra Leone during 2012 and 2014. The data was collected retrospectively from surgical theatre register books. Facilities were categorised into governmental, private non-profit and private for-profit facilities.

Results: 41 out of 60 facilities were included due to performing CS in either 2012, 2014 or both. The total number of CS increased from 4850 in 2012 to 5100 in 2014 (5.2%). The first case of EVD in Sierra Leone occurred in week 21, before week 20 we see a 23% increase (from 1815 to 2231) in CS compared to the same period in 2012. After the outbreak there is a drop to lower than 2012 levels (5.5% decrease). In 2012, 54% (2614/4850) of all CS was done in governmental facilities, increasing to 73% (2083/2869) after week 21 in 2014.

Conclusions: From 2012 to the outbreak of EVD in Sierra Leone, there was an increase in the performance of cesarean sections, indicating efficacy of the improvement measures made. After the outbreak of EVD, the total number of CS has dropped, but the governmental sector is performing a significantly larger proportion of the procedures than before the epidemics. This suggests a need to strengthen the public sector in order to handle a similar public health emergency in the future.

FCS34.5 THE IMPACT OF THE EBOLA VIRUS EPIDEMIC ON REPRODUCTIVE AND MATERNAL HEALTH CARE SERVICES IN GUINEA

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Objectives: The Ebola Virus Disease (EVD) epidemic in West Africa poses a serious challenge to already weak health systems with a heavy burden of communicable diseases such as malaria, diarrheal and respiratory diseases, and high maternal and infant mortality. An analysis of health service delivery data monitored by the USAID-funded Maternal and Child Survival Program (MCHIP) was conducted to assess the impact of the Ebola virus epidemic on utilization of maternal and reproductive health care services in Guinea. This analysis can inform planning and strategies for restoring and strengthening health services as the epidemic comes under control.

Method: The MCHIP project in Guinea supported health service strengthening in three eastern regions and the capital Conakry from 2010 to 2014. Interventions included capacity building through training and supportive supervision, the introduction of a quality improvement system, strengthening monitoring and evaluation, and
provision of service delivery materials for Emergency Obstetric Care. Prevention of Maternal-to-Child Transmission of HIV, and long-
acting family planning methods among others. Service delivery data from the routine data collection system was collected and analyzed by the project. Quarterly data was compared for October 2013 (Q1) through December 2014 (Q5).

Results: As EVD surged, the use of MNH and FP services dropped steeply in the most affected regions of N’zérékoré and Conakry. Delivery care dropped 81% (n=2490 to n=462) in N’zérékoré and 74% (n=4890 to n=1724) in Conakry between Q1 and Q5. Cesarean deliveries also declined sharply. By comparison, delivery care stayed stable in Kankan and Faranah regions until the last quarter when community resistance arose to Ebola related interventions from health officials. For family planning services, average monthly users fell 75% in N’zérékoré (n=10703 to n=2580), 53% in Conakry, (n=6191 to n=2893) and 65% in Kankan (n=11660 to n=4082).

Conclusions: The outbreak of EVD in Guinea is severely affecting maternal and newborn health and efforts to reduce preventable mortality, and will continue to do so for a long time to come. The goal of restoring health services should be to make health facilities a safer place for providers, patients and communities. Key elements of restoring health services should include: 1) Establishing screening, triage and isolation for EVD at the health facility and community; 2) strengthening IPC practices in facilities by training healthcare providers and making available essential IPC supplies; 3) Restoring community confidence in health services through effective communication campaigns.

FCS34.6
CURRENT STATUS AND AVAILABILITY OF SPECIALIZED MATERNITY DELUXE ROOM FOR DELIVERING MOTHERS
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Objectives: Demand of specialized maternity ward is increasing as national income level rises. However, the National Health Insurance limits the number of hospital’s non-standard room to less than 50% of total hospital beds. Therefore, this research was performed to investigate the utilization of non-standard room among the women who had delivery in South Korean hospitals in order to examine the factors affect their selection.

Method: One hundred sixty six medical facilities which deliver a Method: tors affect their selection. had delivery in South Korean hospitals in order to examine the fact-

igate the utilization of non-standard room among the women who total hospital beds. Therefore, this research was performed to inves-

results of obstetric fistula in Nigeria were invited in March 2014 to discuss critical social and medical issues affecting their lives as a result of obstetric fistula. They included 21 successfully repaired fistula patients and 63 incurable women of different ages. They were empowered to set the agenda for the focus group discussions and subsequent plenaries. They decided to discuss issues and challenges related to living with incurability and bahanya (vaginal stenosis), the reasons and challenges for repeated fistula repairs and how to hygienically manage their incontinence especially in situations where they were incurable.

Results: Majority of bahanya women are divorced as it prevents coitus and 40% were amenorrheic. They believed surgeons caused hanyaa with surgery or asking them not to have coitus postop. They saw them selves as incurable with bahanya even if continuous. 90% of women preferred leaking forever if repair would cause bahnaya. The reason given for vaginal preservation was to have children. They also described coping mechanisms for stenosis and inconvenience some of which posed dangers to their health such as sitting in substances to shrink or expand capacity, not drinking (97%) etc. Inadequate counsel-

ing led to breakdown and repeated repairs.

Conclusions: More effort is needed to include the women’s voice in programmes even surgery as it affects, compliance, and quality of re-

pairs and importantly can provide the solutions to prevention.

FCS34.7
LEARNING FROM THE 1st OBSTETRIC FISTULA PATIENTS CONFERENCE – HOW TO IMPROVE THE QUALITY OF CARE
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Objectives: To show why and how we organized and learnt from the 1st conference for mothers with childbirth injuries – and how this is the best solution for improving access and quality of care.

Method: 84 women with obstetric fistula in Nigeria were invited in March 2014 to discuss critical social and medical issues affecting their lives as a result of obstetric fistula. They included 21 successfully repaired fistula patients and 63 incurable women of different ages. They were empowered to set the agenda for the focus group discussions and subsequent plenaries. They decided to discuss issues and challenges related to living with incurability and bahanya (vaginal stenosis), the reasons and challenges for repeated fistula repairs and how to hygienically manage their incontinence especially in situations where they were incurable.

Results: Majority of bahanya women are divorced as it prevents coitus and 40% were amenorrheic. They believed surgeons caused hanyaa with surgery or asking them not to have coitus postop. They saw them selves as incurable with bahanya even if continuous. 90% of women preferred leaking forever if repair would cause bahnaya. The reason given for vaginal preservation was to have children. They also described coping mechanisms for stenosis and inconvenience some of which posed dangers to their health such as sitting in substances to shrink or expand capacity, not drinking (97%) etc. Inadequate counsel-

ing led to breakdown and repeated repairs.

Conclusions: More effort is needed to include the women’s voice in programmes even surgery as it affects, compliance, and quality of re-

pairs and importantly can provide the solutions to prevention.

FCS34.8
AWARENESS OF CERVICAL CANCER SCREENING AMONG HEALTH CARE WORKERS WHO PROVIDE RELATIVE SERVICES ACROSS DIFFERENT SOCIO-ECONOMIC REGIONS OF CHINA
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Objectives: China carries a heavy burden of cervical cancer (CC) and disparities exist in CC burden across regions. In order to reduce regional disparities in CC burden, the government of China launched the National Cervical Cancer Screening Program in Rural Areas (NCC-SPRA) in 2009. Health care workers play a main role in preventing and managing CC by increasing women to use screening services. This study aimed to assess cervical cancer knowledge among health care workers who provide the CC screening service at the county level maternal and child health (MCH) hospitals across different socio-economic regions of China.

Method: A cross-sectional survey was conducted and self-administered questionnaires were sent to 66 health care workers in 6 county level MCH hospitals in Liaoning, Hubei and Shaanxi provinces, representing eastern, central and western regions of China, respectively; 64 (97.0%) of the workers responded. ANOVA and Chi-square test were used to compare the knowledge rate and scores in subgroups.

Results: The knowledge level of the respondents was generally inadequate. The overall combined knowledge rate was 46.9%. The knowledge rates of risk factors, prevention, clinical symptoms, screening and diagnostic tests and understanding of the positive results were respectively 31.3%, 37.5%, 18.1%, 56.3% and 84.4%. Statistically significant differences in scores or rates of CC knowledge were seen across different regions. The total and sectional scores in the less developed regions were significantly lower than in the other regions.

Conclusions: The majority of the health care workers who provide
CC screening service in NCCSRPA at county level MCH hospitals are not adequately equipped with knowledge about CC. Given the importance of knowledge to program success of reducing CC burden in rural women in China, efforts are needed to improve the knowledge of health care workers, especially in less developed regions.

**FCS34.9**

**A RETROSPECTIVE AUDIT OF OBSTETRIC CARE AND OUTCOMES FOR PRIMIPAROUS WOMEN FROM COUNTRIES WITH A HIGH PREVALENCE OF FEMALE GENITAL MUTILATION (FGM)**

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**Objectives:** To describe the impact on obstetric care and outcomes of previous FGM in a selected high prevalence population in Australia.

**Method:** Women born in countries with FGM rates greater than 90% who delivered their first baby in 2013 were identified from the medical records database of The Royal Women’s Hospital, Melbourne. Countries identified were Somalia, Sudan, Egypt, Ethiopia, Eritrea and Sierr Leone.

Records were examined for demographic factors, recording of FGM, need for deinfibulation, obstetric management and complications of delivery.

**Results:** 74 women were identified. 24% had infibulation (“type 3” involving partial closure of the vagina), 15% had types 1 or 2 (removal of part or all of clitoris/labia minora), 8% had FGM documented as absent and in 47% there was no record of whether FGM was present. 17 women had deinfibulation performed prior to pregnancy, antenatally or at the time of birth.

In this sample, caesarean rates were the same as published state averages. Instrumental delivery rates were 1.7 times higher, preterm birth rates were 1.5 times higher and massive postpartum haemorrhage was 1.9 times greater than state averages.

**Conclusions:** This sample of primiparous women had lower rates of FGM recorded than the prevalences reported for their countries of origin, although ascertainment may be incomplete. A minority of women required specific intervention because of FGM. High rates of obstructive intervention and adverse outcomes warrant further investigation.

**FCS35. Contraception and Fertility Control**

**FCS35.1**

**INITIAL ASSESSMENT OF A DEDICATED DEVICE FOR IMMEDIATE POSTPARTUM IUD INSERTION**

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**Objectives:** Immediate postpartum insertion of an IUD (PPIUD) insertion offers a safe and convenient method to accelerate efforts to address the unmet need for contraception. However for Immediate postpartum intrauterine device insertions either immediately post placental or prior to discharge from hospital, a dedicated PPIUD inserter is currently not available. As a workaround, forceps are used – the IUD is manually removed from the traditional interval inserter, and grasped with forceps before uterine fundal placement. We developed a dedicated device for immediate postpartum IUD insertion. The objective of this pilot study was to assess the efficacy and acceptability of a device prototype.

**Method:** This proof-of-prototype study took place at two centers in Delhi and Bangalore, India. 106 women age 18–38 were enrolled to assess the potential efficacy of the dedicated insertion device. Women with a vaginal delivery who had consented to participate were eligible to have a PPIUD inserted using the dedicated device either while still in the delivery room or before discharge from hospital. Exclusion Criteria were rupture of membranes more than 18 hours prior to delivery, diagnosis of chorio-amnionitis at the time of delivery and postpartum hemorrhage. Primary outcome variables included IUD proximity to fundus at end-insertion, acceptability, and expulsion rates.

**Results:** Among the 106 enrolled, PPIUD insertion occurred in the delivery room or prior to discharge in 25 (24%) and 81 (76%) of cases, respectively. Provider assessment of device ease-of-use was “easy” in 83% cases and “difficult” in only 7.5% cases. High fundal placement was observed in almost all cases with 66% and 89% of insertions being less than 6 or 10mm from the fundus, respectively. Of those with complete follow up (65%) expulsion rates were 12% at 4 weeks. 83% of patients expressed satisfaction with their method choice. There were no safety issues such as perforation or insertion-related infection.

**Conclusions:** As a result of this experience, improvements were made to the prototype to improve ease-of-use and enhance provider acceptance. This study demonstrates that the dedicated PPIUD inserter prototype was both efficacious and acceptable for use in the post partum setting. Further studies based on the improved device are planned or ongoing.

**FCS35.2**

**COMPARISON OF PPIUCD WITH INTERVAL IUCD AND ITS FOLLOW UP CARE: A SYSTEMATIC REVIEW**

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**Objectives:** Intrauterine device (IUD) is a convenient and efficient means of postpartum contraception. It is demonstrably safe with fewer side effects and less complications of infection and perforation. Insertion of an intrauterine device (IUD), immediately after delivery, is appealing for several reasons, mainly, convenience of client and provider.

The study proposes:

- To compare Post placental, Immediate PPIUD and interval IUD with respect to the complication risks like bleeding, pain, pregnancy, missing thread, expulsion/ removal
- To analyse role of “follow up care” after Postpartum IUCD
- To understand Indian perspective and determinants of “continuity of care”

**Method:** We searched Medline, Cochrane database, Pubmed, cinahl, Embase, Science direct, Google Scholar and grey literature, since database inception till 2014. Search term included are postpartum, insertion, Intrauterine device, postplacental, expulsion, removal, follow up care. The relevant literature of PPIUD, its outcome & follow up were selected. We found around 107 articles, out of which, 36 relevant articles were selected. We restricted our search to English language only. After quality check, two authors thoroughly studied, abstracted the data.

The following selection criteria were used:

- Population: Females above 18 years
- Intervention: PPIUCD
- Comparator: Interval IUCD
- Outcome: Removal/Expulsion

**Results:** Review Manager 5.2 was used to do the analysis of the studies. Risk ratio was calculated by analysis - which came to be 0.80 which is less than 1, meaning that experimental intervention is more effective than control; hence PPIUCD is 20% more effective than interval IUCD.

We found eight RCTs; three systematic reviews and Nine Indian study of comparison of PPIUD & Interval IUCD. Rest 16 studies includes describes either Interval or PPIUCD as one control arm and their Follow up. Statistical analysis is in process, for evidences of loss of follow up care (LOFC) of PPIUCD and its consequences.
Conclusions: Post placental IUD insertions shows less expulsion as compared to immediate post-partum, although higher than the interval insertion. Advantages of immediate post-partum insertion include high motivation, assurance that the woman is not pregnant, and convenience. The main complication of PPILUD that came up, are expulsion (partial & complete) and removal (continuation rate). Loss of Follow up care (LOFC) plays significant role in complications and subsequent expulsion/removal. Early follow up & good counselling plays key role in continuity of care in case of PPILUD.

FCS35.3 SIMPLIFYING INSERTION OF INTRAUTERINE DEVICES: A PILOT STUDY
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Objectives: To assess a simplified IUD insertion approach and explore the feasibility of safe IUD placement without pre-procedure assessment of uterine size by bimanual examination or uterine sounding. Our ultimate goal is to decrease insertion-related pain and improve access to this effective contraceptive method.

Method: This was a pilot study of 50 women who underwent simplified IUD insertion. No pelvic exam or sounding was performed prior to IUD insertion. For research purposes transvaginal ultrasound was performed immediately post insertion and at 4-6 weeks after placement. The primary outcome was successful intracavitary IUD placement without bimanual exam or uterine sounding. Secondary outcomes included distance from tip of IUD to fundus, change in IUD position between insert and follow up visit, patient satisfaction with procedure, and instruments needed for insertion. Incidence of adverse events including: malpositioned IUD, uterine perforation, infection, and expulsion were also assessed.

Results: IUD insertion was successful without any cervical manipulation in 80% of subjects. Sounding was only felt necessary in 2%. In 18%, a “gas-syndrome” was used to locate the internal os, but no sounding performed. The mean distance between the IUD and the endometrial limit post-insertion was 3.8mm (range 0–23.1). Mean procedural satisfaction score was 88% and in only 3 patients did the provider rate the insertion as “difficult”. No perforations were observed and expulsions occurred in 3 patients, of whom 2 had menorrhagia as the indication for IUD use.

Conclusions: IUD insertion without prior pelvic exam and sounding is feasible and may reduce 1) instruments necessary for insertion 2) fear of pain associated with insertion. Larger studies should validate these findings.

FCS35.4 EARLY VERSUS DELAYED INSERTION OF NEXPLANON AT MEDICAL ABORTION – A RANDOMIZED CONTROLLED EQUIVALENCE TRIAL
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Objectives: The primary objective of this ongoing trial is to investigate insertion of the etonorgestrel implant for post abortion contraception at the time of mifepristone administration or at the routine follow up 3–4 weeks post abortion. Secondary outcome measures include rates of implant insertion, continuation rates, bleeding patterns, AE/SAE, acceptability, pregnancy, repeat abortion, unscheduled visits, satisfaction with their implants.

Method: Prospective randomized equivalence trial. Women up to and including 63 days gestation opting for medical abortion and implant postabortion contraception were randomized to early (1 hour after mifepristone administration) or routine (at follow up 3–4 weeks) insertion of the etonorgestrel implant (Nexplanon). Assuming 97% success (efficacy) in both groups, and a two sided margin of equivalence (~5% to ~5%) we would require 252 patients per group (alpha of 0.05 and a power of 90%). To compensate for loss to follow up 560 women will be recruited. Women will have two clinical visits telephone follow up at 3, 6 and 12 months post abortion.

Results: This is an interim report of the study. Of the intended 560 women a total of 366 women have been included when the data is analysed. A total of 305 implant insertions has been made whereof 176/181 (97%) early and 129/184 (70%) delayed insertions. No ongoing pregnancies had been reported. Among women who did not have an implant inserted seven (7/55, 12.7%) experienced a new pregnancy within the first 12 months after the abortion. No pregnancies were reported among implant users. No increased incidence of on-going pregnancy or incomplete abortion was found in either group.

Conclusions: Early implant insertion resulted in higher insertion rates and lower rate of rapid repeat pregnancy and abortion within the study period. No difference in effectiveness of the abortion regimen could be detected. Final result of effectiveness are expected for the conference presentation.

FCS35.5 DESIGNING AN M-HEALTH INTERVENTION TO PROMOTE POST-MENSTRUAL REGULATION CONTRACEPTIVE UPTAKE AND CONTINUATION IN BANGLADESH
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Objectives: Post-abortion family planning is an effective way of reducing unwanted pregnancies and abortion. The study aims to: 1. Assess the feasibility of using an m-health intervention to support post-menstrual regulation (MR) contraceptive uptake and use in Bangladesh; 2. Design a four month m-health intervention for use among MR clients at Marie Stopes Bangladesh or Ipas-supported government clinics with a focus on long acting and reversible contraceptives (LARC); and 3. Evaluate the effectiveness of the intervention on LARC and any contraceptive use at 2 weeks, 4 and 12 months post MR.

This paper is based on aims one and two.

Method: In 2013, in a survey of 498 MR clients, we conducted a randomized intervention and control study interviewing 120 women at baseline and four months to assess the feasibility of a short message service (SMS) intervention providing method-specific contraceptive reminders. In March 2015, 24 in-depth interviews with MR clients and six focus-group discussions will explore myths and barriers to contraceptive use and preferred m-health modalities. Findings will inform design of an mhealth intervention to support post MR contraceptive use. The intervention will be evaluated in a randomised controlled trial with 900 women from government and Marie Stopes Bangladesh clinics.

Results: In the initial survey, 74% of MR had a personal mobile phones and interest in an m-health intervention was high. In the feasibility pilot, 76% of women in the intervention group said they would sign up to the intervention again, 13% called the study number with questions and 96% reported interest in a hotline service. Furthermore, 93% were satisfied with the confidentiality of the intervention and 91% told their husband of their participation. Qualitative data on barriers to contraceptive use, how contraceptive decisions are made and on the acceptability of various modalities of messaging will be available by April 2015.

Conclusions: M-health offers potential for supporting post MR contraceptive use and this feasibility study suggests that an interven
tion is acceptable to women and can be implemented in Bangladesh. Women’s interest, in a hotline along with the potential for voice and interactive messaging will be explored in the formative phase. Confidentiality issues will also be investigated further as well as the potential for involvement of the husband.

FCS35.6
INTEGRATION OF POSTPARTUM FAMILY PLANNING SERVICES WITH THE IMMUNIZATION PROGRAM AT SUB-DISTRICT AND BELOW LEVEL IN BANGLADESH
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Objectives: Use of postpartum family planning (PPFP) is low in Bangladesh as it is a recent initiative by the government. Twelve percent of births occur ≤24 months after a preceding birth and another 20% between 24–35 months. Unmet need for family planning during the postpartum period is nearly 60%. Hence, to increase acceptance of PPFP, an intervention was implemented by Mayer Hashi - an USAID supported family planning project - where the main objective was to integrate PPFP counselling with the existing maternal and child health and immunization services, including, capacity development of clinicians and other service providers for PPFP uptake.

Method: A 12 month intervention targeting postpartum women with a child aged 0–12 months was implemented in a sub-district of Bangladesh (February 2012–2013). Clinical training including refresher training on PPFP was provided to all physicians and paramedics of the sub-district to the lowest level health facilities. PPFP orientation was also provided to all cadres of service providers. PPFP leaflets, signboards at health centers, and job-aids were supplied as part of information, education, and communication intervention. Pre and post-intervention data was collected from 2,915 and 3,756 postpartum women respectively, from the female welfare assistant register to measure change.

Results: Overall, the uptake of all modern contraceptives during the first postpartum year increased from 47.8% to 60.4% as a result of the intervention. A slight increase on long acting reversible and permanent methods of family planning (5.1% at baseline to 5.7% at end line) use, and exclusive breastfeeding (0 to 8.2%) was observed at the end of the 12 month. A significant impact of the intervention was that counselling on postpartum family planning methods, increased from zero to 99.3%. The impact of this will undoubtedly be felt in the future uptake of postpartum family planning at the sub-district level.

Conclusions: Our intervention experience shows that training on PPFP, both clinical and non-clinical, enhances the capacity of the service providers to provide quality counselling and clinical services, as evidenced by an increased uptake of all modern methods during the extended postpartum period. Our programmatic experience suggests that PPFP services if integrated with the existing maternal and child health and immunization services under one facility/roof will increase the uptake of PPFP. Counselling plays a crucial role in the uptake of PPFP, hence this should be integrated with the existing maternal and child health and immunization programs and other child health programs.

FCS35.7
RECRUITMENT OF WOMEN USING MISOPROSTOL FOR MENSTRUAL REGULATION PURCHASED FROM PHARMACIES IN BANGLADESH
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Objectives: In Bangladesh abortion is illegal but menstrual regulation (MR) is legally available as a surgical procedure, and more recently as a medical procedure using mifepristone and misoprostol. However barriers to legal MR services remain and anecdotal evidence suggests women and men are seeking MR medications from pharmacy workers. A mystery clients survey in 2011 revealed that 39% of pharmacy workers offer misoprostol alone for MR however only 7% offered the correct regimen. This study aims to document the reasons women are accessing misoprostol for MR from pharmacy workers and the safety and effectiveness of the procedure.

Method: In 2013, a pilot survey was conducted among 30 pharmacy workers in Bangladesh who were asked to invite misoprostol users to call an established reproductive health call-centre two weeks after taking the medication. Few calls were received and the methodology has been revised; recruitment will restart in April 2015. 100 pharmacy workers will be given 10 vouchers each and will instruct misoprostol purchasers interested in participating in the study to SMS the call centre. A trained call-centre operator will inform the purchaser of the study and will invite the end-user to participate in a telephone interview two weeks later.

Results: During the pilot survey, 17 calls were received; 12 were eligible to participate and 11 interviews were completed. During one call the husband of the end-user wanted to participate in the telephone interview with his wife. Protocols for managing such situations have been included in the revised methodology; husbands will be allowed to participate if both parties consent to this independently. Routine callers to the call centre who were users of misoprostol for MR were also invited for a short interview to seek their views on the methodology. Data from the revised protocol will be available by October 2015.

Conclusions: There are many challenges and ethical issues to consider when attempting to contact women who have used misoprostol for MR purchased from pharmacies; the pharmacy worker needs to be motivated to recruit participants, and to do so without coercion, however the end-user may not visit the pharmacy worker themselves. A revised protocol, where phone contact with the purchaser is made at the time of purchase, may have more success in providing crucial information on the outcomes of the MR procedure, how complications are managed and insight into what further support women need and how this can be provided.

FCS35.8
IMPROVING PHARMACY WORKERS’ KNOWLEDGE OF MISOPROSTOL FOR MENSTRUAL REGULATION IN BANGLADESH: THE EFFECTIVENESS OF TRAINING, DETAILING AND CALL CENTRE INTERVENTIONS
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Objectives: In Bangladesh, a mifepristone and misoprostol regimen is legally available for menstrual regulation (MR) however pharmacy provision of misoprostol on its own for MR is common. Significant gaps exist in pharmacy workers’ knowledge of the drug regimen and several programmes have been initiated with the aim of reducing harm, such as dedicated training sessions, in-pharmacy “detailing” by pharmaceutical suppliers, and a call centre. The aim of this study was to assess the factors affecting pharmacy workers’ knowledge of the correct misoprostol regimen for MR, specifically focussing on whether receiving training, detailing or using the call centre improved knowledge.

Method: A cross-sectional survey was conducted in 2013 among pharmacy workers from 755 pharmacies across Bangladesh. The outcome - knowledge of the correct misoprostol regimen for MR - was defined as answering five questions correctly: micrograms per tablet, tablets per dose, number of doses, time between doses and route of administration. We fitted logistic regression models for correct knowledge of regimen including the following predictors: character-
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berofchildrenwithwives(p
more children (38.7%) compared to those who desired more (27.7%) among the men. MC use was higher among men who did not desire
Results:
95% confidence level.
analyses were used to determine factors associated with MC use at
modern contraceptive use.
Methods:
The study aimed to determine the association between
Conclusions:
Knowledge of the correct misoprostol regimen for MR is low among pharmacy workers in Bangladesh and varies by di-
Division.
However, knowledge of the effective regimen was better in those who had received training or detailing from pharmaceutical companies and among call centre users, suggesting that the initia-
tives were effective. The study had several limitations: reported prac-
tices may be subject to recall and courtesy bias and may not reflect actual provision practices. Further research is required to formally evaluate the different aspects of this intervention, and to understand why there are geographical differences in knowledge and in the ef-
effectiveness of training.

FCS36. Contraception and Fertility Control
FCS36.1 GENDER FERTILITY PREFERENCE BY MEN: A DISINCENTIVE FOR MODERN CONTRACEPTIVE UPTAKE AMONG COUPLES IN NIGERIA?
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Objectives:
The study aimed to determine the association between male fertility preferences, male involvement in family planning and modern contraceptive use.
Methods:
The Family Health and Wealth Study (FHWS) is an open-cohort study among 497 randomly selected couples from households in Moniya, Akinyele Local Government Area conducted in 2010. Eligible couples were enrolled following delineation and listing of all houses within the selected site. Spousal separation was defined as couples not leaving together all the time. In this analysis the primary outcome was assessed using the question on type of contraceptive used by the women. Bivariate and multivariate analyses were used to determine factors associated with modern contraceptive use at 95% confidence level.
Results:
The reported duration of spousal separation was 1–4 weeks by 167 (33.6%) women. MC use among women reporting spousal separation was 31.1% against 37.6% among those leaving with their spouse. Women with highest household wealth quintile had a higher proportion reporting MC use (45.9%) compared to women who had lower/middle (33.3%), higher (21.9%) and lowest (20.0%) wealth quin-
tiles. Women in polygamous unions (32.0%) and those married for 10 years and more (38.7%) had a higher proportion reporting MC use compared to women in monogamous unions (28.6%) and those married for <10 years (26.7%). These were not statistically signifi-
cant.
Conclusions:
This study did not establish an association between spousal separation and MC use. This is not in tandem with previous research findings.

FCS36.2 SPOUSAL SEPARATION AND MODERN CONTRACEPTION USE IN A PERI-URBAN SOCIETY: FINDINGS FROM THE FAMILY HEALTH AND WEALTH STUDY (FHWS)
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Objectives:
To assess the association of spousal separation on modern contraceptive (MC) use among women in a peri-urban community in Nigeria.
Methods:
The FHWS is an open-cohort study among 497 randomly selected couples from households in Moniya, Akinyele Local Government Area conducted in 2010. Eligible couples were enrolled following delineation and listing of all houses within the selected site. Spousal separation was defined as couples not leaving together all the time. In this analysis the primary outcome was assessed using the question on type of contraceptive used by the women. Bivariate and multivariate analyses were used to determine factors associated with modern contraceptive use at 95% confidence level.
Results:
The reported period of spousal separation was 1–4 weeks by 167 (33.6%) women. MC use among women reporting spousal separation was 31.1% against 37.6% among those leaving with their spouse. Women with highest household wealth quintile had a higher proportion reporting MC use (45.9%) compared to women who had lower/middle (33.3%), higher (21.9%) and lowest (20.0%) wealth quin-
tiles. Women in polygamous unions (32.0%) and those married for 10 years and more (38.7%) had a higher proportion reporting MC use compared to women in monogamous unions (28.6%) and those married for <10 years (26.7%). These were not statistically signifi-
cant.
Conclusions:
This study did not establish an association between spousal separation and MC use. This is not in tandem with previous research findings.
Republic, show the lowest records of use, below 3%. Use in other European Union states range from 4 to 9%. **Conclusions:** Our data confirm that access to EC is still uneven in Europe In light of this situation, in 2013 ECEC developed a template guide to facilitate the process of developing or updating national EC guidelines. In 2015 ECEC is developing a tool so that pharmacists are well equipped to help women chose the best EC option for them, in countries where EC pills are directly available for women in pharmacies.

**FCS36.4**

**UNINTENDED PREGNANCY AMONG WOMEN ATTENDING ANTENATAL CLINICS AT MISURATA TEACHING HOSPITAL**

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**Objectives:** To determine the prevalence and demographic associations of unintended pregnancy among women presenting for antenatal care to Misurata Teaching Hospital.

**Method:** The monthly average clinic attendance in 2014 was 520 women. A stratified random sample of 489 mothers who attended antenatal clinics in last fourth of 2014, 3 women not responded to interview. 486 respondents were interviewed after their consent using a structured questionnaire. Items in the questionnaire included socio-demographic characteristics, obstetric variables, attitude of pregnancy, and contraceptive use including decision of discontinuation and awareness of contraception. The data was collected, analyzed and statistical comparison using test of difference of proportions using Z-score statistic at 5% of significance.

**Results:** Of the respondents, 35.8% their current pregnancies were unintended. Concerning residency; the level of unintended was comparable among urban and rural women (31% versus 23.1%). The older women >30 years old reported slightly higher level of unintended pregnancy (38.2% vs. 34%) and 62.1% interbirth interval <24 months. Regarding the socio-economic variables, about three-fourths of the respondents were house wives, and average economic level, while 65.5% of unintended pregnancies have high education (p=0.028) compared to 48.1% among wanted pregnancies. 22.4% of unintended pregnancies were grandmultiparous. While 67.2% of the unintended pregnancies were used contraceptives; 37.5% of wanted pregnancies (P=0.0007).

**Conclusions:** Unintended pregnancy was common and these women occurred more frequently already had five or more children, often leading to birth spacing of under two years. There is a need for effective social and health education programs reduce unplanned pregnancy amongst multiparous women. hs of the respondents were house wives, and average economic level, while 65.5% of unintended pregnancies have high education (p=0.028) compared to 48.1% among wanted pregnancies. 22.4% of unintended pregnancies were grandmultiparous. While 67.2% of the unintended pregnancies were used contraceptives; 37.5% of wanted pregnancies (P=0.0007).

**FCS36.5**

**THE COST OF UNINTENDED PREGNANCIES (Coup) IN CANADA: ESTIMATING DIRECT COST, ROLE OF IMPERFECT CONTRACEPTIVE ADHERENCE, AND THE POTENTIAL IMPACT OF INCREASED USE OF LONG-ACTING REVERSIBLE CONTRACEPTIVES**

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**Objectives:** Unintended pregnancies (UP) are associated with a substantial and potentially avoidable cost burden. In Canada, 40% of pregnancies are unintended however the full cost burden in Canada has not been determined. Our objectives were to: (1) Quantify the direct cost of UPs in Canada; (2) Estimate the proportion of UPs attributable to imperfect contraceptive adherence; (3) Estimate the number of UPs that could be avoided by increasing use of long-acting reversible contraceptive (LARC); and (4) Calculate potential direct cost savings associated with increased LARC use.

**Method:** A cost-burden model was constructed to estimate the annual number of UPs, the direct costs of UPs, and the proportion of UPs that could be attributed to imperfect contraceptive adherence. The model considered women age 18–44 years using women aged 20–29 years as the base case analysis. The change in annual number of UPs and impact on cost-burden were analyzed in 3 separate scenarios of increased LARC usage. One-way sensitivity analyses were conducted to assess the respective impact of all key variables on the 3 scenarios of increased LARC use.

**Results:** There are over 180,700 UPs annually in Canada with an associated direct cost of over $320 million. UPs in women aged 20–29 years accounted for 58% of UPs with an annual cost of $175 million. Sixty-seven percent of this cost ($117 million) was attributable to contraceptive non-adherence. In all switching scenarios, higher LARC uptake resulted in significant cost savings with the largest savings ($12 million) seen when 10% of oral contraceptive users switched to IUCs. Minimum duration of IUC usage required before cost savings was realized was 12 months.

**Conclusions:** Imperfect contraceptive adherence results in a substantial number of UPs. UPs are associated with a high and potentially avoidable cost burden in Canada. Significant cost savings could be generated by increasing LARC uptake, particularly in women aged 20–29. Greater accessibility of and use of LARCs may have significant benefits for the reproductive health of Canadian women by decreasing the number of UPs. Canadian society as a whole would also benefit by decreasing the economic burden of unintended pregnancies.

**FCS36.6**

**PROGRESS IN INCREASING AWARENESS AND AVAILABILITY OF THE INTRAUTERINE DEVICE IN BONSAASO, GHANA**

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**Objectives:** The intrauterine device (IUD) is an effective, yet underutilized contraceptive method in low-resource settings. IUD use in rural Bonsaaso, Ghana was 0% in 2012. Research suggests that provider and patient barriers such as biased contraceptive counseling and lack of IUD knowledge and availability contribute to low uptake. The purpose of this study was to assess the long-term impact of a three-day provider family planning workshop on awareness and perceived availability of the IUD among women accessing family planning clinics within one year of training.

**Method:** Semi-structured interviews and focus groups were conducted with 42 contraceptive users one year following a family planning workshop for providers which included a review of contraceptive counseling techniques, eligibility criteria for contraceptive use, and the IUD insertion. Interview and focus group content were analyzed and emerging themes were identified.

**Results:** Twelve of 42 users were offered the IUD and two selected the method. Though there was greater awareness about the IUD and its availability, uptake was impacted by lack of comprehensive counseling specific to the IUD, poor understanding of how the IUD functions and poor understanding of the benefits the method offers users. Of those who chose the IUD, the desire for pregnancy spacing and dissatisfaction with other methods led to IUD selection.

**Conclusions:** Provider training alone marginally increases IUD awareness and availability. A more robust intervention focusing on provider bias and community sensitization is needed to improve the quality of contraceptive counseling and to more aptly meet the needs of contraceptive users.
**FCS36.7**

**EFFECTS OF THE ETONOGESTREL-RELEASING CONTRACEPTIVE IMPLANT INSERTED IMMEDIATELY POSTPARTUM ON BREAST MILK VOLUME: A RANDOMIZED CONTROLLED TRIAL**

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**Objectives:** Effective, reversible postpartum contraception is important to decrease the chance of rapid repeat pregnancy, especially in vulnerable populations. One of the limitations for recommending immediate postpartum insertion of the etonogestrel (ENG) implant is the low quality of the evidences of its effect on breast milk amount. Thus, the objective of this study was to evaluate infants’ breast milk intake when etonogestrel-releasing implant was inserted immediately postpartum.

**Method:** Twenty-four healthy women with healthy and term newborns who desired the etonogestrel implant for contraception were randomized in two groups: implant group (insertion of implant 24–48 h after delivery) and control group (no hormonal). Deuterium (D2O) was ingested by mothers on early postpartum (24–48 h after birth) and 28 days after first D2O administration dose. Saliva samples were collected from the mother and her baby before D2O administration and 1, 2, 3, 4, 13 and 14 days after D2O administration. Deuterium concentration on the mother and infant saliva samples were measured by mass spectrometry and breast milk intake was estimated.

**Results:** After the first dose of D2O, the breast milk intake by newborns (NB) was similar between groups (Implant: 343.6±102.5 mL/day vs. Control: 388.2±170.4 mL/day, p=0.54). After the second dose of D2O, the breast milk intake by NBs for newborns was also similar between groups (Implant: 775±277.6 mL/day vs. Control: 815.4±184.1 mL/day, p=0.63). Exclusive breastfeeding rate and the weight of the NBs were similar between the groups in the first six weeks after birth.

**Conclusions:** The amount of breast milk intake by the newborns was not affected by the immediately postpartum insertion of the ENG implant. This finding may help to improve the safety evidences of early beginning of progestogen contraceptives after delivery.

**FCS36.8**

**QUALITY ASSURANCE IN IUD SERVICES AND REPORTED COMPLICATIONS: A CROSS SECTIONAL STUDY**

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**Objectives:** Access to safe and effective contraception increases the contraceptive prevalence rate, and reduces maternal mortality. The IUD is an highly effective, safe, cost-effective long acting family planning method. IUD-related complications are rare but can occur even when trained providers perform insertion. The complications that need immediate management include: pregnancy with IUD, missing strings, perforation, expulsion (partial and complete) or infection.

The objective of this cross-sectional study was to analyze the total number of IUD complications reported from the trained providers and compare them with reported similar global rates.

**Method:** PSI’s Women’s Health Program involves social franchise network of 1100 private doctors (Ob/Gyn or MBBS) across 3 states of India. Quality assurance (QA) is a key component of network clinical care. PSI provides support for training, quality assurance, demand generation activities and complications management. Supportive supervision visits are performed by PSI medical team members to ensure quality service delivery. All reported complications are managed by network providers or at referral centers. This retrospective study analyzed complication and adverse event data reported between January 2013 and July 2014. Event incidence has been calculated per referrals by outreach (IPC) workers.

**Results:** Between January 2013 and July 2014, 118,757 IUDs were inserted by network providers. Out of 1100 trained network providers, only 104 reported complications or adverse events. Complications rates from IPC referrals for suspected events during this period were: IUD with pregnancy 0.06%, pregnancy with partial expulsion of IUD 0.02%, string problems 0.018%, complete expulsion of IUD followed by pregnancy 0.16/1000, infection 0.009%, perforation 0.04/1000, ectopic tubal pregnancy 0.003%, heavy bleeding 0.015%.

**Conclusions:** Rates of complications in this network experience are lower than other reported experiences. Reasons for differences may include effective training on balanced counseling, quality client screening, following standard infection prevention practices, insertion by no-touch technique and ensuring quality service delivery, all of which can minimize the rate of complications and avert adverse events following IUD insertion. However, given the very low rates, encouraging active reporting of complications is clearly a challenge, and requires both collaboration and trust amongst the providers.

**FCS37. Genital Prolapse/Gynecological Care for the Older Woman**

**FCS37.1**

**STUDY ON PELVIC ORGAN PROLAPSE AMONG WOMEN OF A VILLAGE OF SIRAHAN DISTRICT OF NEPAL**

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**Objectives:** To assess the contributing factors of pelvic organ prolapse (POP) and knowledge about POP among the women of Karjanah village in Siraha district of Nepal.

**Method:** A cross-sectional study was done to enrol 249 women from four wards of Karjanah village in Siraha district. The participants consented for interview and pelvic examination. Pre-tested semi-structured questionnaires were used. Data were analysed by using SPSS 16 v.

**Results:** Most of the participants (29.30%) were in the age group of 31–40 years. Most of them (95%) married at age below 18 years. Majority of the females (78%) were below 20 years at their first child birth. About 10% of the women did heavy work soon after delivery. About 8% of the women suffered from pelvic organ prolapse. Heavy physical work after delivery of child and delivery of child without the assistance of healthcare workers were the contributing factors of POP. Four fifth of them were aware about POP but did not take it as a serious gynaecological condition.

**Conclusions:** Early age pregnancy was common among women in Karjanah. Pelvic organ prolapse (POP) was a problem in the village. Heavy physical work and home delivery were the contributing factors of POP. Women had awareness about POP but were less concerned to seek medical help.

**FCS37.2**

**MANCHESTER OPERATION, AN OPERATION FOR YOUNG WOMEN WITH UTERINE PROLAPSE WITH FIVE YEARS FOLLOW-UP**

Y. Yao, J. Han, K. Zhang, Y. Chen, F. Zhu, Y. Wang. Peking University Third Hospital, Beijing, China

**Objectives:** To evaluate the outcome of Manchester operation for treatment of uterus prolapse of young women.

**Method:** Manchester operations were performed on 32 women between February 2001 and February 2015. Preoperative and postoperative symptoms, POP-Q scores quality-of-life questionnaire were studied to assess after the operation. 6 patients were evaluated by pelvic MRI for decision of the procedure.
Results: Average age was 45.3 years old. Uterus prolapse of all were stage II or above with mean cervix length of 6.23cm. Mean operation time and blood loss was 84.0±22.1min and 56.9±75.1ml with no complication during and after the operation. Follow-up rate was 100% with a median follow-up of 70 months. Subjective cure rate was 100%. Objective cure rate was 93.4% while cure rate of median defect was 100%. PFQI-7, POPDI-6 and UDI-6 score after 2 years were significantly lower after operation. MRI results were in accord with clinical staging and showed long cervix which help choosing the procedure.

Conclusions: Evaluation of Manchester for uterus prolapse reveals good outcome. There was significant improvement on anatomy and quality of life after operation. MRI assessment is helpful in preoperative decision.

FCS37.3
LONG-TERM OUTCOMES OF THE SELF-CUT MESH-RELATED MODIFIED TOTAL PELVIC RECONSTRUCTIVE SURGICAL REPAIR FOR PELVIC ORGAN PROLAPSE IN CHINA: A 7-YEAR PROSPECTIVE COHORT STUDY
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Objectives: The aim of this study was to analyze the long-term outcomes and safety of the modified total pelvic reconstructive surgical repair for pelvic organ prolapse (POP) in China.

Method: Two hundred and eighty-five patients who underwent prolapse surgery with the new economic surgical method were followed up for 7 years in the PUMCH. Assessment, which included the pre- and postoperative Pelvic Organ Prolapse Quantification (POP-Q) stages. The Chinese versions of the pelvic floor impact questionnaire short form (PFIQ-7) and the pelvic organ prolapse/urinary incontinence sexual questionnaire short form (PISQ-12) were used to evaluate the self-perception and sexual function of the patients. Mesh-related complications and pain conformed to the IUGA/ICS joint terminology. The paired-sample t-test, one-way ANOVA, Wilcoxon rank sum test and COX survival analysis were used to analyze the data.

Results: Our study showed a 96.8% (240/248) positive outcome rate. Thirty-nine (15.7%) patients presented with POP-Q stage II or greater. The reoperation rate was 0.8% (2/248). Posterior compartment was mostly involved with symptomatic recurrence (50%). Vaginal complication was an independent risk factor of worsening of the POP-Q stage (OR=3.4, 95% CI 1.4–8.3). Significant improvements were observed in the symptom scores compared with baseline, as recorded by the PFIQ-7 (P<0.05). The PISQ-12 questionnaire didn’t show significant improvement of sexual function (P>0.05). Thirty-two patients (12.9%) reported complications, with 22 (8.9%) being vaginal mesh contraction or exposure (C1–C3). Fourteen patients (5.6%) complained of pain.

Conclusions: The modified total pelvic reconstructive surgical repair for advanced POP had a good long-term result and low complication rate.

FCS37.4
SEXUAL FUNCTION AFTER SACROCLOPOPEXY

Objectives: To compare sexual function and determine changes in anatomical and functional outcomes before and 12 months after sacrocolpopexy with either hysterectomy or subtotal hysterectomy.

Method: This retrospective study examined a cohort of 55 sexually active women who underwent either laparoscopic supracervical hysterectomy with sacrocolpopexy (n=28) or total abdominal hysterectomy with sacrocolpopexy (n=27) for stage II to IV pelvic organ prolapse. Pelvic floor support was measured with POP-Q exam. Pelvic floor and sexual function was measured with Korean version of Pelvic Floor Distress Inventory-Short Form 20 (PFDI-20) and Pelvic Organ Prolapse/Urinary Incontinence Sexual Function Questionnaire-Short Form 12 (PISQ-12).

Results: Baseline pelvic floor symptoms, demographics and PISQ-12 questionnaire scores were similar between the two groups. Overall improvements in sexual function were seen based on PISQ-12 scores after sacrocolpopexy, but were not statistically significant (25.1 vs. 31.2, p=0.16) and no differences were seen in PISQ-12 scores between the groups. Responses to the PISQ-12 question of avoiding sexual intercourse because of vaginal bulging showed significant improvement after surgery. No recurrences of prolapse occurred.

Conclusions: In women with pelvic organ prolapse, sexual function was not likely to be improved after sacrocolpopexy with either hysterectomy or subtotal hysterectomy regardless of sparing of the cervix, addition of concomitant surgery for anti-incontinence or posterior colporrhaphy or postoperative use of antimuscarnics.
FCS37.7
COITUS PER VIAM URETHRAM ECKHARD PETRI, UNIVERSITY OF GREIFSWALD

E. Petri, University of Greifswald, Greifswald, Germany

Objectives: Urethral coitus is a rare condition with only 37 cases reported so far. We describe the so far oldest women after 30 years of satisfied sexual life, her treatment and a review of the literature.

Method: Case report and a review of the literature.

Results: Congenital malformations like vaginal atresia of imperforate hymen might result in an unwilling coitus through the urethra, in adolescents rape might be the cause of urethral lacerations. We report on a women having 32 years of satifactory urethral coitus, in the last years with postcoital urinary incontinence. We performed a peritoneal neovagina, with persistent urinary incontinence a colposuspension. The patient was happy with the new quality of intercourse and was continent.

Conclusions: Atypical urinary incontinence and dyspareunia might be caused by a coitus per viam urethram.

FCS37.8
POSTMENOPAUSAL BLEEDING (PMB) AND BENIGN CONDITIONS – STUDY IN RURAL BELT OF INDIA

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Objectives: Vaginal bleeding after 6 months of amenorrhea from presumed menopause should be considered as suspicious and warrants investigations (Incidence 3%). Benign conditions though most frequent can cause considerable distress.

Method: Study in Gynecology department, RIMS, a rural based tertiary center (Jan’10-July’12). 51521 patients, 1200 Pmb.

Aim: to exclude malignancy, confirm diagnosis, treat accordingly.

(Data in percentage).

Diagnostic Evaluation.

Detailed history, assessment of risk factors, full clinical examination. Investigations: Routine Pap smear, appropriate biopsy, smear, cytology, TVS, HSG combined with TVS, saline sonohysterography, CT, MRI (as required).

Results: Pmb 1200, 900 (75%) benign lesions.

Demographics:

612 (68%) had sexual life <18 yrs.

585 (65%) married ≥18 yrs.

513 (57%) para ≤5.

700 (78%) of low SES.

555 (61.66%) Hindu community (no circumcision).

Organ pathology:

Uterus 682 (75.77%).

Cervix (Cx) 165 (18.33%).

Vagina 53 (5.88%).

Age & lesions:

50–54 yrs.: Endometrial (Em) – hyperplasia 326 (36.2%), TB 18 (2%).

50–59 yrs.: Em. Atrophy 250 (28%).

50–60 yrs.: Fibroid 84 (9.3%), Chronic cervicitis 83 (9.2%), Senile vaginitis 53 (6%), Decubitus ulcer 36 (4%), Cervical polyp 46 (5%), Pyometra 4 (.44%).

Conclusions: It is mandatory and warranted to investigate every Pmb as it is the common presenting symptom and warranting sign. 300 (25%) in present study had malignant lesions. Community education, mass screening, regular follow up, timely intervention is necessary even with slight bleeding. Em. Thickness >4mm, bulky uterus considered malignant unless until proved.

FCS37.9
PREVALENCE OF POST MENOPAUSAL SYMPTOMS AND ITS EFFECT ON QUALITY OF LIFE IN RURAL POPULATION

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Objectives: Menopause is physiological process, with potential to lead to various pathological or psychological complications. Several females approaching menopause suffer variety of distress leading to change in their quality of life. Although literature suggests effect of menopause on various aspects of women’s life, there is scarcity of studies from rural setup in the regard. It is important to assess extent of menopause related changes, awareness about it and coping mechanisms in rural couple. This study aimed to find prevalence of menopausal symptoms, its severity and effect on quality of life of rural women and the couples’ coping mechanisms.

Method: Cross Sectional questionnaire based survey between December 2013 to April 2014 was conducted by approaching 250 families from 2 villages of rural Gujarat, India. Inclusion criteria was women attaining menopause naturally within last 10 years and having her husband available for data collection. Hundred couples such consenting for participation were included in study. Data on demographic variables, Menopause specific quality of life and personal health of women and coping of couple were collected from the couple according to their convenience, maintaining their privacy.

Results: Prevalence of menopausal symptoms was found to be 47%. Mean (SD) age at menopause was 45 (6.9) years. Prevalence of at least one symptoms related to vasomotor was 21.3%, physical 91.5%, psycho-social 44.7% and sexual was 0%. ‘Quality of life’ and ‘Bother’ analysis revealed that all those with menopausal symptoms also had their quality of life affected and were bothered from mild to moderate extent. The husbands of women with menopausal symptoms were aware of their condition, however, neither of them exhibited use of any active coping mechanism. Avoidant emotional coping strategy appeared to be followed by all.

Conclusions: Couple were found to be aware of menopause but the symptoms arising as consequence of it seem to be accepted as natural age related changes. This could possibly be the reason for not taking any active coping strategy despite reporting of mild to moderate botheration by women and awareness in both. Probably they do not perceive this as a problem related to menopause that can be controlled with some timely attention. Implementation of health education and creating awareness about various consequences of menopause and the available treatment options might be beneficial to improve the health status of these women.

FCS38. Gynecological Care for the Older Woman

FCS38.1
THE POSTMENOPAUSAL ORAL SUPPLEMENTATION WITH RED CLOVER BASED ISOFLAVONES IMPROVES CLIMACTERIC SYNDROME BUT NOT AFFECTS CARDIOVASCULAR RISK SERUM PROFILE

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Objectives: The purpose of this prospective randomized study on a healthy postmenopausal population was to evaluate a red clover based isoflavones oral supplementation for the treatment of climacteric syndrome, by the improvement of neurovegetative symptoms, and its safety on cardiovascular risk serum profile, by the impact on serum lipids and clotting profile.

Method: 150 healthy postmenopausal women were randomly assigned to receive phytoestrogens tablets, amounting a total daily intake of 60.8 mg red clover isoflavones (genistein 1.0%, daidzein 2.0%,
biocinhan A 0.7%, formonogenetin 8.5%, ononin 0.8%, sissotrin 0.4%) plus 19.2 mg soy isoflavones (n=75), or placebo containing calcium and vitamin D3 (n=75). We evaluated: daily number of hot flushes and Kupperman Index at baseline and after one and three months; serum total, HDL- and LDL-cholesterol, triglycerides, PT, PTT, fibrinogen and ATIII at baseline and after three and six months.

**Results:** 128 patients completed the study, 67 in the active group and 61 in the placebo group. In the active group, the treatment led to a significant reduction (p<0.05) of daily hot flushes already after one month (from 9.2±9.7 to 5.4±7.0) and of Kupperman Index after three months (from 11.5±7.2 to 7.5±5.6); a similar superiority trend is registered comparing these results to those of placebo group. On the other hand, no significant variation in total cholesterol, LDL-cholesterol, HDL-cholesterol, triglycerides, PT, PTT, fibrinogen and ATIII were found.

**Conclusions:** Our findings suggest that a red clover based isoflavones supplementation in healthy postmenopausal women is promptly effective on climacteric syndrome improving neurovegetative symptoms and safe on cardiovascular risk serum profile not modifying lipids and coagulation.

**FCS38.2**

**THYROID DYSFUNCTION IN ABNORMAL UTERINE BLEEDING**

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**Objectives:** To evaluate thyroid dysfunction in AUB and non responding cases of menorrhagia.

**Method:** A cross sectional hospital based study in Tamil Nadu, South India. 136 women with AUB attending Gynaec OPD of Sri Sathyai Sai Medical College and Research Institute near Kalpakkam Nuclear Power Station were the study subjects.

**Weight, BP checked, BMI calculated, T3, T4, TSH done, USG Pelvis for ovarian, uterine morphology, endometrial thickness was done. Endometrial biopsy taken for all study subjects.**

**Results:** Hypothyroidism was seen in 38% young women, 11.76% middle age women, 7% perimenopausal women. 80% of women were obese, 10% had PCOD,15% had subclinical hypothyroidism. Proliferative endometrium 56%. In women who presented with menorrhagia not responding to treatment 41% had hypothyroidism.

**Conclusions:** The national average of hypothyroidism is 15% in india. Prevalence of hypothyroidism is 58.23% in our study, our institution is within 40 km radius of Kalpakkam Nuclear Reactor and at the foothill of mountains where iodine source is less. Undetected thyroid dysfunction was diagnosed incidentaly while investigating for infertility PCOD and AUB. Screening for T3, T4, TSH and USG pelvis help in detecting clinical, subclinical hypothyroidism and occult PCOD in women suffering from AUB.

**FCS38.3**

**EFFECT OF VITAMIN D SUPPLEMENTATION ALONE ON MUSCLE FUNCTION IN POSTMENOPAUSAL WOMEN: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED CLINICAL TRIAL**


**Objectives:** To evaluate the effect of supplementation of vitamin D alone (VITD) on muscle function in postmenopausal women.

**Method:** In this double-blind, placebo-controlled trial, 160 post-menopausal women were randomized into two groups: VITD group, vitamin D3 supplementation 1000IU/day orally (n=80) or placebo group (n=80). Women with amenorrhea ≥12 months and age 50–65 years, with a history of falls (previous 12 months) were included. Those with neurological or musculoskeletal disorders, vestibulopathies, drug use that could affect balance and osteopenia/osteoporosis were excluded. The intervention time was 9 months. Muscle mass was estimated by Total-body DXA and muscle strength by handgrip strength and chair-rising test. The plasma concentrations of 25-hydroxyvitaminD [25(OH)D] were measured by HPLC. Statistical analysis was by intention-to-treat, using ANOVA, Student’s t-test and Tukey test.

**Results:** After nine months average values of 25(OH)D increased from 15.0±7.5 ng/ml to 27.5±10.4 ng/ml (+45.4%) in VITD group, and decreased 16.9±6.7 ng/ml to 13.8±6.0 ng/ml (-18.5%) in placebo group (p<0.001). In VITD group, there was significant increased (+25.3%) in muscle strength of the lower limbs by chair-rising test (p=0.036). In women in the placebo group, there was considerable loss (-6.8%) in the muscle mass (p=0.030).

**Conclusions:** The supplementation of vitamin D alone in post-menopausal women provided significant protective factor against the occurrence of sarcopenia, with significant increases in muscle strength and control of progressive loss of body muscle mass. Financial support from FAPESP, process number 2011/14447-1.

**FCS38.4**

**ASSOCIATION OF LOWER URINARY TRACT SYMPTOMS WITH METABOLIC SYNDROME IN SOUTH INDIAN POST MENOPAUSAL WOMEN**

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**Objectives:** To study Metabolic syndrome in post menopausal women and study its association with lower urinary tract symptoms.

**Method:** This is a cross sectional study done in a Christian Medical College Hospital Vellore India. 154 postmenopausal women were invited to participate. A written informed consent was obtained for all the patients. The study was approved by the Ethics & the Institutional review board.

A complete clinical history and physical examination including measurement of waist circumference and Blood pressure was done. Blood samples were sent for serum Triglycerides, Cholesterol, HDL, LDL, and Fasting plasma glucose. Symptoms related to urinary tract was assessed using BF-LUTS questionnaire. Metabolic syndrome was diagnosed according to the New International diabetes Federation criteria IDF-2005.

**Results:** The mean ± SD age of the patients was 58±7.2 years. The mean ± SD age of menopause was 48±4.9 years. 64% of women had metabolic syndrome while (36%) women did not have. The mean (SD) age of women with metabolic syndrome was 58 (7.2) years and 58 (5.6) years without metabolic syndrome.

90.9% women had flow symptoms. 17.5% had voiding symptoms. 57.1% had incontinence symptoms. 6.5% had sexual symptoms. 14.4% had QOL symptoms. The mean ± SD of fasting plasma glucose was 129.05±56.35mg/dL in women with metabolic syndrome and 102.44±33.93mg/dL is women without (P<0.0001).

**Conclusions:** Of the154 post menopausal women 67% had metabolic syndrome while 36% had no metabolic syndrome. 90.9% of women in metabolic and non metabolic group had predominantly flow symptoms while only 6.5% had sexual symptoms. No statistically significant difference was found in lower urinary tract symptoms between women with and without metabolic syndrome. Metabolic syndrome did not influence the genesis of LUTS in post menopause.
Comparing to the patients with FGA, we found an increased
with RT-PCR.
mPR, PGRmC1, PR-A, PR-PCR were identified in the polyp’s tissue

TREATMENT OF VAGINAL DRYNESS
RECOMBINANT HUMAN-SOURCE COLLAGEN VAGINAL GEL IN THE
RANDOMIZED, CONTROLLED, TWO CENTERS CLINICAL TRIAL OF
POSTMENOPAUSAL PATIENTS

Objectives: To evaluate the efficacy and safety of recombinant
human-source collagen vaginal gel in the treatment of vaginal dry-
ness.
Method: Randomized controlled two centers clinical trial was con-
ducted. According to the inclusion and exclusion criteria, 40 cases in
the test group were given recombinant human-source collagen
vaginal gel and 40 cases in the control group were given Hyaluronic
Acid Derivative Vaginal Gel (HYALOFEMME) for twenty days. Vaginal
dryness index (VDI), vaginal elasticity, vaginal humidity, vaginal dis-
charge, vaginal pH, the symptom remission of vulva vaginal dryness
and pain during intercourse, symptom remission time and patients
satisfaction were detected 3–7 days after treatment or 3–7 days after
menorrhoea.
Results: The effectiveness of VDI increased in the test group and con-
control group was 62.3% and 39.5%. The improvement of vaginal elastic-
ity in the test group was higher than that in the control group. There
was on obvious different of vaginal moisture, vaginal discharge, vagi-
nal dryness symptom, sexual intercourse pain in two groups but
there was some improvements before and after treatment in the test
group. The vaginal PH in two groups was no different. Symptoms al-
leviate time was similar in two groups. Patient satisfaction degree in
the test group was 63.1% and 23.7% in the control group.
Conclusions: The recombinant vaginal gel can increase vaginal elas-
ticity, improve vaginal atrophy and relieve pain of sexual intercourse,
by increasing the secretion, improving the vaginal moisture and dry-
ness, as well as reduce the symptoms of vulva vaginal dryness, and
will not affect the vaginal PH. So the recombinant vaginal gel was
safe and efficient in the treatment of vaginal dryness.

EFSRADIOL AND PROGESTERONE RECEPTORS GENE EXPRESSION
IN ENDOMETRIAL POLYP’S TISSUE OF PRE- AND
POSTMENOPAUSAL PATIENTS

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Objectives: To determine role of estrogen (ERα, ERβ, mER) and pro-
gestosterone (nuclear PR, mPR, PGRmC1) receptors gene expression in
polyp’s tissue in endometrial polyp’s origin and development in pre-
and postmenopausal women, that can help to solve treatment issues.
Method: 87 patients were included in the study (29 premenopausal,
58 postmenopausal): 54 with fibroglandular polyps (FGA), 21 with
glandular polyps (FGA), 12 with adenomatous polyps of the en-
dometrium (APE). The levels of expression of mER genes, ERα, ERβ,
mPR, PGRmC1, PR-A, PR-PCR were identified in the polyp’s tissue
with RT-PCR.
Results: Comparing to the patients with FGA, we found an increased
expression of ERβ (by 76.6 times, p<0.03), mPR (by 76.6 times,
p=0.03), PGRmC1 (by 32.4 times, p=0.03) genes in pre-menopausal
women with GPE, while in postmenopausal women – the increased
expression of PR-A in FGA was recorded. In patients with APE in pre-
menopausal women we detected signs of dedifferentiation in the tis-
sume of the polyps: reduction of gene expression mER and ERα com-
pared to GPE. Detected increase of mRNA PR-A supports motivation
for the use of gestagen as a part of preventive treatment FGA in post-
menopausal women.
Conclusions: Severity of proliferative processes in the adenomatous
polyps is indicated not only in PR-A expression increase (p<0.04),
but also in ERβ expression increase (p<0.022). Steroide-receptor tran-
scriptome in FGA, GPE and APE tissue differs from each other and de-
pends on the period of a woman’s life. In this connection we consider
promising use of data in the expression of steroid hormone receptors
for the development of individual schemes of anti-relapse therapy.

HOW OFTEN ARE HOT FLASHES DURING SENILITY?

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Objectives: To evaluate the menopausal symptoms during the senil-
ity period, mainly hot flashes.
Method: Retrospective study at Endocrinology Gynecology outpa-
tient from Gynecology Section of Obstetrics and gynecology Depart-
ment of Faculdade de Medicina da USP. The length of study was 10
years. We included patients aged more than 65 years old. We evalua-
tate the gynecological symptoms during the senility period.
Results: 910 patients informed data on the gynecological affections
during the senility period. The most frequent is hot flashes (n=197;
21.64%), followed by osteoarthrosis (n=151; 16.59%), asthenia (72;
7.91%), dry vagina (63; 6.92%), urinary incontinence (n=39; 4.28%),
pelvic pain (n=20; 4.28) and others.
Conclusions: Hot flashes are the amin symptoms on menopausal
women. During the senility period hot flashes are one of the most
important symptoms.

CLINICAL EVALUATION OF NEW ERBIUM YAG LASER THERMO
Therapy in comparison with hormonal replacement
THERAPY FOR VAGINAL ATROPHY

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Objectives: The objective of this study was to compare the efficacy
and safety of two minimally invasive procedures for treatment of
vaginal atrophy; a new Erbium YAG laser procedure and hormonal
replacement therapy with estriol.
Method: 50 vaginal atrophy patients were randomly divided in two
equal groups. Group A patients were submitted to 2 months estriol
therapy: while the B group patients received 3 sessions of ErYAG laser
treatment, with 3 weeks interval between the sessions. Therapy ef-
ficacy was measured using maturation value, pH value, VAS scores
for atrophy symptoms: Dyspareunia, Dryness, Irritation and Leuk-
orrhoea. On 6 patients from each group biopsies were taken (before
and 3 months post-op). Follow-up were at 1 month, 3 months and 6
months after the therapy.
Results: Both groups showed improvement in atrophy, but laser
therapy showed better and longer lasting effects. Maturation value
improved at 6 months follow-up from 22.5 to 24.7 points (A) while
the B group improvement was from 20.8 to 47.9 points, pH value im-
proved at 3 months for 7.2% (A) and for 17.6% (B), Dyspareunia
improved for 48% (A), and for 72% (B); Dryness for 68% (A), and for 76%
(B); Irritation for 48% (A), and for 60% (B) and Leukorrhea for 81% (A),
and for 94% (B). Both groups tolerated the therapy well and adverse
effects were mild and transient.
Conclusions: Hormonal replacement therapy is considered to be the
first choice for vaginal atrophy, but this new minimally invasive
Er:YAG laser procedure seems to be safe and efficacious alternative with potential to offer to vaginal atrophy patients longer period of symptom free life.

**A RANDOMIZED CONTROLLED TRIAL**


National Center for Women and Children’s Health, China CDC, Beijing, China; 
Beijing Learning and Cognition Laboratory, Department of Psychology, Capital Normal University, Beijing, China

Objectives: The study aims to assess the effectiveness of Min-fullness-based Stress Reduction (MBSR) in improving menopausal symptoms and to explore new methods of health care for menopausal problems.

Method: 63 premenopausal and postmenopausal Chinese women aged 40 to 60 were randomized to MBSR group for eight-week MBSR training (N=31) and control group without intervention (N=32). The modified Kupperman Index (KI) has been applied in outcome assessment before and after the intervention.

Results: Although the difference was not significant between two groups, the modified KI total score of MBSR group was significantly reduced by 3.6. And irritability, palpitation and urogenital atrophy groups, the modified KI total score of MBSR group was significantly reduced by 0.8, 0.3 and 0.5 respectively. Among the groups, the modified KI total score of MBSR group was significantly reduced by 0.8, 0.3 and 0.5 respectively. Among the women with “total scores ≥15” of the two groups, the differences of modified KI total score and hot flash/sweating score were significant. In addition, the irritability, palpitation and urogenital atrophy score of MBSR group were significantly reduced by 1.3, 0.4 and 0.8 respectively.

Conclusions: MBSR can have certain effect on improving menopausal symptoms in Chinese Women, especially for women that suffered from more severe symptoms.

**NON-INSTRUMENTAL SCREENING FOR LOW BONE MINERAL DENSITY IN POSTMENOPAUSAL AND AMENORRHEIC WOMEN**

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Objectives: To work out non-instrumental screening for low bone mineral density in women with estrogen deficit (secondary, non-iatrogenic) of different age based on clinical, biochemical and molecular-genetic markers.

Method: 54 women with secondary hypothalamic amenorrhea (HA), 55 with premature ovarian insufficiency (POI) and 191 postmenopausal women (without hormone replacement therapy) living in the Russian Federation were enrolled in cross-sectional study. Body mass and body mass index (BMI, kg/m²), bone mineral density (BMD) by Dual-energy X-ray absorptiometry, levels of reproductive hormones, markers of bone and lipid metabolism were evaluated. Single nucleotide polymorphisms of genes that regulate differentiation and function of bone cells (COL1A1, CYP19A1, ESR1, ESR2, LEP, LPRP, TNFRSF11B, RANKL, SOST, VDR) were assessed by polymerase chain reaction.

Results: 48.2% of women with HA and 23.6% with POI had low BMD. We determined moderate positive correlations between BMI and BMD in all groups of women with estrogen-deficit. Via logistic regression analysis we worked out a screening for low BMD in women with amenorrhea: y = 2.67 + 0.22 × (duration of amenorrhea, years) – 0.29 × (BMI) + 0.74 × (atherogenic index), AUC 0.79 (95% CI: 0.68–0.89), p < 0.001. Probability (P) > 0.50 (y ≥ 0) – high-risk group (Sp=85%, PPV=70%); P < 0.27 (y < -1.0) – low-risk group (Se=87%, NPV=88%). The probability of postmenopausal osteoporosis can be determined by formula: y = 6.65 – 0.07 × (body mass, kg) – 0.97 × (LEPR, rs8179183) + 0.56 × (RANKL, rs954759), AUC 0.75 (95% CI: 0.68–0.82), p = 3 × 10^-9. y > 0 – high-risk group (Sp=73%, PPV=85%); y < -1.0 – low-risk group (Se=97%, NPV=83%).

Conclusions: Non-instrumental screening for low bone mineral density in women with secondary amenorrhea includes the assessment of duration of estrogen-deficit, BMI, atherogenic index; in postmenopausal women the probability of osteoporosis can be determined based on body mass and genotype of leptin receptor (LEPR, rs8179183) and receptor activator of nuclear factor kappa-B ligand (RANKL, rs954759).

**REPRODUCIBILITY OF p16INK4a BIOMARKER LEVELS, AS MEASURED BY ELISA, AMONG HIV-POSITIVE WOMEN IN WESTERN KENYA WITH NORMAL CERVICAL EXAMS DURING A 12-MONTH FOLLOW-UP**

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Objectives: Cervical cancer disproportionately affects women in low and middle-income countries (LMIC), and cytology-based programs are not feasible for use in these settings. This has prompted a search for alternative cervical-cancer screening methods that can be adopted in LMIC’s to address the high disease burden. In this study, we seek to evaluate the reliability of a proposed biomarker assay for p16INK4a among HIV-positive women in western Kenya.

Method: This prospective study took place at the FACES clinic in Kisumu, Kenya. Participants underwent cervical cancer screening using VIA, colposcopy and collection of cervical HPV p16INK4a samples. Women with negative colposcopies at both baseline and follow-up were included. We investigated the reproducibility of p16INK4a biomarker levels within the same woman. Biomarker levels were determined using an ELISA-based biochemical assay. We compared median p16INK4a levels between baseline and follow-up using the paired t-test. We examined the correlation using correlation coefficients and a Bland-Altman plot of differences versus average.

Results: Among the ninety-three women who had normal cervical exams, mean p16INK4a levels increased significantly between baseline and follow-up period, at 20.2 U/ml vs 30.1 U/ml, p < 0.01. The correlation coefficient between the values at the two time points was 0.61 (p < 0.01), indicating a moderate but not perfect degree of agreement. A Bland-Altman plot of difference versus average of the two measures showed a mean difference of 10 units/ml, indicating poor agreement between the two measurements.

Conclusions: Our results suggest that there is variability in levels of p16INK4a biomarker as measured by ELISA in HIV-positive women in low-resource settings with normal screening as determined by colposcopy over a 12-month follow-up period. As a result, elevations in p16INK4a biomarker levels may not be a reliable marker of dysplasia in this group of women. Further research looking at clinical and demographic factors associated with this variability, as well as replication of this result will be important.
CFC39.4
COORDINATED MEDICAL AND GYNECOLOGIC HEALTH SERVICE DELIVERY FOR A POPULATION OF ADULT WOMEN WITH DISABILITIES IN THE UNITED STATES: A 10 YEAR REVIEW OF THE HEALTH OUTCOME DATA FROM TWO LARGE REGIONAL HEALTHCARE SYSTEMS: UNIVERSITY OF PITTSBURGH MEDICAL CENTER AND CHRISTIANA CARE HEALTH SYSTEM

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Objectives: Access to Gynecology health care services has been identified as an area of unmet healthcare need for women with disabilities in the US. The US prevalence of disability is currently estimated at 21.8% with rates anticipated to rise in the next decade as the population ages. There are limited healthcare systems in the USA that provide coordinated gyn and medical exams for women with disabilities. Two regional healthcare systems, Magee-Women’s Hospital Center for Women with Disabilities (University of Pittsburgh Medical Center) and the Wilmington Outpatient Health Center of the Christiana Care Health System will present their outcome data regarding the care of a population of women with disabilities.

Method: Multiple steps are required for clinicians to effectively perform gynecologic evaluations and gynecologic procedures for patients with disabilities. Office Accessibility issues are often the first line obstacle to women with disabilities receiving gynecologic healthcare services. A discussion of the various ACOG-approved, patient positioning techniques for the successful performance of gynecologic exams will be reviewed. ACOG guidelines for frequency of Gyn preventive health screenings exams and current testing recommendations based on the patient’s age, reproductive health status and individual medical health risks will be discussed. A review of the facility space, room design, specialty equipment needs, staff training and issues of physical accessibility will be reviewed.

Results: Two large, regional healthcare systems within the United States have established coordinated medical and gynecologic outpatient clinical care sites for women with disabilities: Magee-Women’s Hospital Center for Women with Physical Disabilities of the University of Pittsburgh Medical Center and the Wilmington Outpatient Health Center of the Christiana Care Health System. A retrospective review of the extensive health outcome data obtained from the 10+ years of clinical expertise will be presented from these specialty care sites. The medical co-morbidities along with the gyn health conditions identified in this population of women over their lifespan will be reviewed.

Conclusions: As one of the goals is for longer and healthier lives for women with disabilities, it will be imperative to meet all their preventive and reproductive gynecologic healthcare needs along with their general medical healthcare needs. Coordinated gynecology and general medical care for women with disabilities can be performed once healthcare providers are educated regarding several key issues specific to the care of women with disabilities: 1) the proper techniques of gyn exams, 2) the specialty equipment needed for a gyn exam, and 3) the knowledge of the medical and gyn complications that are most commonly encountered in this population of women.

CFC39.5
MENOPAUSAL WOMEN PROFILE, MORbidITIES AND MANAGEMENT OF MENOPAUSAL SYMPTOMS OF MENOPAUSE IN BENIN: CROSS ANALYTIC STUDY ABOUT 2716 CASES IN COTONOU

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Objectives: Few studies are dedicated to the menopause in Africa, and particularly in Benin. Even though the menopausal women become more numerous in Benin, life expectancy continue to increase. The objective of the study was to determine the profile of the menopausal women, and to analyze the morbidity and the management of the symptoms of the menopause at Cotonou.

Method: It is an analytical and transverse study realized in August 2014 at Cotonou. 2716 women in a female population of 5155 people of 40 and more years old were concerned by this study.

Results: 52.5% of the women of 40 and more years old were menopausal. The average age of menopause was 47.5 years (95% IC: 42.6–52.4 years). Factors susceptible to influence the menopause age are: the menarche before 15 years old (OR=1.45), the first menstruations (OR= 3.03), the fibroma (OR = 1.49). The most frequent clinical appearances were hot flashes 58.7%. The inter-current affection, the most frequent was the arterial high blood pressure. Only 4.4% of the menopausal women were under THM. The factors which limit the coverage of the menopausal at Cotonou are the lack of information (66.8%).

Conclusions: Even if it is not possible to prevent or handle the menopause, we can limit the negative effects in Africa by fighting against the obesity, the arterial high blood pressure and the tobacco.

CFC39.6
EXCEPTIONAL BREAST TUMOR: ADENOMYOEPITHELIOMA. A CASE REPORT

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Objectives: Analyzing published cases of adenomioepithelioma to understand the behavior of these very rare and difficult diagnosis tumors.

Method: We present adenomyoepithelioma case in a pregnant woman. Adenomyoepithelioma breast is a rare tumor of benign characteristics usually very difficult diagnosis presented by both the imaging and histology. Treatment consists of surgery, even if the lesion is benign by FNA or CNB must resection with wide margins in all cases performed because of frequent local recurrences.

Results: 36 years, gestational age 10 + 3 weeks. Exploration: nodule 3 cm adhered to deep planes with negative axillary examination. Breast ultrasound: solid nodule, multilobulated, heterogeneous, irregular margins (20 mm). FNA cylinder of breast tissue: focal proliferation, cribriform pattern lined by columnar epithelium without atypia. Moderate chronic inflammatory infiltrate resulting discrete anisocoriasies the affected epithelium. No signs of malignancy. Nodal FNA: insufficient material obtained. Lumpectomy: 2.5 cm fibrous lesion, well-demarcated proliferation of tubular structures lined by columnar cells with spindle nuclei, oval nuclei without atypia or mitosis, markedly positive for actin. Apocrine metaplasia, proliferative index Ki67 <1%. Pregnancy progressed favorably. Patient currently asymptomatic.
Conclusions: Adenomyoepithelioma is a rare tumor that should be considered in the differential diagnosis of solid breast tumors. Imaging tests show nonspecific changes reflecting the malignant nature of the tumor. Potential recurrence with wide local excision and the possibility of hematogenous metastases and to a lesser extent via the lymphatics should be noted. Requires FNA and/or CNB for differential diagnosis. However, the definitive diagnosis is often not possible specifying complete excision.

FCS40. Gynecological Malignancies

FCS40.1 LAPAROSCOPIC RESTAGING SURGERY FOR WOMEN WITH UNEXPECTED OVARIAN MALIGNANCY

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Objectives: To evaluate the feasibility, surgical outcomes, and complications of laparoscopic restaging surgery for women with unexpected ovarian malignancy.

Method: We conducted a retrospective chart review of 12 women who underwent laparoscopic restaging surgery. We evaluated the demographic, clinical characteristics, and surgical outcomes.

Results: The median age and median BMI (m/kg²) were 49 years (range, 22–63 years) and 24.2 m/kg² (range, 18.9–25.3 m/kg²). Median operating time was 260 minutes (range, 155–570 minutes). The median number of harvested pelvic and paraaortic lymph nodes were 23 (range, 6–41) and 14 (range, 2–40). Three out of 12 women (25.0%) were upstaged from initial presumed stage. There were two intraoperative complications, IVC laceration and cisterna chyli rupture, which were well controlled by laparoscopic primary closure. None of the operations were switched to laparotomic restaging surgery.

Conclusions: Laparoscopic restaging surgery, performed by a specialized laparoscopic oncologists with sufficient laparoscopic experience and a well-trained operating team, is both feasible and effective in the management of unexpected ovarian malignancy.

FCS40.2 HETEROGENEITY OF TUMOR CHEMOSensitivity IN OVARIAN EPITHELIAL CANCER, ANALYZED USING IN VITRO TUMOR CHEMOSensitivity ASSAY

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Objectives: Ovarian epithelial cancer (OEC) has the worst prognosis among gynecological tumors, primarily due to the heterogeneity of chemosensitivity between patients. This study was designed to determine the heterogeneity of chemosensitivity in OECs using an in vitro method.

Method: OEC specimens were collected from 61 patients who underwent cytoreductive surgery. Viable ovarian cancer cells obtained from malignant tissues were tested for sensitivity to paclitaxel, carboplatin, topotecan, gemcitabine, docetaxel, etoposide, bleomycin, and 4-hydroperoxycyclophosphamide using an in vitro adenosine triphosphate -tumor chemosensitivity assay (ATP-TCA).

Results: All OEC specimens were evaluable (100%). The highest sensitivity from all agents tested was observed for paclitaxel (83.6% in all specimens, 100% in recurrent specimens), followed by carboplatin (59% and 62.5%, respectively), and topotecan (45.9% and 62.5%, respectively). All specimens were resistant to bleomycin. There were significant correlation of sensitivity between paclitaxel and docetaxel; among carboplatin, topotecan and gemcitabine. (all P<0.001). Early-stage (I, II) OEC specimens showed lower chemosensitivity to paclitaxel or carboplatin than advanced-stage (III) specimens (P<0.05). High-mild differentiated OEC specimens showed lower chemosensitivity to paclitaxel than low differentiated OEC specimens (P=0.028).

Conclusions: Remarkable heterogeneity of chemosensitivity was observed in OEC specimens. Early-stage and well-differentiated cases are more prone to chemotherapy resistance. ATP-TCA could be an effective method for guiding the choice of chemotherapy drugs, for avoiding ineffective treatment regimens and investigating novel chemotherapy agents to improve patient prognosis.

FCS40.3 REVERSAL OF OVARIAN CANCER PACLITAXEL-RESISTANT BY INHIBITION OF JAK2 USING RNAI TECHNOLOGY AND ITS SPECIFIC ANTAGONIST AG490

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Objectives: The up-regulated expression of JAK2 has been associated with the drug resistance in ovarian cancer, however the detail role of JAK2 gene in drug resistance of ovarian cancer patients undergoing chemotherapy is unclear. The objective of this study is to determine the influence and possible mechanism of JAK2 in ovarian cancer chemotherapy resistance.

Method: Firstly, we established paclitaxel-resistant cell line OC3/TAX300 using synthesized interference sequences (shRNA) of JAK2 to construct lentiviral vector and transfected it into OC3/TAX300 cell. Secondly, the paclitaxel-resistant cell line OC3/TAX300 was treated with different concentrations of JAK2 inhibitor AG490. Real-time PCR and Western blot analysis were performed to assess the mRNA and protein expression levels of JAK2 and STAT3, respectively.

Results: The OC3/TAX300 ovarian cancer cells transfected with Lentivirus vector mediated JAK2 siRNA reduced the expression of JAK2 and STAT3. Furthermore, the cell growth was significantly inhibited. The ultrastructure changes of cell apoptosis appeared in JAK2 gene silencing group observed by transmission electron microscope. Silencing JAK2 gene caused the increase of cell apoptosis and cell cycle distribution in G2/M phase. After treatment by AG490, expression levels of JAK2, STAT3, BCL-2 and MDR1 were also inhibited. The inhibition of cell proliferation increased and the cell cycle was arrested in G2/M phase.

Conclusions: These finding indicated that using RNAi technology and JAK2 inhibitor AG490 could effectively suppress the expression of JAK2 and STAT3 in OC3/TAX300 ovarian cancer cells, suggesting JAK2-STAT3 signal transduction pathway may participate in the biological behavior of Paclitaxel resistant ovarian cancer.

FCS40.4 A RARE CASE OF PLACENTAL SITE TROPHOBLASTIC TUMOR WITH METASTASIS TO NASAL CAVITY

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Objectives: Gestational Trophoblastic Tumors can have varied presentation and even locally invasive tumor like placental site trophoblastic tumor can present with metastasis to nasa cavity.

Method: It is a case which underwent emergency laparotomy for acute abdomen with excessive bleeding per vaginum and mass per vaginum and during her stay at hospital had nasal bleeding.

Results: She was diagnosed as a case of Placental site trophoblastic tumor in histopathology with nasal metastasis.

Conclusions: Gestational Trophoblastic Tumors can have varied presentation and even locally invasive tumor like placental site trophoblastic tumor can present with metastasis to nasal cavity. The treatment being hysterectomy for placental site trophoblastic tumor, underwent five cycles of chemotherapy for nasal metastasis.
FCS40.5
IL-17A AND IL-21 CYTOKINES COMBINED WITH SURGICAL STATUS PROVIDE A PRACTICAL SCORING SYSTEM TO PREDICT THE OUTCOME OF PATIENTS WITH OVARIAN CANCER
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Objectives: The aim of this study was to evaluate whether a combination of clinical and immunologic parameters can predict survival in patients with ovarian cancer.

Method: Ascites specimens and medical records from 144 ovarian cancer patients in our hospital were used as the derivation group to select target clinical and immunologic factors to generate a risk scoring system to predict patient survival. Eighty-two cases from another hospital were used as the validation group to evaluate this risk scoring system.

Results: The surgical status and expression levels of interleukin (IL)-17A and IL-21 cytokines combined with surgical status provide a practical scoring system to predict patients survival. Eighty-two cases from another hospital were used as the validation group to evaluate this risk scoring system.

Conclusions: A combination of clinical and immunologic parameters can be used for a practical scoring system to predict the survival of patients with ovarian carcinoma. IL-17A and IL-21 can potentially be used as prognostic and therapeutic biomarkers.

FCS40.6
THE EXPRESSION AND SIGNIFICANCE OF EPITHELIAL-MESENCHYMAL TRANSFORMATION RELATED PROTEIN E-CADHERIN, N-CADHERIN AND SNAIL IN ENDOMETRIOSIS-ASSOCIATED OVARIAN CANCER
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Objectives: To investigate the expression of epithelial-mesenchymal transformation related protein E-cadherin, N-cadherin and Snaill in endometriosis-associated ovarian cancer, and analysis the relationship between EMT and the clinical stage and lymph node metastasis of EAOC.

Method: Using immunohistochemistry (SP) to detect E-cadherin, N-cadherin and Snail in 30 cases of EAOC, 30 cases of ovarian endometriosis.

Results: The expression rate of E-cadherin, N-cadherin and Snail in EAOC was 30%, 83.3% and 90%, in EMs was 76.7%, 33.3% and 40% (P < 0.05). The AUROC curves of the overall score for OS was 0.76 for all of the studied patients. Good correlations between overall predictive risk score and survival of the ovarian cancer patients were demonstrated by subgrouping all participants into 4 groups (P for trend < 0.001 for DFS and OS).

Conclusions: A combination of clinical and immunologic parameters can be used for a practical scoring system to predict the survival of patients with ovarian carcinoma. IL-17A and IL-21 can potentially be used as prognostic and therapeutic biomarkers.

FCS40.7
WEDELOLA CTONE INHIBITS BREAST CANCER-INDUCED OSTEOCLASTOGENESIS BY DECREASING AKT/MTOR SIGNALING
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Objectives: The bone is the most common metastatic site of breast cancer. Bone metastasis causes pain, pathologic fractures, and severely reduces the quality of life. Breast cancer causes osteolytic bone metastases, which is dependent on osteoclast-mediated bone resorption. While current treatments rely on palliative anti-osteolytic agents, there is a need to develop a drug to prevent bone metastasis of breast cancer.

Method: Osteoclasts were generated from human CD14+ monocytes cultured with M-CSF/RANKL. The drugs were added to evaluate inhibition effect of osteoclastogenesis through decreased osteoclast differentiation and bone resorption. The effects of breast cancer-mediated osteoclastogenesis and interaction of osteoblasts and osteoclasts were performed by using MDA-MB-231 conditioned medium. The molecular signaling pathway was also investigated.

Results: Wedelolactone (WDL), a natural coumarin isolated from plants, suppressed human osteoclast differentiation and activity in vitro in a dose-dependent manner. Moreover, WDL inhibited the upregulation of osteoclasts stimulated by MDA-MB-231 breast cancer cells. The activity of WDL on osteoclasts and breast cancer-mediated osteoclastogenesis was associated with the inhibition of Akt/mamalian target of the rapamycin signaling pathway (mTOR). Blocking Akt and mTOR by specific inhibitors significantly decreased osteoclast differentiation and bone resorption. Furthermore, WDL regulated breast cancer-enhanced interaction of osteoblasts and osteoclasts by decreasing M-CSF expression in MDA-MB-231-stimulated osteoblasts.

Conclusions: WDL has protective potential against breast cancer-induced bone destruction by directly decreasing cancer cell mediated osteoclast differentiation and bone resorption and by restoring the balance of osteoblast-osteoclast interaction. Thus, this study suggests that WDL may be a potential natural agent for preventing and treating bone destruction in patients with bone metastasis due to breast cancer.

FCS40.8
A CASE REPORT AND NURSING CARE FOR A YOUNG PATIENT OF OVARIAN CANCER BY USING WATSON CARING THEORY
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Introduction: Typically, ovarian cancer is more common in older women. However, patients who have a genetic predisposition may develop the condition at a much earlier age. In this case report, Watson’s theory of human caring was used as a guide to discuss a young patient who had been suffered from ovarian cancer.

Case presentation: A 23-year-old woman had ovarian cancer presenting with a 4 week abdominal pain and constipation. The patient felt hopeless with after learning the cancer. During the hospitalization period, the data were collected by nursing care, observation, conversation with patient and family members, and medical staff. Nursing diagnoses identified according to NADNA and a care plan was done by using Watson Caring Theory.

Results: The patient’s major health problems were: a) pain (tumor with surgery related), b) activity intolerance and fatigue (pain, side effects of medications, generalized weakness), c) nausea (treatment related), d) hopelessness (cancer), e) anxiety (threat or perceived threat to physical and emotional integrity, changes in role function),
L. Geng

DAB2 IN CERVICAL CARCINOMA

were the main advantages of the laparoscopic approach. A quicker referral and earlier administration of adjuvant therapy were the main advantages of the laparoscopic approach. Earlier recovery from operation, shorter stay in hospital in patients undergoing the laparoscopic approach compared to the conventional open laparotomy as the surgical management for endometrial carcinoma.

Results: With the introduction of minimally invasive surgery including laparoscopic hysterectomy in our unit, patients diagnosed with endometrial carcinoma after undergoing outpatient endometrial biopsy were managed by Hysterectomy and Bilateral salpingo-oophorectomy. The laparoscopic approach is compared with the open laparotomy approach for the hysterectomy and bilateral salpingo-oophorectomy in patients with Endometrial carcinoma.

Conclusions: Earlier recovery from operation, shorter stay in hospital, quicker referral and earlier administration of adjuvant therapy were the main advantages of the laparoscopic approach.

FCS41.2

MICRORNA-106B PROMOTES CELL MIGRATION BY TARGETING DAB2 IN CERVICAL CARCINOMA

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Objectives: The role of miR-106b and its target gene DAB2 (disabled-2) on the migration of cervical cancer cells was explored.

Method: The mRNA expression of miR-106b and DAB2 in cervical samples was detected using real time quantitative PCR. The protein expression of DAB2 was examined by Western blot. Dual luciferase reporter assay was used to identification of DAB2 as a miR-106b-directed target gene. Scratch and transwell assay were used to determine the effects of miR-106b and DAB2 on the migration of Hela cells.

Results: The expression level of miR-106b was clearly up-regulated in cervical cancer tissues. On the contrary, DAB2 expression was decreased in cervical cancer specimens. Dual luciferase reporter assay showed that the relative luciferase activity of WT-DAB2-3’UTR decreased approximately 30% after overexpression of miR-106b in HEK293T cells, the results of Mut-DAB2-3’UTR had no difference compared with the control group. DAB2 was identified as a miR-106b-directed target gene. Overexpression of miR-106b in Hela cells significantly promoted cell migration compared with the control group (P < 0.05). However, inhibition of DAB2 with siRNA, the rate of migration was reduced remarkably (P < 0.05).

Conclusions: miR-106b promotes the migration of cervical cancer cells by directly targeting DAB2. These data suggested that miR-106b and DAB2 could play an important role in the pathogenesis of cervical carcinoma, and miR-106b may be as a candidate of biomarker and a potential therapeutic target in cervical cancer.

References:
prognosis among the gynecological cancers. In cancers with a high mortality such as ovarian cancer, it is of great clinical and public health importance to obtain information about prognostic factors. Cigarette smoking is associated with an increased risk of mucinous ovarian tumors but whether it is also associated with ovarian cancer survival (both overall and for histologic subtypes) is not fully solved. In a large pooled analysis, we assessed the association between multiple measures of cigarette smoking and overall and progression-free survival among women diagnosed with epithelial ovarian cancer.

**Method:** We obtained data from 20 case-control studies of ovarian cancer, including a total of 9318 women diagnosed with epithelial ovarian cancer. Cox proportional hazards models were used to estimate study-specific hazards ratios (HRs) which were combined into a pooled hazard ratio (pHR) with corresponding 95% confidence intervals (CI) using random effects models matched on study site and adjusted for potential confounders including age, race, grade and stage of disease.

**Results:** Among women diagnosed with ovarian cancer, those who were former (HR=1.11, 95% CI: 1.04–1.19) and current smokers (HR=1.19, 95% CI: 1.09–1.30) at diagnosis had a poorer overall survival compared with women who never smoked. Furthermore, consistent dose-response associations between poorer overall survival and an increasing number of cigarettes per day, longer duration of smoking and decreasing time since smoking cessation were observed. The risk estimates for the histologic subtypes generally resembled those observed for ovarian cancer and the results for progression-free survival were virtually identical.

**Conclusions:** Our results suggest that cigarette smoking is a negative prognostic factor for survival in women diagnosed with ovarian cancer, although the magnitude of the associations was modest.

**FC541.4
META-ANALYSIS OF LAPAROSCOPY AND LAPAROTOMY FOR THE TREATMENT OF ENDOMETRIAL CARCINOMA**

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**Objectives:** To contrast laparoscopic surgery with open surgery by the results of RCT, evaluate the safety and feasibility of laparoscopic surgery in the treatment of endometrial cancer.

**Method:** We searched foreign and Chinese databases, including Cochrane Library, PubMed, Embase, VIP, China info, Sino Med and relevant journals and magazines from 1992 until October 2014, including the studies of randomized controlled trials which compared laparoscopic and open surgery for treatment of endometrial cancer. Two independent investigators screened literatures in accordance with the inclusion criteria and extracted relevant data respectively, then used the Cochrane handbook's quality assessment criteria 5.1.0 to evaluate the quality of included studies. Finally, conducted the Meta-analysis with RevMan5.3 software.

**Results:** In the treatment of endometrial cancer, the result showed that laparoscopic surgery had less intra-operative blood loss [MD=−94.14, 95% CI: (−104.04, −84.24), p<0.00001], shorter postoperative exhausting time [MD=−7.40, 95% CI: (−9.01, −5.78), p<0.00001], fewer postoperative complications [OR=0.52, 95% CI (0.38, 0.72), p<0.00001], while the hospitalization time of it was shorter [MD=−3.29, 95% CI: (−3.71, −2.86), p<0.00001]. But it had longer surgery time [MD=29.89, 95% CI (20.09, 39.68), p<0.00001] and more intra-operative complications [OR=1.34, 95% CI (1.06, 1.69), p=0.01] than open surgery. The number of pelvic lymphadenectomy [MD=0.35, 95% CI (−0.45, 1.14), p=0.40], tumor recurrence rate [OR=1.12, 95% CI (0.89, 1.41), p=0.33] and overall survival [OR=1.01, 95% CI (0.79, 1.27), p=0.96] the difference was not statistically significant.

**Conclusions:** Meta-analysis of the included 14 RCT suggested that laparoscopic surgery had advantages of less intra-operative blood loss, shorter postoperative discharge time, fewer complications, and shorter hospitalization time compared with open surgery in the treatment of endometrial cancer. But laparoscopic surgery has had a longer surgery time and more intra-operative complications than open surgery. There is no statistical difference between two kinds of surgical treatment in the number of pelvic lymphadenectomy, the tumor recurrence rate, tumor-related mortality, overall survival and disease-free survival. The studies included in this Meta-analysis have higher quality, so the conclusion has higher credibility.
FCS41.6 METABOLIC CHANGE IN FDG-PET BY MEASURING THE SINGLE LARGEST Lesion ONE CYCLE AFTER INITIATION OF CHEMOTHERAPY FOR GYNECOLOGIC MALIGNANCIES PREDICTS CHEMOTHERAPEUTIC EFFECTS AND PATIENTS’ SURVIVAL
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Objectives: The objective of this study is to investigate the predictive value of early F-18-Fluorodeoxyglucose positron emission tomography (FDG-PET) for assessing tumor response to chemotherapy and patients’ survival in gynecologic malignancies.

Method: Thirty-one patients who received chemotherapy for gynecologic malignancies were enrolled from June, 2010 to December, 2014. CT and PET-CT scan were performed before initiation of chemotherapy to determine baseline results, and were repeated one cycle after the initiation of chemotherapy. The response to treatment was evaluated after three cycles according to the Response Evaluation Criteria in Solid Tumors (RECIST) version 1.1. The PET response was analyzed in terms of maximum standardized uptake value (SUVmax) of the single largest lesion between the baseline and one cycle after initiation of chemotherapy. Metabolic response is defined as a 30% reduction in SUVmax.

Results: The median age of the patients was 63 years old (range 47–86). Of the 31 patients, 11 patients received platinum-based regimens and 20 patients received non-platinum regimens. The mean progression-free survival (PFS) of the patients with metabolic response was 15.5 months (range 5–38). In contrast, the mean PFS of the patients with no metabolic response was 5.7 months (range 1–30). There was a statistically significant difference between the percentage decrease in SUVmax and PFS (p=0.002, Man-Whitney U-test). There was a strong correlation between metabolic response and RECIST, regardless of chemotherapy regimens (platinum-based group; p=0.006, non-platinum group; p=0.046, Fisher exact test).

Conclusions: Early FDG-PET assessment by measuring the single largest lesion one cycle after initiation of chemotherapy is promising tool for predicting tumor response and patients’ survival, regardless of chemotherapy regimens.

FCS41.7 LOGISTIC REGRESSION MODEL FOR PREDICTING POST-MOLE GESTATIONAL TROPHOBlastic NEOPASIA FROM A LARGE COHORT OF WOMEN WITH HYDATIDIFORM MOLE
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Objectives: Although hydatidiform mole is benign, it possibly develops into malignancy, termed post-mole gestational trophoblastic neoplasia (pGTN), especially for complete hydatidiform mole (CHM) that has a malignancy rate of 15%. Recently, the routine use of ultrasonography has led to diagnosis in the first trimester rather than second trimester, but the malignancy rate has not been reduced. Our previous study showed that high risk factors, such as maternal age ≥40 years, large-for-date uterus, theca lutein cysts ≥6 cm, have limited power for predicting malignancy. The current study intends to setup a logistic regression model including multiple factors to improve the predictive power.

Method: The prediction model was trained on the retrospective 346 cases that were treated in our institute from January 2005 to August 2012 (training set). The model was further tested on patients that have been prospectively recruited since September 2012 and the expected set size is 150 patients (test set). Recorded for both sets were the following information: age, pregnant day, serum hCG, pre- and post-operative ultrasound features (the length, width and anteroposterior diameter of uterus and cavity mass, ovarian cyst, Color Doppler signals) and 2-year follow-up outcomes. The software used for statistical analysis was R version 3.1.1 for Mac.

Results: The training set included 74 cases developing into pGTN and 262 cases without malignancy within following 2 years. The fitted logistic model was: Log (p (malignancy=1)/p(normal)=0) = -2.23 + 4.39e-07 × hCG + 4.11e-5 × pre-uterus volume + 2.30 × abundant blood in post-uterus. This model had 71.6% sensitivity and 87.5% specificity on the cut-off value of 0.146 using 5-fold cross-validation of training set. Until now, of the test set of 98 cases, 14 cases developed into pGTN and 26 cases had normal results within a 2-year follow-up, the remaining cases are still being monitored. Evaluated on test set, the performance was 85.7% sensitivity, 88.5% specificity.

Conclusions: The regression model on the base of pre- and post-operation ultrasound and serum hCG has the potential value to predict results of CHM on the stage of CHM treatment. After validated in a larger patient set, it will be potentially used for post-operation management.

FCS41.8 MANAGEMENT OF GESTATIONAL TROPHOBlastic DISEASE BASED ON MODIFIED WHO RISK FACTOR SCORING SYSTEM-2009
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Objectives: In spite of its dismal course of Gestational trophoblastic disease (GTD), only recently there is more awareness, newer chemotherapy and changing surgical indications. Introduction of new FIGO (2002) scoring system which was revised by WHO in 2009 has changed dramatically the management protocol. Therefore this study was undertaken to stratify GTD by this risk scoring system and to evaluate the management techniques and quantify the type of chemotherapy to be given with follow up.

Method: All GTD cases will be subjected to FIGO staging and allocated a prognostic score using the modified WHO risk factor scoring system. Cases with score <7 are considered low risk and >7 are among high risk groups. The treatment will be planned accordingly and a single/multiple drug chemotherapy will be administered. The patients will be followed up for prognostic evaluation.

Results: Out of total 50 cases of GTD, 28 were hydatidiform mole, 14 persistent GTD, 2 invasive mole and 6 choriocarcinoma. Among 22 gestational trophoblastic neoplasia, 19 belonged to stage I and 3 were stage III. But according to WHO scoring, 16 were low risk and 6 were high risk group. 16 patients received single agent and 6 patients combination chemotherapy. Complete response was seen in 14 and 5 cases respectively.

Conclusions: The patients of GTD were stratified according to FIGO staging and modified WHO risk factor scoring system and management technique was modified.

FCS42. Gynecological Malignancies
FCS42.1 THE LOCAL THERAPEUTIC EFFECT OF RADIATION THERAPY ON PLATINUM-RESISTANT RECURRENT OVARIAN CANCER DETECTED BY FDG-PET/CONTRAST ENHANCED CT
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Objectives: Single-agent chemotherapy is standard in recurrent
using a Cox regression analysis, G3EECs and USCs/CCCs had a significantly decreased OS compared to G1/G2EECs (HR: 4.147, 95% CI: 2.573–6.683; HR: 3.601, 95% CI: 1.885–6.88). No significant differences were noticed in OS (P=0.544) between G3EECs and USCs/CCCs.

**Conclusions:** According to clinicopathologic features and outcome, G3EEC may be better characterized as type II endometrial cancer.

**FCS42.3**

**NON-INVASIVE ASSESSMENT OF PRIMARY TREATMENT STRATEGY FOR FIGO STAGE III–IV OVARIAN CANCER PATIENTS – A HELPFUL NOVEL INDEX AT THE MULTI-DISCIPLINARY TEAM MEETINGS**

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**Objectives:** For ovarian cancer patients, primary surgery followed by adjuvant chemotherapy is considered the first choice of treatment, and complete tumor removal is an important prognostic factor. Neoadjuvant chemotherapy is preferable when macroscopic removal of the tumor is impossible. However, no preoperative predicting tool of macroradicality is available.

The purpose of this study was to develop a novel index for preoperative, non-invasive prediction of complete primary cytoreduction in patients with advanced (stage III-IV) ovarian cancer; hereby, optimizing the planning of individual treatment strategy for each patient.

**Method:** Collection, handling and storage of blood samples were performed according to strict guidelines by the Danish Cancer Biobank. Clinical data was provided by the Danish Gynecologic Cancer Database (DGCD). Serum levels of HE4 and CA125 were analyzed using kits from Abbott Diagnostics. Age, performance status and presence of ascites at preoperative ultrasonography in addition with CA125 and HE4 were tested in a multivariate model in order to improve the diagnostic accuracy of the biomarkers.

**Results:** A total of 181 patients with advanced epithelial ovarian cancer were enrolled. Exclusion criteria was treatment with neoadjuvant chemotherapy (n=13) and performance status 4 (n=1). 167 patients (138 stage III and 43 stage IV) were treated with primary debulking surgery. Complete resection of the tumor was achieved in 50 cases (30%).

The Receiver Operating Characteristics curves demonstrated an Area Under the Curve (AUC) of 0.772 for HE4, 0.684 for CA125 and 0.683 for age. The multivariate model, consisting of HE4, age, performance status and presence of ascites at ultrasound, demonstrated an AUC of 0.854. CA125 was excluded by backward reduction.

**Conclusions:** A multivariate model combining HE4, age, performance status and presence of ascites at ultrasonography may be a useful preoperative index for selecting patients to either primary debulking surgery or neoadjuvant chemotherapy.

**FCS42.4**

**COMPARISON OF DIFFERENT SCREENING METHODS USED IN THE RURAL CERVICAL CANCER SCREENING PROJECT IN CHINA**

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**Objectives:** To compare the diagnostic effect of current three screening methods used in the rural cervical cancer screening project in China and to provide scientific proof for making screening plans for cervical cancer and precancerous lesions.

**Method:** To analyze the statistical data of the cervical cancer screening of 6,633,783 rural women aged 35 to 64 in 747 program counties in 2013. These counties used either Pap grading, TBS, or VIA/VILI to report the primary screening results. The data was from the web-based data reporting system of national major maternal and child health services surveillance. The histopathology result was taken as
the gold standard to evaluate the final diagnostic results of cervical cancer and precancerous lesions (CIN II, CIN III, and adenocarcinoma in situ), as well as the early detection of cervical cancer of different primary screening methods.

Results: Of 747 program counties, 127 (17.0%) counties, covering 1,306,192 (19.7%) women, used Pap grading report, 554 (74.2%) counties, covering 4,731,820 (71.3%) women, used TBS, and 66 (8.8%) counties, covering 595,772 (9.0%) women, used VIA/VILI to conduct the primary screening. The positive rate of Pap grading, TBS and VIA/VILI was 5.1%, 2.7%, and 9.4%. Using Pap, TBS, and VIA/VILI as primary screening methods, the detection rate of cervical cancer was 14.8/100,000, 16.7/100,000, and 21.5/100,000 ($\chi^2=11.059, P=0.004$); the detection rate of precancerous lesions was 91.0/100,000, 144.9/100,000, and 90.3/100,000 ($\chi^2=307.403, P=0.000$); the early detection rate was 89.4%, 92.6%, and 84.5% ($\chi^2=2.759, P=0.252$).

Conclusions: Among the three screening methods, TBS had a lower positive primary screening rate but higher detection rate of precancerous lesions and the early detection rate of VIA/VILI had a higher positive primary screening rate but lower detection rate of precancerous lesions and the early detection rate. The Pap grading report was between the other two methods. The use of TBS may achieved relatively high detection rate in rural China.

FCS42.5 PREDICTION OF GROIN NODAL STATUS IN INVASIVE VULVAR CARCINOMA (IVC): THE ROLE OF $^{18}$F-FDG PET/CT AND SENTINEL NODE BIOPSY (SNB) IN CLINICALLY NO PATIENTS CURRENTLY NOT INCLUDED IN SNB RECOMMENDATIONS


OBJECTIVES: Identify in clinically N0 vulvar cancer patients, a subset of 31 (22%) groins and SN was always positive. The SN false negative rate was 0 (NPV 100%). $^{18}$F-FDG PET/CT NPV was 94%.

RESULTS: Partial and 11 radical vulvectomy. A total of 31 SNB followed by IFL were performed using standard imaging (CT scan, US, FNA cytology if required) combined with $^{18}$F-FDG PET/CT. All patients underwent radical excision of the vulvar lesion associated to SNB and radical inguinal lymphadenectomy (IFL) (mono or bilateral). Patients submitted to previous chemotherapy or radiotherapy were excluded.

RESULTS: Eighteen patients with IVC and negative groin LNs at preoperative imaging were included. $^{18}$F-FDG PET/CT was suspected for LNs metastases in 11/36 (31%) groins. Vulvar surgery consisted of 7 (8.8%) counties, covering 595,772 (9.0%) women, used VIA/VILI to conduct the primary screening. The positive rate of Pap grading, TBS and VIA/VILI was 5.1%, 2.7%, and 9.4%. Using Pap, TBS, and VIA/VILI as primary screening methods, the detection rate of cervical cancer was 14.8/100,000, 16.7/100,000, and 21.5/100,000 ($\chi^2=11.059, P=0.004$); the detection rate of precancerous lesions was 91.0/100,000, 144.9/100,000, and 90.3/100,000 ($\chi^2=307.403, P=0.000$); the early detection rate was 89.4%, 92.6%, and 84.5% ($\chi^2=2.759, P=0.252$).

Conclusions: Among the three screening methods, TBS had a lower positive primary screening rate but higher detection rate of precancerous lesions and the early detection rate of VIA/VILI had a higher positive primary screening rate but lower detection rate of precancerous lesions and the early detection rate. The Pap grading report was between the other two methods. The use of TBS may achieved relatively high detection rate in rural China.

FCS42.6 THE ANTI-TUMOR PHARMACOPHORE IN FLOWER SOUP BY BLOCKING TLR4/MYD88-NF-KB SIGNALING PATHWAY TO INHIBIT THE ACTIVATION OF TAMs IN ENDOMETRIAL CARCINOMA

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OBJECTIVES: Endometrial carcinoma (EC), is one of the common female tract genital malignant tumor. Tumor Associated Macrophages (TAMs) are within the tumor tissue infiltration of inflammatory immune cells, plays a decisive role in tumorogenesis in progress. Dongzhimen Hospital gynecology Professor Guo Zhiqiang after years of clinical experience with flower soup (Berberine 30g, Barbata 15g,Hedyotis diffusa 15g, Astragalus 20g) has a significant effect in endometrial cancer. This study firstly found observed TAMs in vitro, specifically TAMs Ishikawa cancer cells proliferation and soughted for anti-tumor pharmacophore of the flower decoction and monomer compound from the Chinese medicine in Ishikawa cells co-cultured with TAMs and Ishikawa cells.

Method: With the Immunohistochemistry assay, we found the endometrial hyperplasia and endometrial cancer in paraffin sections CD163, CD206 and distribution of NF-KB p65 expression. With the MTT, we observed the TAMs how to inflect the Ishikawa cells proliferation in rats. By Elisa method, We detected the expression of IL-10 in anti-tumor pharmacophore from the flower soup. Western Blot method was used to detect the expression of NF-KB p65. The expression of the TLR4/MyD88 signaling pathway under the TAMs activation were used by RT-PCR detection.

RESULTS: CD163 and CD206 expression at different levels in the cytoplasm of endometrial hyperplasia and endometrial stromal tissue. NF-KB p65 expression increased with progression of endometrial cancer was increasing. TAMs control cells CD206, CD163 molecule expression and supernatant IL-10 significantly increased compared with U937 blank. The expression of NF-KB p65 TAMs in the control group was significantly higher than that of U937 control group. TAMs plus Hedyotis diffusa flavonoid was a statistically significant compared with any other two group. TLR4/MyD88 expression in diffusa flavonoid, banzhilian flavonoid and lotus soup flavonoid were significantly lower than that TAMs.

Conclusions: Ishikawa cells and U937 human macrophage cell coculture model could be successfully induced activation TAMs. TAMs had a role in the promotion of human endometrial Ishikawa cell proliferation. Flower soup component flavonoids, barbata flavones and Hedyotis diffusa flavonoids were possibly blocking TLR4/MyD88-NF-KB signaling pathway to inhibit the activation of TAMs, which may play the role of anti-endometrial cancer.

FCS42.7 THE SIGNIFICANCE OF PRIOR TUBAL OCCLUSION IN ENDOMETRIAL CARCINOMA

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OBJECTIVES: The exfoliation of endometrial carcinoma might migrate through fallopian tube for intraperitoneal spread and extra-abdominal diseases. So we analyzed the influence of prior tubal occlusion to the patients with endometriod carcinoma and other pathological types (non-endometroid carcinoma) in order to evaluate the significance of prior tubal occlusion among women with endometrial carcinoma.

Method: Medical records of patients diagnosed with endometrial carcinoma between July 1995 and June 2012 were reviewed. Patients...
with endometrioid and non-endometrioid carcinoma both were separated into two groups based on the presence or absence of prior tubal ligation. Groups were compared with respect to patient characteristics, stage distribution and histopathologic findings which included uterine myometrial infiltration, cervical stromal invasion, adnexal involvement, intravascular cancer emboli, parametrium involvement, positive lymphnodes, positive cytological washings and other pelvic organs involvement.

**Results:** We identified 558 patients, 496 of whom (88.9%) with endometrioid carcinoma and 62 of whom (11.1%) with non-endometrioid carcinoma. The patients who had tubal ligation in this two groups were 99 (20.0%) and 15 (24.2%), respectively. In endometrioid carcinoma group, patients with tubal ligation were significantly less likely to have positive cytologic washings (0.2% vs 13.9%, P=0.002), and when the depth of muscular invasion was less than 1/2 myometrium, the difference was even larger (0.0% vs 12.2%, P=0.000). But the other factors were similar between the two groups. In non-endometrioid carcinoma group, there was no significant difference between tubal ligation group and the other in all factors.

**Conclusions:** Patients with a history of endometrioid carcinoma and prior tubal occlusion are significantly less likely to have positive cytologic washings especially when the depth of muscular invasion was less than 1/2 myometrium. Prior tubal occlusion may not prevent the development of endometrial carcinoma.

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**FCS42.8 MOLECULAR MARKERS ASSOCIATED WITH UTERINE LEIOMYSARCOMA DEVELOPMENT**

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**Objectives:** To investigate a gene signature that might be useful as uterine leiomyosarcoma development predictor.

**Method:** The gene expression analysis was performed using Real Time Open Array Platform (Life Technologies, USA). We evaluate 112 genes expression in 176 samples (20 myometrium, 103 leiomyomas, 16 uncommon leiomyoma and 37 leiomyosarcomas cases). Patients were recruited at Obstetrics and Gynecology Department from the Hospital das Clnicas da Faculdade de Medicina da Universidade de Sao Paulo (Sao Paulo/Brazil). All patients signed a preinformed consent and the study was approved by our institutional ethical board. Tissue samples obtained by surgery were snapzing frozen in liquid nitrogen or paraffin embedded until further processing.

**Results:** Among 112 genes, we found AXIN1, FZD9, HHT, MTSS1, PTCH2, SUFU and TLE1 downregulation in LMS patients. Additionally, women with > 50 years old showed downregulation of WISP1. All the others samples showed enhanced amount of these genes independent of the hormonal status.

**Conclusions:** Our results showed that AXIN1, FZD9, HHT, MTSS1, PTCH2, SUFU and TLE1 down or lack of expression corroborate for LMS development in patients, but, the role of these molecular markers interactions must be better investigated.

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**FCS42.9 IDENTIFICATION OF CANCER STEM-LIKE CELLS FROM EPITHELIAL OVARIAN CANCER AND INVESTIGATION OF METALLOPROTEINASE-10 GENE AS REGULATORY PART IN OVARIAN CANCER STEM-LIKE CELLS**

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**Objectives:** Cancer stem-like cells (CSCs) are defined as a small pop-

ulation of cancer cells that have high tumorigenicity. Furthermore, CSCs are resistant to several cancer therapies, and thought to be responsible for cancer recurrence after treatment and distant metastasis.

In this presentation, we isolated CSC population by aldehyde dehydrogenase 1 (ALDH1) assay from epithelial ovarian cancer (EOC) cell lines (serous adenocarcinoma and clear cell adenocarcinoma) and primary ovarian cancer cells. Furthermore, we investigated whether metalloproteinase-10 (MMP10), which was enriched in ALDH1-high cells of ovarian cancer cells, was one of the candidate genes which regulated stemness in EOC.

**Method:** We isolated ovarian CSCs as ALDH1-high population from 6 EOC cell lines (3 serous adenocarcinomas and 3 clear cell adenocarcinomas) by the ALDH1 assay. Then we evaluated tumor-initiating ability of ALDH1-high cells as CSC population by sphere-forming assay in vitro, and xenograft transplantation in vivo. We also investigated the ALDH1-high population in primary cancer cells, both from solid cancer tissue and from ascites. Furthermore, we screened gene profiles of ALDH1-high cells and identified MMP10, then we made this candidate gene over-expressed or knocked down in EOC cell lines and evaluated their stemness by the method written above.

**Results:** ALDH1-high cells showed greater sphere-forming ability, higher tumorigenicity and greater invasive capability in serous and clear cell adenocarcinoma cell lines. ALDH1-high cells could also be isolated from 8 of 11 primary ovarian carcinoma samples. MMP10-overexpressed ovarian cancer cell lines showed higher sphere-forming ability, higher tumorigenicity and increased ALDH1-high cell population by flow cytometry, and these population had more expression of stem-cell marker genes such as SOX2 or Nanog. These characteristics were impaired when inhibited the expression by siRNA.

**Conclusions:** Ovarian CSCs were enriched in ALDH1-high cells in both EOC cell lines and ALDH1-high cells were also identified from primary ovarian cancer cells. Taken together, the results that MMP10 regulated the stemness for ovarian cancer cells might drive us to indicate that MMP10 could be one of the novel target of molecular therapies for epithelial ovarian cancer.

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**FCS43. High Risk Pregnancy**

**FCS43.1 STRATEGIES FOR SMOKING CESSION IN PREGNANCY: A COST-EFFECTIVENESS AND DECISION ANALYSIS**

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**Objectives:** The aim of this study was to evaluate the cost-effectiveness of various interventions for smoking cessation in pregnancy.

**Method:** Using decision-analysis modeling, we compared the cost-effectiveness of counseling versus nicotine replacement therapy (NRT), cognitive behavioral therapy, motivational interviewing and pharmacotherapy for smoking cessation in pregnancy from a societal perspective. Baseline probabilities and costs estimates were derived from published literature. We conducted sensitivity analyses using both deterministic and probabilistic models. Cost estimates reflect 2014 US dollars.

**Results:** Counseling had an incremental cost effectiveness ratio (ICER) of $1103 per QALY compared with NRT. The ICER for all other strategies ranged from $1224 to $10147 per QALY. While sensitivity analysis indicated that the cost of managing incorrectly identified smokers (false negative result) was an important driver of the model,
formal identification approaches did not seem to be cost effective at any feasible estimate of this cost. The combination of counseling and buproprion was cost effective compared with motivational interviewing (range from $1632–$5336 per QALY gained) and counselling alone (range $654–$2385).

Conclusions: Combination therapy with counseling and buproprion were most cost effective.

FCS43.2
ACUTE RENAL FAILURE (ARF) IN SEVERE PRE-ECLAMPSIA & ECLAMPSIA (MATERNAL OUTCOME)

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Objectives: ARF describes an abrupt decline in renal function characterized by urine output <400 ml/24hr or <20 ml/hr. Diagnosis by rising blood urea, serum creatinine, metabolic acidosis, hyperkalemia. Pre-renal: renal hypo perfusion (severe pre-eclampsia, eclampsia), severe volume depletion (haemorrhage). Renal: usually a consequence of thrombotic microangiopathy-HELLP syndrome.

Severe Pre-Eclampsia and Eclampsia complicates as ARF in 15%, with placental abruption & HELLP, incidence rises by 10% & 36% respectively.

Method: In RIMS, a rural based tertiary center, Jan’09 to Jan’13, 27535 pregnancies admitted.

Evaluation: Physical examination-BP, PR, RR, CVS, chest, knee jerk, urine output.

CVP line established, indwelling catheter, separate LV therapy line.

Investigations: CBC, BT & CT, Blood Urea, serum creatinine, electrolyte, BUN, acid-base balance, urine analysis, USG.

Treatment modality:
1. To ensure kidney function
2. Earliest delivery

Treatment:

Anuria phase: fluid, electrolyte balance, caloric requirement maintained, Hyperkalemia, Hypophosphatemia, Hypocalcemia, metabolic acidosis prevented, iatrogenic agents.

Polyuria phase: fluid & electrolyte replacement.

Recovery phase: fluid intake by thrust.

Results: Deliveries: 27535.
- Pre-Eclampsia (950 – 3.5%, 1 in 29)
- Eclampsia (1311 – 4.65%, 1 in 21)

Complications: 436 (19%): Abruptio 210 (9.28%), HELLP 115 (5.08%), and PPH 97 (4.29%), DIC 14 (.61%).

Majority primigravida 1650 (73%).
- 1356 (60%) between 20 and 29 yrs
- 1876 (82%) unbooked
- 1877 (83%) of low socio-economic status.

ARF 140 (6.9%):
- Severe pre-eclampsia 39 (27.85%)
- Eclampsia 50 (35.71%)
- Abruptio 22 (15.71%)
- PPH 13 (9.28%)
- DIC 5 (3.57%)
- HELLP 11 (7.85%)

Delivery:
Caesarean section 118 (84%), vaginal 22 (15.7%).

Puerperal complications 79 (56.43%):
- Wound infection 21 (15%)
- Pyrexia 15 (10.7%)
- Urinary tract infection 8 (5.71%)
- Sepsis 7 (5%)
- Multiple complications 28 (20%)

Prognosis: good.
- Brisk diuresis following delivery 108 (77.2%)
- Needed dialysis 32 (21.5%)

Maternal mortality nil.

Conclusions: Present study is concerned with etiology, clinical course, management & maternal outcome. The main factors responsible are no antenatal check-up, early pregnancy, ignorance, low SES, lack of health consciousness & care, delayed referral. ARF with Eclampsia is not very infrequent, bears high risk of bilateral renal cortical necrosis & consequently chronic renal failure but efficient, timely management gives good prognosis.

FCS43.3
MATERNAL MTHFR GENE POLYMORPHISMS AND THE RISK OF DOWN SYNDROME OFFSPRING

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Objectives: To study the frequency of methylenetetrahydrofolate reductase (MTHFR) 677C to T mutation in Egyptian mothers having a child with Down syndrome (DS) and matched control mothers.

Method: Eighty mothers, age <40 years, with previous history of bearing a DS with karyotypically confirmed full trisomy 21 plus 30 healthy mothers with healthy children as matched control mothers. A case-control study to examine the association of genetic polymorphism in the MTHFR gene implicated in folate metabolism that known to let down the activity of this enzyme. Estimation of maternal plasma homocysteine (Hyc): methionine (Met) ratio and lymphocyte methotrexate (MTX) cytotoxicity to assess the occurrence of MTHFR 677C to T mutation.

Results: T polymorphism is more prevalent among mothers of infant with DS compared with the controls, with an odd ratio of 1.9. In addition, mothers of infant with DS have significantly increased plasma levels as well as lymphocyte MTX cytotoxicity relative to the control.

Conclusions: Aberrant folic acid metabolism secondary to MTHFR polymorphism leads to a significant reduction in plasma methionine and increasing the materials risk for having DS infant.

FCS43.4
CANDIDA GLABRATA SEPSIS ASSOCIATED WITH CHORIOAMNIONITIS IN AN IVF TWIN PREGNANCY: SHOULD WE DELIVER?

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Objectives: Candida glabrata chorioamnionitis in pregnancy is rare, but the current literature suggests a very high fetal fatality in such cases. It is known to have an association with cervical stitch, amniocentesis, choriestic villous sampling, and assisted reproductive techniques like in-vitro fertilization. To date, there are only 16 reported cases worldwide. Given the increasing global use of artificial reproductive techniques these days, it is important to raise awareness of this condition and highlight its potential lethal complications.

Method: We report a case of in-vitro fertilization acquired Candida glabrata chorioamnionitis successfully treated through systemic maternal antifungal treatment prior to delivery. To the best of our knowledge, this is the first case of its kind in the literature.

Results: Our patient presented at 24-weeks-gestation with fever-of-unknown-origin, and a positive vaginal swab for Candida glabrata. Amniocentesis confirmed Candida glabrata chorioamnionitis for one twin. Systemic maternal fungal treatment was started while awaiting fetal maturity. Fetal wellbeing were assessed through inpatient monitoring. A multidisciplinary decision was made for delivery at 28-weeks despite the absence of fetal distress in view of reported high lethality associated with this condition. The validity of this judgment is supported by the presence of Candida glabrata cultured from
the amnion, a sterile site despite a significant duration of antifungal. Neonatal swabs and cultures were tested negative. Both twins remained well.

**Conclusions:** The increasing global use of artificial reproductive techniques these days makes it imperative to raise awareness of the potential fetal lethality associated with this rare infection of *Candida glabrata*. Routine vaginal yeast culture before embryo transfer may help avoid such complications. Early recognition of the potential complications of *Candida glabrata* infection in pregnancy is important. It would be prudent to consider early delivery once fetal maturity is achieved despite normal fetal monitoring.

**FCS43.5 CONSERVATIVE SURGICAL MANAGEMENT (MYOMETRIAL RESECTION) VERSUS RADICAL SURGERY (PERIPARTUM HYSTERECTOMY) FOR WOMEN WITH PLACENTA PERCRETA**

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**Objectives:** To compare maternal morbidity and mortality of two surgical procedures, conservative (myometrial resection) versus radical (peripartum hysterectomy) for managing women with placenta percreta.

**Method:** We retrospectively reviewed the medical records of all patients diagnosed with placenta percreta admitted at Isra University Hospital Hyderabad, Sindh, Pakistan from December 2011 to October 2014. Patients were divided into two groups A and B depending on surgical procedure used to manage the patients with placenta percreta. Patients in group A had radical surgery (peripartum hysterectomy) and patients in group B had conservative surgery (myometrial resection). The following outcome were compared: need for blood transfusion, intraoperative and postoperative haemorrhage, urinary tract injuries, intensive care unit admission, duration of stay in intensive care and maternal death.

**Results:** There were 1956 deliveries, 27 (1.40%) cases were of placenta previa, and 19 cases of placenta percreta. 6 patients had perioperative hysterectomy while 13 patients had myometrial resection. Mean number of blood transfusion in group A was 3,200 ml while in group B was 1,515 ml (P < 0.01). There was one case of intrauterine hemorrhage required re-laparotomy, two cases of urinary tract injuries, one maternal death in group A while none in group B. All patients with placenta percreta required ICU admission, however, in group A, the duration was 5±1 days versus 3±1 in group B.

**Conclusions:** Conservative surgical technique of myometrial resection for placenta percreta is comparatively a safer procedure with less morbidity and mortality in comparison to perioperative hysterectomy.

**FCS43.6 ROLE OF FETAL AORTIC ISTHMUS PULSATILITY INDEX IN THE PREDICTION OF PERINATAL OUTCOME ASSOCIATED WITH PRETERM FETUSES WITH INTRAUTERINE GROWTH RESTRICTION**

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**Objectives:** Umbilical artery Doppler clearly identifies an “at-risk” fetuses, and changes in ductus venous Doppler may have a better association with subsequent neonatal morbidity than that based on umbilical Doppler abnormality in early preterm FGR. The most important independent risk factor for an adverse perinatal outcome is gestational age, especially before 32–34 weeks, when the risk is higher. Blood flow pattern in aortic isthmus reflects balance between both ventricular outputs and the differences in impedance of both vascular systems. So, it helps to predict perinatal morbidity and mortality.

**Method:** A prospective study of the fetal AoI in a cohort of premature IUGR fetuses attending to Minia University Maternity Hospital, Egypt between January 2012 and January 2013. Fifty-seven participants were divided into two groups according to fetal aortic isthmus pulsatility index (AoI PI) just before birth (group A = 30 with normal AoI PI and group B = 27 participants with Abnormal AoI PI).

**Results:** Total morbidity and mortality rates were significantly higher in the group of abnormal fetal AoI PI. There was statistically significant difference for neonatal intensive care unit (NICU) and neonatal sepsis (95% CI 0.024–0.622, P-value 0.008) and (95% CI 0.053–0.934, P-value 0.03) but not for intrauterine fetal death and early neonatal death. Fetal AoI PI showed variable performances to predict the perinatal morbidity and mortality in relation to other studied vessels as shown in the receptor operating curves (ROCs).

**Conclusions:** The authors suggest that aortic isthmus Doppler measurements are complementary to other Dopplers in early identification of fetal complications of the fetal growth restriction before deterioration and appearance of fetal acidosis.

**FCS43.7 OBSTETRIC AND PERINATAL OUTCOME OF PREGNANCIES WITH TERM LABOUR AND MECONIUM STAINED AMNIOTIC FLUID AND MAS**

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**Objectives:** The purpose of this study was to evaluate the MSAF in term of fetal distress, MAS, and perinatal morbidity and mortality. In a prospective study of women with a singleton cephalic pregnancy of completed 38–41 weeks of gestation and with no predefined risk factor.

**Method:** A total of 3850 deliveries at Jordan hospital were studied between 2004 and 2006. 390 (10.3%) of the deliveries had meconium in the amniotic fluid copared prospectively with 400 similar pregnancies with clear AF as a control group with similar pregnancies. The criteria of inclusion were term (38–41) singleton gestation, cephalic presentation, umbilical blood gas analysis and birth weight. recorded data included maternal age, GA, abnormal FH patterns, mode of delivery, birth weight and presence of meconium.

**Results:** We studied 3850 live born, singleton term infants, 390 were accompanied by MSAF. Table 1 shows that there was a statistical significant increase in the birth weight, chorioamnionitis, C/S between those pregnancies with moderate to thick meconium compared to mothers with clear AF. Table 2 shows labour outcome and grade of meconium. the incidence of MAS respiratory distress were significantly were significantly increased in those with MSAF. Meconium aspiration was significantly increased in those infants who required ventilator support. Table 4 shows the need for supplementation of oxygen or required assisted ventilation in delivery room.

**Conclusions:** MSAF is a frequent problem that is associated with an increase in the risk of neonatal morbidity and mortality management requires awareness of this potential risk despite improvement in obstetrical and neonatal care. MAS continues to be a neonatal disorder with high mortality and morbidity. As MAS is a major cause of mortality in developing countries, studies focusing on prevention and early treatment should be continued to reduce mortality and morbidity.

The SOGC recommended NO longer recommend routine intrapartum suctioning of the oropharynx and nasopharynx of neonates delivered following labours complicated by meconium.

**FCS43.8 17-HYDROXY-PROGESTERONE DOES NOT REDUCE THE RISK OF SPONTANEOUS PRETERM DELIVERY IN WOMEN WITH CERVICAL INSUFFICIENCY AND HISTORY-INDICATED CERCLAGE**

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**Objectives:** We sought to investigate the synergistic effect of weekly...
administration of 17-hydroxy-progesterone (17P) in women with cervical insufficiency who already had history-indicated cerclage placement.

**Method:** We performed a cohort (retrospective) study performed at two tertiary care institutions. Women with cervical insufficiency who underwent history-indicated cerclage from January 2009 until December 2013 were divided into two groups: those receiving supplemental weekly injections of 17P from 16–20 weeks’ gestation until delivery (17P group, n=29), and those without supplemental 17P (cerclage-only group, n=17). T-test, chi-square and adjusted analyses were performed where applicable. A P-value of <0.05 was considered statistically significant.

**Results:** Demographic characteristics (maternal age, ethnicity, parity, prior preterm deliveries and tobacco use) were comparable in both groups. The gestational age at delivery was similar for the 17P group (median 36 weeks 5 days) and the cerclage-only group (median 36 weeks 1 day). The rate of delivery before 37 and 33 weeks was not significantly different among both groups (17P group: 48% and 17%; cerclage-only group: 53% and 17%, respectively). The rate of delivery before 35 weeks was greater for the cerclage-only group (41% vs. 25% 17P group) but not statistically significant, P=0.3). These results remained non significant after adjusted analyses.

**Conclusions:** In our cohort, the use of supplemental 17P in women in with history-indicated cerclage due to cervical insufficiency did not impact significantly in reducing the rate of spontaneous preterm delivery when compared with cerclage placement alone.

**FCS44. High Risk Pregnancy**

**FCS44.1 EVALUATION OF INTENSIVE CARE MANAGEMENT ON MATERNAL AND FETAL OUTCOME OF SEVERE PREECLAMPSIA AND ECLAMPSIA (EL-MINIA MATERNITY HOSPITAL EXPERIENCE)**

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**Objectives:** To evaluate the effect of intensive care management on maternal and fetal outcome of severe preeclampsia and eclampsia in El-Minia Maternity Hospital.

**Design:** A prospective study.

**Setting:** A specific 6 bed ICU in El-Minia Maternity University Hospital.

**Patients:** A total of 936 patients admitted to ICU due to severe preeclampsia, eclampsia and HELLP syndrome.

**Main outcome measures:** Data were evaluated for control of blood pressure, prevention and control of convulsions, maternal and perinatal outcomes.

**Results:** A total of 936 cases were admitted divided into four groups. Group (1)39.74% with severe preeclampsia without HELLP syndrome, Group (2) 20.1% eclampsia without HELLP syndrome; Group (3)33.33% eclampsia with HELLP syndrome, Group (4) 6.83% with HELLP syndrome without eclampsia. No statistically significant difference regarding parity or gestational age. Cesarean section rate was highest among group (3). There was a statistically significant difference in average total duration of hospitalization among groups, more time in women with HELP. Maternal morbidity was significantly higher among groups 3, 4. There were 3 maternal deaths (3.02%).

**Conclusions:** Intensive care management of severe preeclampsia and eclampsia remarkably improving both maternal and perinatal outcomes.

**FCS44.2 PROPHYLACTIC PROOPERATIVE BALLOON-ASSISTED OCCLUSION OF HYPOGASTRIC ARTERIES IN ABNORMAL PLACEMENT: 5 YEARS EXPERIENCE**

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**Objectives:** The aim of our study is to describe and evaluate the technique of prophylactic balloon-assisted occlusion of the anterior division of the internal iliac arteries (hypogastric arteries) in abnormal placentation.

**Method:** The records of 44 patients with a diagnosis of placenta previa/accreta/percreta were retrospectively reviewed. Patients were divided into two groups. Thirty-two patients underwent prophylactic temporary balloon-assisted occlusion, followed by cesarean section. A review of cases was done over a period of 5 years (1 March 2008–30 February 2013). After previous agreement with the interventional radiologist, & after admission, patient in balloon occlusion group underwent the procedure of hypogastric artery balloon occlusion under fluoroscopy & using minimal radiation exposure. Intra-operatively, the balloon was inflated as needed. Twelve patients underwent cesarean section without endovascular intervention.

**Results:** Patients in the balloon occlusion group had significantly less in estimated blood loss than the non-balloon occlusion group (1.9 L vs. 2.8 L), same group delivery at a later gestational age than in those in non-balloon occlusion group (35.8 weeks vs. 34.3 weeks). There was no statistical difference in mean volume of replaced blood products, operating room time or postoperative recovery time.

**Conclusions:** Our results support that in patients with placenta accreta/percreta, pre-operative prophylactic temporary balloon occlusion diminishes intra-operative blood loss. We conclude that balloon-assisted occlusion of the hypogastric arteries is a safe and effective in an attempt to minimize blood loss in patients with abnormal placentation.

**FCS44.3 OUTCOME OF TEENAGE PREGNANCY IN RURAL INDIA WITH PARTICULAR REFERENCE TO OBSTETRICAL RISK FACTORS AND PERINATAL OUTCOME**

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**Objectives:** The aim of the present study is to evaluate the outcome and complications in Teenage Primigravida when compared to Primigravidae of adult age group.

**Method:** A massive study involving 984 patients was undertaken. It was a prospective case control study was done for 30 Months from July 2010 to January 2013 at Shri Adichunchangiri Hospital and Research Centre, B.G. Nagar. During this period booked and unbooked cases were included in the study and for every teenage primigravidae one subsequent adult primigravidae were studied. Patients with Major skeletal deformity such as kyphoscoliosis, polio, Pelvic fracture, Diabetes mellitus, Renal disorders, Morbid obesity, All cases of molar pregnancy and Primigravidas admitted for abortion were excluded.

**Results:** Among 492 teenage and equal adult primigravidae, 51.8% of teenage were unbooked compared to 13.6% adults. 68.4% of teenage were anemic compared to 33.32% of adults, antenatal complications like anemia, Hypertensive Disorders of Pregnancy, Oligohydramnios, Hypothyroid were significantly more in teenagers (69.5%) compared to adults (19.3%), 33.7% of teenagers had preterm birth compared to 8.72% in adults. 48.3% of teenagers had LSCS compared to 21.9% of adults. Indication was CPD in majority of teenagers (45.4%). 31.74% of teenagers had low birth weight child compared to 16.6% in adults and 34.5% of teenage neonates required NICU admission compared to 12.4% in adults.

**Conclusions:** Noted that teenagers had significant number of compli-
Conclusions: Intra-amniotic surfactant before delivery is safe and more effective in early preterm deliveries (28–31 weeks).

FCS44.4 PRENATAL INTRA-AMNIOTIC INSTILLATION OF SURFACTANT FOR PREVENTION OF NEONATAL RESPIRATORY DISTRESS SYNDROME IN PRETERM BIRTH: A NEW MODALITY

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Objectives: To assess efficacy of intra-amniotic surfactant in preterm deliveries in reducing incidence and severity of respiratory distress syndrome (RDS) and to compare requirement of postnatal intra-tracheal surfactant in study versus control group.

Method: RCT was conducted after ethical clearance in 40 pregnant women either in established preterm labour or for caesarean section at 28–34 weeks gestation. Exclusion criteria were fetal malformations, ruptured membranes, choorioamnionitis or positive shake test. Antenatal corticosteroid was administered in all eligible women. In study group (n=20), 3 mL surfactant (Neosurf) was administered intra-amniotically, as near to fetal face as possible, under ultrasound guidance within 2–8 hours of expected delivery whereas no intra-amniotic surfactant was given in control-group (n=20). Neonatal outcome was noted regarding occurrence of RDS, severity of RDS & postnatal surfactant requirement. Sub-groups 28–31 weeks & >31–34 weeks were further analysed.

Results: RDS occurred in 9/20 (45%) neonates in study-group compared to 14/20 (70%) in control-group (p=0.11). Severe RDS reduced seven folds 1/20 (5%) in study-group compared to 7/20 (35%) in controls (p=0.018). Postnatal intra-tracheal surfactant was required by 3/20 (15%) in study-group versus 10/20 (50%) in control-group (p=0.018). In 28–31 weeks subgroup, RDS severity was much reduced in cases versus controls: 1/7 (14.3%) versus 7/10 (70%), p=0.024. In >31–34 weeks none of neonates developed severe RDS. Postnatal surfactant requirement was also reduced in study group among both subgroups: 42.8% vs. 70% (p=0.35) in 28–31 weeks and 0% vs. 13% (p=0.03) in >31–34 weeks in study and control groups respectively.

Conclusions: Intra-amniotic surfactant before delivery is safe & effective in prevention of RDS in preterm deliveries. It reduces severity of RDS and postpartum intra-tracheal surfactant requirement. It is more effective in early preterm deliveries (28–31 weeks).

FCS44.5 MATERNAL OUTCOME WITH HEPATITIS E IN PREGNANCY

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Objectives: To determine the maternal outcome in pregnancy women with Hepatitis E infection.

Method: This study was carried out in department of Gynecology and Obstetrics Liaquat University Hospital from January 2012 to May 2013. All pregnant women with serologically proven HEV were included in study. All patients having viral infection other than HEV and cholestasis of pregnancy, preeclampsia etc were excluded. Diagnosis was based on clinical examination and investigation which included serological tests like hepatitis E IgM antibodies, viral serological for hepatitis A, B and C, LFT, CBC. Data were collected regarding age, parity, gestational age and fetomaternal outcome.

Results: Twenty seven patients were admitted during the study period with Hepatitis E infection. Most were primigravidas 19 (70.37%). Mode of delivery was vaginal in 23 (85.18%). Labour was spontaneous in 18 (66.66%) and it was induced in 9 (33.33%) patients with prostaglandin E2. Hepatic encephalopathy were found in 6 (22.2%), DIC in 2 (7.40), PPH 4 (14.81), APH 2 (7.40). Maternal death was recorded in 6 (22.22%) patients. Regarding perinatal outcome 19 (70.3%) babies were born alive. Nine (33.33%) were premature. Intrauterine death was found in 8 (29.62%).

Conclusions: Acute viral hepatitis E has a high mortality in pregnancy, termination of pregnancy improves the outcome.

FCS44.7 PREGNANCY OUTCOMES LINKED TO INCREASED URIC ACID IN PRE-ECLAMPSIA

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Objectives: To evaluate the effect of hyperuricemia on maternal and fetal outcome in pre-eclamptic patients at term.

Method: Cross section study, conducted in High risk pregnancy clinic in Baghdad Teaching Hospital, from September 1st 2012–August 31st 2013. 364 pre-eclamptic women at term were grouped according their serum uric acid level into normal (<6mg/dL) – 159 patients and hyperuricemia (>6mg/dL) – 205 patients. Each had measure blood pressure, proteinuria, uric acid. we record birth weight and Apgar score at 5 minutes.

Results: Women in hyperuricemia group were more likely to have severe proteinuria (3g/24hours) – 58%, also give birth earlier (37-38 weeks)-80% while the normal uric acid group had (severe proteinuria-47%) and 58% of them delivered at 37–38 weeks. APGAR score below (7) at 5 minutes was more common in hyperuricemia group 63% compared to 7% in normal group. The newborn babies of hyperuricemic mothers had significantly low birth weight (28% below 3000g) compared to the normal group (4% below 3000g). There was moderate correlation between serum uric acid and blood pressure, moderate inverse correlation with APGAR SCORE at 5 minutes and birth weight.

Conclusions: Hyperuricemia is significantly associated with severity of pre-eclampsia, severe proteinuria, lower birth weight and lower APGAR score at 5 minutes.

FCS44.8 PREDICTORS OF ABNORMAL GLUCOSE TOLERANCE IN THE EARLY POSTPARTUM PERIOD IN PATIENTS WITH GESTATIONAL DIABETES

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Objectives: To investigate clinical predictors of abnormal glucose tolerance 5–7 weeks after delivery.

Method: Subjects included 155 women diagnosed with gestational diabetes mellitus (GDM) between 2005 to 2013 whose pregnancy and delivery were managed at our center. Subjects were divided based on 75-g oral glucose tolerance test (75gOGTT) results 5–7 weeks after delivery: normal tolerance group (NGT) (n=113) with normal results and abnormal glucose tolerance group (AGT) (n=42) with borderline results or indicated diabetes mellitus. We extracted profiles in whom abnormal glucose tolerance 5–7 weeks after delivery was predicted using a classification and regression tree (CART) from parameters measured at diagnosis. Logistic regression analysis was used to determine prediction accuracy.

Results: Subjects with a fasting plasma glucose (FPG) of ≥92 mg/dL and the immunoreactive insulin level 60 min after loading (IRI60min) of <100 µU/mL at diagnosis showed a significantly higher risk of developing abnormal glucose tolerance 5–7 weeks after delivery than subjects with FPG of <92 mg/dL (p<0.0001). Subjects with FPG of ≥92 mg/dL and IRI60min ≤100 µU/mL had the same risk as those with FPG of <92 mg/dL.
Conclusions: Patients who met these criteria at diagnosis with gestational diabetes were at high risk of developing diabetes mellitus in future; by explaining this to patients, we expect to improve the antenatal examination rate and frequency of postpartum follow-ups. Further, this approach can lead to early detection of diabetes, and the associated complications can be prevented.

FCS45.1 High Risk Pregnancy

FCS45.1 MATERNAL AND PERINATAL OUTCOME OF SEVERE PREECLAMPSIA AT THREE TEACHING HOSPITALS IN ADDIS ABABA

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Objectives: To determine the maternal and perinatal outcome of severe preeclampsia; to describe maternal and perinatal outcome at different gestational ages; to describe maternal and perinatal outcome of conservative versus aggressive management and to describe clinical and biochemical predictors of adverse perinatal outcome.

Method: This is a 6 month prospective cross sectional study between October 2, 2006-April 2, 2007 at the three teaching hospitals of Addis Ababa University-MF. Data was collected from patient charts and interview. OR and 95% CI were used to compare important outcome predictors. Logistic regression computed to detect poor biochemical and clinical predictors of adverse perinatal outcome.

Results: Among 5610 deliveries during the study period, rate of severe pre eclampsia was 3.4%. The incidence of HELLP syndrome was 0.85% of total deliveries & 24.9% among cases of severe pre eclampsia. Case fatality rate was 2.6% with high incidence of maternal morbidities. ICU admission rate was 13%. PNMR was 306 per thousand births. There was no perinatal survival below 28 wks & below 1000gm. better perinatal outcome & significant prolongation of pregnancy was achieved in the conservative management group compared with those managed expeditiously. Platelet count & qualitative urinary albumin were found to have statistically significant association with perinatal outcome.

Conclusions: The rate of severe pre eclampsia & HELLP syndrome is higher than that reported from other studies. Maternal & perinatal outcome was poor in this study, especially in cases diagnosed remote from term indicating need for improving maternal & fetal surveillance & appropriate patient selection for cases to be managed conservatively or expeditiously. Upgrading the existing facilities in NICU is important to increase survival rate of VLBW babies and to decrease the high rate of PNM in this study. Developing local management guideline for cases of severe preeclampsia remote from term based on the existing NICU feasibility seems timely.

FCS45.2 DIAGNOSTIC ACCURACY OF URINARY ADIPSIN IN WOMEN WITH PREECLAMPSIA: A MULTICENTER DIAGNOSTIC TEST STUDY


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Corresponding author.

Objectives: The purpose of the present study was to evaluate the clinical value of the strip test of urinary adipsin for the diagnosis of preeclampsia.

Method: In a multicenter diagnostic test study, we studied the diagnostic accuracy of the strip test of urinary adipsin in women presenting with preeclampsia after 20 weeks’ gestation between March 2013 to September 2014. A total of 458 pregnant women were recruited for this study, 204 preeclampsia and 254 healthy pregnant women as controls. The strip test of urinary adipsin was used to detect the adipsin in the urine of each patient.

Results: The diagnostic value of the strip test of urinary adipsin for preeclampsia was demonstrated by their high sensitivity and specificity (95.10 and 97.64%). The positive predictive value, negative predictive value and diagnostic accuracy was 97.00%, 96.12% and 96.51% respectively. The consistency analysis showed that the kappa value was 0.9292 and the upper limit and lower limit of 95% confidence intervals was 0.9632 and 0.8951 respectively, compared with the gold standard diagnosis of preeclampsia.

Conclusions: The strip test of urinary adipsin is a rapid test for the diagnosis of preeclampsia with high sensitivity and specificity. It could greatly help the timely diagnosis of preeclampsia in clinical practice.

FCS45.3 EVALUATION OF THE SERUM LEVELS OF COPPER AND ZINC AMONG PRE-ECLAMPTIC AND NON-PRE-ECLAMPTIC WOMEN AT NNAMDI AZIKIWE UNIVERSITY TEACHING HOSPITAL, NNEWI, NIGERIA

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Objectives: The objective of this study was to compare the Zinc and Copper levels in the serum of Nigerian women with or without preeclampsia.

Method: In this study, serum Zinc and Copper levels were determined using atomic absorption spectrometry in 54 patients and 48 healthy normotensive pregnant women. The mean, standard deviation, Student’s t-test and Pearson correlation were employed.

Results: Serum Zinc was significantly lower in patients than in controls (8.27±0.60 vs. 12.16±1.83 μmol/l, P value <0.001) (t test). Serum Copper was significantly lower in patients than controls (8.14±1.80 vs. 16.62±3.17 μmol/l, P value <0.001).

Conclusions: There was significant reduction in the levels of Zinc and Copper in patients with pre-eclampsia. Dietary supplementation of these trace elements may help to prevent pre-eclampsia.

FCS45.4 THE EFFECT OF PRIOR INDUCED ABORTION ON SUBSEQUENT PREGNANCY OUTCOME: AN EPIDEMIOLOGICAL STUDY IN URBAN CHINA

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Objectives: Prior induced abortion possibly has influence on subsequent pregnancy but it's unclear. The aim of this study was to assess
the induced abortion rate in urban China and evaluate its effect on future pregnancy.

**Method:** This population-based epidemiological study have recruited reproductive women at their first prenatal-care visit from 38 medical centers and community-base hospitals in 14 cities from January 2011 to January 2012. Their prior induced abortion history and clinical characteristics were recorded. Their pregnancy follow-ups were included. SPSS was applied for statistical analysis.

**Results:** Of 112245 women included in analyses, 40354 (39.95%) had prior induced abortion history, among them 4601 (2.09%) women experienced 3 times or more induced abortion. Women with prior induced abortions had significantly higher risk of preterm birth, fetal growth restriction (FGR), postpartum hemorrhage and placenta problems (preeclampsia, placenta previa, placenta implantation and placenta adherent) (P=0.000). The effect of induced abortion on placenta related diseases was elevated along with its times, while those having 3 or more induced abortion at 1.91 times risks of placenta problem.

**Conclusions:** High prior induced abortion rate in urban China had adverse effects on preterm birth, FGR, postpartum hemorrhage and placenta problems. The prevention of unplanned pregnancy and contraceptive issues is recommended for promotion of women health in urban China.

**FCS45.5**

**EVALUATION OF MEDIUM DOSE VERSUS STANDARD PRITCHARD REGIME OF MAGNESIUM SULFATE IN THE MANAGEMENT OF ECLAMPSIA IN DEVELOPING NATION**

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**Objectives:** To compare efficacy and safety of medium dose of magnesium sulphate with standard Pritchard regime in the management of eclampsia in a developing nation.

**Method:** The study was conducted over 1 year in the department of Obstetrics & Gynecology, KGMU Lucknow India. All eclampsia women after satisfying inclusion criteria were randomized in two groups using a computer generated random table. Group I received medium dose of magnesium sulphate (loading dose 10 g- 4 gm iv and 3 gm im in each buttock and maintenance dose of 3 gm im 4 hourly till 24 hours after delivery). Group II received the standard dose of Magnesium sulphate Pritchard regimen. Primary outcome was recurrence of seizures. Secondary outcome was magnesium toxicity, maternal and perinatal outcome.

**Results:** There were 4892 deliveries during study period and 114 women had eclampsia (Incidence 2.3%). 75 women were enrolled in the study after satisfying inclusion criteria, (group I n=36, group II n=39). The difference in recurrence of fit was comparable in both groups (2.8% vs. 2.6%, p=0.954). There were 2 women with magnesium toxicity in group II as compared to none in group I (p=0.168).

One woman in Group II developed severe respiratory depression and there were two maternal deaths in Group II as compared to none in Group I. The neonatal outcome was similar in both the groups (p=0.911).

**Conclusions:** Medium dose regime of magnesium sulfate is comparable in efficacy, however less toxic than standard regimen. In developing nations like India, medium dose of magnesium sulphate appears to have a better safety profile with better maternal outcome.

**FCS45.6**

**MATERNAL-FETAL OUTCOMES AND THROMBOPROPHYLAXIS IN WOMEN WITH SERUM MARKERS FOR THROMBOPHILIA AND PREVIOUS OBSTETRIC COMPLICATIONS**

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**Objectives:** The aim of the study was to evaluate the maternal-fetal outcomes of thromboprophylaxis with enoxaparin based on scoring system in women with serum markers for hereditary thrombophilia and previous obstetric complications.

**Method:** A retrospective study was undertaken based on data collected from clinical records. We included 54 pregnant women with serum markers for hereditary thrombophilia undergoing therapeutic intervention with enoxaparin in the period from November 2009 to December 2013. The initial dose of low molecular weight heparin was guided by a scoring system. The maternal-fetal outcomes of previous pregnancies and, subsequently, the treatment were compared using the chi-square (χ²) test with the Yates correction and Fisher’s Exact Test; P<0.05 was considered significant.

**Results:** The fetal/perinatal deaths (P<0.05) and spontaneous abortions (P<0.0001) reduced after intervention. The live births at full-term delivery (P<0.0001) and live births at preterm delivery (P<0.05) increased after intervention.

**Conclusions:** The therapeutic intervention with enoxaparin based on scoring system during pregnancy seems to improve the fetal prognosis.

**FCS45.7**

**PROFILE OF OBSTETRICS MORBIDITY AMONG MATERNAL INTENSIVE CARE UNIT PATIENTS**

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**Objectives:** The objective of the study was to determine the outcome of the Obstetrics admissions to Maternal Intensive Care Unit in the setting of a tertiary care hospital.

**Method:** This was a cross-sectional study undertaken at Paropakar Maternity and Women's Hospital from April 11, 2012 to March 31, 2013. Patients characteristics, gestational age, booking status, indication for intensive care unit admission, intervention, length of stay and outcome were analyzed.

**Results:** During the study period, total of 19,247 deliveries occurred and 247 women were admitted to MICU accounting 1.28% of all deliveries. The most common indication of admission to ICU was hypertensive disorders in pregnancy (45.3%) followed by obstetric hemorrhage (39.27%) and sepsis (4.04%).

Ten cases (4.04%) of postpartum hemorrhage was managed by balloon tamponade, seven (2.83%) by B-lynch compression sutures and three (1.21%) necessitated cesarean hysterectomy. Among 18 cases of ruptured uterus, 13 (5.26%) were repaired while five (2.02%) required hysterectomy.

Maternal mortality occurred in four (1.61%) cases. One case of severe pre-eclampsia died of pulmonary embolism, others due to anesthetic complication, septic shock and multiorgan failure.

**Conclusions:** Hypertensive disorders of pregnancy and obstetric hemorrhage appear as the major risk factors influencing maternal outcome in obstetric patients.
FCS45.8
A CASE–CONTROL STUDY OF THE ASSOCIATION BETWEEN GENITAL TRACT COLONIZATION WITH BACTERIAL VAGINOSIS AND PRETERM LABOUR

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Objectives: To investigate the association between genital tract colonization with bacterial vaginosis (BV) and preterm labour; and to determine which adverse outcomes are linked to BV in pregnancy.

Method: A prospective case-control study of 41 women with spontaneous preterm labour (i.e. labour less than 37 weeks gestational age) and women with spontaneous labour at term managed at a teaching hospital in Nigeria. Socioeconomic and clinical data were obtained. High vaginal swab for subsequent Gram staining was obtained. Bacterial vaginosis (BV) was determined using Nugent score on high vaginal swab samples. Birth weight was recorded at delivery.

Multivariable analysis was used to assess the link between BV and preterm labour.

Results: Genital tract colonization with BV in women with preterm labour was higher than that recorded for the control group (41.5% vs 12.2%; p<0.001). Multivariable analysis found that BV was associated with preterm labour (adjusted odds ratio 5.47; 95% confidence interval 1.16 – 25.70).

Additionally, the mean birth weight of babies of women with BV during pregnancy is lower than those without BV in pregnancy (1880g vs 2710g; p<0.0001). Small for gestational age babies (36.4% vs 5%; p<0.01) and admission into neonatal intensive care unit (72.7% vs 36.7%; p<0.01) were most frequent among women with BV in pregnancy.

Conclusions: This study shows BV is a risk factor for preterm labour in this environment; indicating that routine screening and treatment of BV in pregnancy might improve neonatal outcome.

FCS46. High Risk Pregnancy

FCS46.1
PATIENT CHARACTERISTICS AND OUTCOMES IN ANTEPARTUM HAEOMORRHAGE (APH) DUE TO PLACENTA PRAEVIA AND ABRUPTIO PLACENTA AT THE UNIVERSITY TEACHING HOSPITAL (UTH), LUSAKA, ZAMBIA

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Objectives: To explore patient characteristics and outcomes in APH due to placenta praevia and abruptio placenta at UTH, Lusaka, Zambia.

Method: All women who presented with APH due to placenta praevia and abruptio placenta at UTH in Lusaka, Zambia from October, 2013 to January, 2014 and met the inclusion criteria were recruited into the study. Participants were interviewed post-delivery after they were clinically stable. Information on patient management was obtained from the patient’s medical records. The maternal outcomes looked at either well or near miss (hypovolemic shock, DIC and PPH) and fetal outcomes included alive or stillborn.

Results: 72 patients were recruited. Of these, 40 (55.6%) had placenta praevia and 32 (44.4%) abruptio placenta. The significant difference in patient characteristic was pregnancy induced hypertension (OR 36.3, P<0.001) in those with abruptio placenta compared to placenta praevia. Abruptio placenta was significantly associated with stillbirths (OR 31.7, 95% CI 6.86 to 212.64, P<0.001) and maternal near miss (OR 2.33, 95% CI 0.86 to 6.34, 0.052) although did not reach statistical significance. Caesarean section in abruptio placenta was protective against stillbirth (OR 0.16, 95% CI 0.02 to 1.34 P=0.09) in those with a fetal heart.

Conclusions: Despite similarities, some patient characteristics and outcomes in APH due to placenta praevia compared to abruptio placenta differ. Placenta praevia was characterised by previous deliver-ies by caesarean section whereas placenta abruptio was associated with pregnancy induced hypertension. Stillbirths were significantly associated with abruptio placenta and severe maternal complications (near miss).

FCS46.2
IS IT POSSIBLE TO PREVENT AND MANAGE PRE-ECLAMPSIA AND ECLAMPSIA USING INTRAMUSCULAR MAGNESIUM SULPHATE ADMINISTRATION BY PRIMARY HEALTH CARE PROVIDERS AT THE COMMUNITY LEVEL

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Objectives: The general objective of the research was to review and assess the ability of community level facility-based service providers in screening and detecting PE/E patients, administering loading dose of intramuscular MgSO4 to the appropriate patients and referring them to the higher-level facilities in appropriate time. In addition, assess effectiveness of establishing referral mechanisms between service providers based at community level facility and higher-level service facilities and analyze cost of interventions were the objects among others.

Method: The study was a quasi-experimental pre-posttest design without any control group. Interventions were provided in 19 Family Welfare Centers and 53 Community Clinics of two sub-districts for 9 months. Intervention included training of service providers on PE/E, measuring blood pressure, testing urine albumin, administering loading dose of MgSO4 orienting fieldworkers, and establishing a referral linkage. The effect of interventions was evaluated by comparing PE/E service statistics, comparing knowledge and skills of service providers and comparing quality of care through exit client interviews and observing client provider interaction. Same cohort of 105 service providers was assessed at the post-intervention survey.

Results: Findings showed that knowledge on high blood pressure as a sign of PE improved significantly from 60 percent at the pre-intervention period to 91 percent at the post-intervention period. While there was no documented PE/E patient before intervention but 33 PE/E patients received services during intervention period in the project areas. It is revealed that service provider administered loading dose of MgSO4 IM injection correctly and referred them on time. No death occurred among mother or neonate those who had loading dose of MgSO4 at the community level facility by primary health care providers.

Conclusions: It is safe to say that if trained primary health care providers (paramedics) can easily detect and manage pre-eclampsia and eclampsia and administer loading dose of intramuscular injection and referred them in appropriate time and recommended scale up in other parts of the country. However, findings showed that primary health care providers need mentorship particularly at the beginning of the intervention. The unit cost for scaling up the intervention per sub-district is calculated as US $7,948 and recurrent cost is US $2,052 per year. If refresher training is planned an additional cost of US $4,046 per upazila is required.
**FCS46.3**

**EXPRESSION OF SERUM AND GLUCOCORTICOID-INDUCIBLE KINASE-1 (SGK1) IN PREMATURE AGING PLACENTA**

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**Objectives:** We intend to determine the role of SGK1 in premature aging placenta, and to investigate the pathogenesis of premature aging placenta.

**Method:** The expression level of SGK1 in placenta was detected by immunohistochemistry, western blotting and real-time RT-PCR. The fibrosis extent of placenta was detected by Masson's trichrome staining. In vitro, we investigated the effect of hypoxia on human trophoblast cells (HTR-8/SVneo), and the effect of SGK1 inhibitor on HTR-8/SVneo cells cultured in hypoxic conditions.

**Results:** SGK1 was noted mainly in the membrane and cytoplasm of placental trophoblast cell. Western blotting and RT-PCR revealed that premature aging placenta had higher expression of SGK1 compared with normal placenta. Masson staining revealed that normal placenta tissue existed fibrosis, and the extent of fibrosis was increased in premature aging placenta. Meanwhile, the expression level of CTGF in premature aging placenta was increased. In vitro, Hypoxia increased SGK1 and CTGF transcription in HTR-8/SVneo cells, and induced the production of more collagen fibers. Adding SGK1 inhibitor in HTR-8/SVneo cells cultured in hypoxic conditions, decreased the SGK1 and CTGF expression and collagen fibers.

**Conclusions:** These data suggested that SGK1 play a decisive role in placental fibrosis.

**FCS46.4**

**EXPRESSION OF CELLULAR PRION PROTEIN AND COMMD-1 IN THE PLACENTAS OF CASES WITH NORMAL, PREECLAMPTIC PREGNANCIES WITH OR WITHOUT INTRAUTERINE GROWTH RESTRICTION**

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**Objectives:** To compare cellular prion protein (PrPC) and COMMD-1 expressions in the placentas of healthy women and women complicated preeclampsia and/or intrauterine growth restriction (IUGR).

**Method:** 72 women of which 16 women with preeclampsia, 19 women with preeclampsia and IUGR, 17 women with IUGR and 20 women healthy control were included. Placental tissue from each woman collected at the time of delivery. Quantitative reverse transcription polymerase chain reaction, western blot analysis, and immunohistochemical staining for mRNA expression, quantification and tissue localization of PrPC and COMMD-1 in each placenta were performed.

**Results:** Both PrPC and COMMD-1 expressions were found to be lower in older gestational age. Compared to preeclampsia and IUGR, COMMD-1 mRNA was lower expressed in mixt group (p=0.011, p=0.000). Taken considered into the onset of the disease COMMD-1 mRNA was lower expressed in early mixt group (p=0.000) than age matched healthy controls. COMMD-1 mRNA expression was lower in cases with placental insufficiency complicated by preeclampsia. In addition COMMD-1 mRNA expression was found significantly higher in late onset IUGR (p=0.026). However, taken considered into onset of diseases, PrPC mRNA expression was found significantly higher in late onset mixt group (p=0.021).

**Conclusions:** Expression of COMMD-1 in placenta might be related to placental insufficiency complicated preeclampsia. The increased expression of PrPC in preeclamptic placenta seems to be a compensatory phenomenon for IUGR rather than related condition to preeclampsia. Copper hemostasis seems to be important pathogenesis in placental insufficiency.

**FCS46.5**

**VALUATION OF IRON REPOSITORY OF PREGNANT WOMEN WITH THE CARDIAC FAILURE ON THE BACK OF CONGENITAL HEART DISEASES**

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**Objectives:** To define the condition of the iron repository of pregnant women with congenital heart diseases and cardiac failure versus class of heart failure at NYHA and concentration of NT-proBNP.

**Method:** In the process of pregnancy 48 pregnant women with cardiac failure on the back of congenital cardiovascular pathology of class NYHA II-III were examined, main group, the control group includes 24 healthy women without cardiac pathology. Besides common clinical tests the in-depth study of iron metabolism (ferritin) and marker index of heart failure of NT-proBNP were conducted.

**Results:** Indexes of iron metabolism shows its deficit of 87.5% of women in the main group. Ferritin indexes in the main group compose (14.6±0.9) μg/l in versus control group (24.8±1.2) μg/l (p<0.05).

In the main group there was higher level of iron deficit by class of heart failure NYHA III (13.2±0.8) μg/l in comparison with group NYHA II (17.2±0.9) μg/l (p<0.05).

Higher index of concentration of NT-proBNP – the lower concentration of ferritin in serosity (18.1±0.9) μg/l by the concentration of NT-proBNP <130 pg/ml versus (12.8±0.9) μg/l by the concentration of NT-proBNP more than 130 pg/ml.

**Conclusions:** Thus, the higher class of heart failure confirmed by markers of heart failure of pregnant women with heart failure on the back of congenital heart diseases – the greater deficit of iron repository is observed in such patients. Iron deficit demands correction to prevent hypoxia aggravation which is baseline by heart failure on the back of congenital heart diseases. Timely correction of iron deficit helps to better the perinatal results and lower maternal disease.

**FCS46.6**

**PRE-ECLAMPSIA. CAN WE PREDICT OR PREVENT IT? LITERATURE REVIEW**

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**Objectives:** Pre-eclampsia is a hypertensive disorder of pregnancy which is associated with raised BP (BP>140/90mmHg) accompanied by proteinuria after 20 weeks. Pre-eclampsia is one of 3 leading factors associated with direct maternal deaths between 2003–2005 (CEMACHE Report) and is also one of the leading mortality causes in pregnant women in developing countries. The mortality rate of pre-eclampsia in developing countries, e.g. Ethiopia is 20–40%. In the last decade, we found out that, pre-eclampsia has two stages: a) the impaired placentation, b) clinical symptoms. Abnormal placentation initiates weeks before symptoms are apparent.

**Method:** We reviewed the literature regarding prediction and prevention of pre-eclampsia by using the Cochrane Library and NHS Athens. We typed the words, prediction of pre-eclampsia and prevention of pre-eclampsia. We used the most recent data; from 2010 and onwards.

For the prediction of the disease we reviewed 5 studies; 4 were multicentered studies and 1 was case control study.

For the prevention, we reviewed 2 Cochrane studies regarding aspirin use and 2 regarding Vitamin D and E supplementation, 2 multicentered studies for Vitamin D and E supplementation and 1 experimental study regarding the use of Parvastatin in prevention of pre-eclampsia.

**Results:** In Albaiges et al study, the sensitivity to predict pre-eclampsia for women not required delivery was 45%, whereas for
those who required delivery in future before 34 weeks was 90%, by testing for VEGF, PI GF and sFlt-1 factor. Papageorgiou et al study, identified that, the positive prediction rate of pre-eclampsia was 40% band 80% by using Doppler ultrasound of uterine doppler in the second semester, pre-eclampsia and severe pre-eclampsia, respectively. Vitamin supplementation to prevent pre-eclampsia is not supported by meta-analysis. Low dose aspirin before 16 weeks might be beneficial in low-risk women. 4 experimental studies support the use of pravastatin.

**Conclusions:** Pre-eclampsia is possible to be predicted by testing VEGF, PI GF and sFlt-1 factor via immunohistochemistry. Doppler ultrasound of the umbilical artery, either by checking the PI or the presence of bilateral notch, is a helpful tool to predict pre-eclampsia. Prediction of pre-eclampsia is associated with closer surveillance and earlier diagnosis of pre-eclampsia which will lead to earlier treatment. There are multicentral studies which support the benefit of vitamin supplementation in the prevention of pre-eclampsia, but unfortunately meta-analysis doesn’t support due to insufficient strong evidence. Parvastatin is very promising drug to prevent pre-eclampsia, but we need studies in humans.

**FCS46.7**

**EXPRESSION OF HYPOXIA INDUCIBLE FACTOR-1α AND ITS EFFECTORS IN A RAT MODEL OF INTRAHEPATIC CHOLESTASIS OF PREGNANCY**

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**Objectives:** Intrahepatic cholestasis of pregnancy (ICP) is a pregnancy-specific liver disorder resulting in prematurity, fetal distress and perinatal death. Whether the normal hypoxic stress response, which is mediated by hypoxia inducible factor-1α (HIF-1α), a crucial mediator of stress response to pathological hypoxia in placenta, also operates in ICP is unclear.

**Method:** Rats were administered with ethinylestradiol (EE) to induce cholestasis and then subjected to feto-placental ischemia reperfusion (IR); as controls, one group of rats received neither EE nor IR, another group received only EE, and another received only IR. Real-time PCR, immunohistochemistry and Western blotting were used to detect the expression of the following proteins and/or mRNA in placentas: HIF-1α, regulated in development and DNA damage response-1 (REDD1), mammalian target of rapamycin (mTOR), glucose transporter-1 (GLUT1), phosphoglycerate kinase-1 (PGK1) and lactic dehydrogenase A (LDHA).

**Results:** HIF-1α, REDD1, GLUT1 and PGK1 staining was observed in the cytoplasm of trophoblasts in all four animal groups. Giving rats either EE or subjecting them to IR increased placental levels of HIF-1α, REDD1, GLUT1 and PGK1 and decreased placental levels of mTOR and LDHA. Subjecting EE-treated rats to IR did not alter placental expression of REDD1 or mTOR, while it did increase expression of placental HIF-1α, GLUT1 and PGK1 and decrease expression of LDHA. In contrast to these changes in protein levels, mRNA levels did not differ significantly among the four rat groups for any of the proteins analyzed.

**Conclusions:** Hypoxia-induced placental expression of REDD1 and mTOR is dysregulated in the utero-placental-fetal unit in pregnant rats with EE-induced cholestasis. This results in an impaired HIF-1α-mediated hypoxia response, which may help explain the fetal distress observed in human ICP.
in control group. NICU admission are also doubled (27.5%) in study than control group (12.5%). Tables will be shown.

**Conclusions:** The more number of repeat cesarean section, the more are the maternal & neonatal morbidities and hence burden on the budget of countries (more so in less previleged ones. Young training physicians should be alerted to that dangers expa-
lined. In turn patients should be fully counselled about risks and bi-
lateral tubal ligation strongly stressed after 3rd or 4th CS. Lectures and patient brochures should be widely spread.

**FCS47.2**

**THE DILEMMA OF SCREENING FOR GESTATIONAL DIABETES: WITH AN ATTEMPT TO REACH AN IDEAL VALUE**

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**Objectives:** To decide on the best blood levels to use for diagnosis of gestational diabetes (GDM) using modified glucose tolerance test (TT) with 75 gm load of glucose, after comparing the outcome of 3 different blood sugar level in 3 different years and correlation to ma-
ternal & fetal outcome, taking in account the cost effectiveness and accessibility to patients.

**Method:** Retrospective study. 3 different values at different years. Group 1 (1993–1994); Group 2 (1996–1997), Group 3 (2003–2004) 75 g of glucose load used (FBS) >5.8 mmol/L for all. 2hours post pran-
dial: Group 1 > 8.3 mmol/L, Group 2 > 9.5 mmol/L, & Group 3 > 7.8 mmol/L on selective screening (1&2) & universal screening Gp3. Comparison and analysis of maternal, fetal outcome and complica-
tion done.

One way ANOVA test used.

**Results:** The number of diagnosed GDM: Group 1 (May 1993–June 1994) 383 cases of 6411 (21.2%), Group 2 (996–1997) 604 of 6501 (33.6%) Group 3 (2003–2004) 917 of 6282 (51.0%) Total diagnosed was 1904 out of 17,975 (19,194 deliveries). There was statistical sig-
nificance in abortion, gestational age & induction of delivery, ma-
ternal complications and shoulder dystocia, and insulin use (less in Group 3).

Same fetal outcome except for length and diagnosis of congenital ab-
normalities. Cost was calculated.

**Conclusions:**
- Universal screening is superior to selective (10% of cases can be missed).
- One stop clinic adviser access, care and encouragement
- Planning delivery around 38 weeks or 39–40 weeks help reduce complications. Postpartum family planning & 6 weeks post par-
tum modified GTT is vital.
- Advice on exercise & diet is imperative.
- BMI >27.3+5 lead to 2× risk of GDM
- Continuous update of values of screening.

**FCS47.3**

**TEENAGE VERSUS ADULT PREGNANCY: MATERNAL AND NEONATAL OUTCOMES**

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**Objectives:** Teenage pregnancy, a social problem distributed world-
wide, has serious implications on maternal and child health, espe-
cially in the context of developing countries. This is of serious con-
cern because maternal age plays a significant role in adverse outcome and complications of pregnancy. The aim of this study was to com-
pare pregnancy outcomes among teenagers in comparison with adult women groups.

**Method:** This is a retrospective study was conducted in 2049 preg-
nant women who attended to Peymanieh Hospital, Jahrom, Iran for delivery. The outcomes: maternal hemoglobin at delivery, IUGR,

birth weight, hypertension, gestational diabetes were collected via hospital documentation and compared between teenage and adult women. The data were analyzed by SPSS software program and the significance level was based at P < 0.05.

**Results:** Among 2049 pregnant women of this study, 154 cases were under the age of 19 years old. Frequency of adolescent pregnancy was 7.6%. The mean age was 18.22±0.97 year’s old.196 cases were above the age of 35 years. Their mean age was 37.07±2.01 years old. The incidence of anemia (p=000), low birth weight (RR= 11.57, CI=1.50–
89.26, P=0.02), IUGR (RR=0.08, CI=0.008–0.87, P=0.018) hypertension (p=0.06), gestational diabet (p=0.04), was significantly higher in the women in the adult group than in the women in the teenager group.

**Conclusions:** Pregnancy at the ages above 35 was accompanied by a higher percentage of maternal and fetal complications compared to teenage pregnancy. Identification and diagnosis of high-risk preg-
nancy can be considered as the first step toward preventing the threats to the mother’s health.

**FCS47.4**

**HOW CAN WE IMPROVE TRAINING AND SERVICE PROVISION IN STILLBIRTH CARE? A META-SUMMARY OF RESEARCH IN STILLBIRTH BEREAVEMENT CARE**

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**Objectives:** This is a systematic review and meta-analysis of studies researching parents and staff experiences of bereavement care after stillbirth in high-income westernised countries.

The project has been designed by an interdisciplinary team to inform research, training and improve care for parents who experience late intrauterine fetal death (≥24 weeks gestation).

Focus was given to areas considered to be important in national guid-
ance by the RCOG and Sands but for which there is scarcity of specific evidence to guide practice. This included but was not limited to; di-
agnosis, birth, post-mortem and the follow-up consultation.

**Method:** Relevant databases and conference abstracts were searched, using SPIDER framework, up to March 2014 for studies researching parents and staff experiences of bereavement care (≥24 weeks gestation) in high-income westernised countries (Europe, North America, Australasia). We excluded studies unavailable in English, only researching the wider family, or only including parents with lethal fetal diagnosis or neonatal death but not stillbirth.

Meta-analysis and quantitative aggregation (meta-summary) was used to extract findings and calculate frequency effect sizes for each theme.

54 studies were eligible. Themes were grouped by area of care; diag-
nosis, birth, post-mortem, follow-up; or labelled as overarching.

**Results:** Main themes (frequency effect size) were:
- Overarching: Staff behaviours’ memorable impact (49%); Informa-
tion at appropriate times (42%); Privacy not abandonment (28%); Re-
search and training (23%); Public awareness (19%); Fathers have dif-
ferent needs (16%); Continuity of care (14%); Care after stillbirth pri-
oritised not neglected (5%).
- Diagnosis: Give options & time (19%); Expect reactions (16%); Discuss concerns (12%).
- Birth: Support memory making (51%); Help prepare for birth (21%); Optimise pain relief (7%).
- Post-Mortem: Tailored discussions (19%); Factors influencing deci-
sions (19%); Regret (9%); Distress (5%).
- Follow-up: Supportive systems & structures (49%); Post-natal infor-
mation (28%); Debriefing (26%); Support groups (9%); Clear care path-
ways (5%).

**Conclusions:** Many interesting, and often surprising, findings about parents and healthcare workers experiences were revealed. We
present a summary of the findings, looking at interesting points in more depth. For example, behaviours and actions have a memorable impact on parents. Parents reported distress being caused by midwives hiding behind “doing” and ritualising guidelines. Staff described emotional, knowledge and system-based barriers to providing effective care. Staff described the same actions, distancing themselves from parents and focusing on tasks, as dysfunctional coping strategies. We discuss the implications for training, provision of care and future research.

**FCS47.5**

**HETEROOTRPHIC PREGNANCY IN A SPONTANEOUS CYCLE – A CASE REPORT**

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**Objectives:** To always keep in mind that ectopic pregnancy can be an occurrence within Intrauterine pregnancy when patient comes in pain even if Beta-HCG is doubling.

**Method:** Heterotrophic pregnancy is a rare condition, occurs 1:30,000 pregnancies. We had a heterotrophic pregnancy diagnosed very early, in pregnancy, at 5 weeks gestation, treated successfully by Laparotomy salpingectomy, ectopic pregnancy was confirmed by Histopathology.

**Results:** Histopathology proved that there are chorionic villi and ectopic pregnancy was confirmed.

**Conclusions:** The possibility of heterotrophic pregnancy is more likely in women undergoing assisted conception and in populations very early, in pregnancy, at 5 weeks gestation, treated successfully by Laparotomy salpingectomy, ectopic pregnancy was confirmed by Histopathology.

**FCS47.6**

**PREGNANCY AFTER PREVIOUS STILLBIRTH**

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**Objectives:** Stillbirth in Ireland is defined as a child born weighing >500 g or having a gestation of 24 weeks or more who shows no signs of life. This is a devastating outcome for expectant parents. The subsequent pregnancy can be one of anxiety and fear. These women are now considered “high-risk” for future pregnancy complications, and their pregnancy should be managed accordingly to minimise the chances of another adverse pregnancy outcome. The aim of this study was to review the management and outcomes of the subsequent pregnancy in a cohort of women who had a stillbirth between 2007 and 2013.

**Method:** This was a retrospective cohort study. All women who had a stillbirth in one large tertiary-referral institution between 2007 and 2013 were identified (n=260). From this group, 142 women were identified to have had a subsequent pregnancy since the stillbirth. Data were obtained from hospital and birth registers, and supplemented by detailed individual medical case-notes review.

**Results:** One hundred and forty-two women attended with a subsequent pregnancy. Their mean age was 32 years (range 20–44). Twenty-five women suffered a miscarriage, of which only 9 were first trimester, and 117 women continued their pregnancy past 24 weeks. One woman suffered a repeat stillbirth (OR 1.6337; p=0.6). The stillbirth cohort attended on average 11 antenatal clinic visits compared to an average of 5 clinic visits (p<0.05) in the usual population. Sixteen pregnancies resulted in preterm deliveries (OR 2.6873; p<0.05) and 2.5% (n=3) resulted in a placental abruption (p<0.05). Caesarean section rate was 35% and 120 infants were liveborn with average birth weight 3173 (range 760–5060 g).

**Conclusions:** In this study women who have suffered a previous stillbirth did not have statistically significant increase of recurrent stillbirth in a subsequent pregnancy. However, these women attended hospital earlier and more frequently than their more low-risk counterparts, and received more intense antenatal surveillance for complications of pregnancy, with increased rates of medical intervention. While increased monitoring has implications for delivery of service and resources, these pregnancies were still characterised by an increased risk of adverse perinatal outcomes.

**FCS47.7**

**MATERNAL AND NEONATAL OUTCOMES WITH MONOCHORIONIC AND DICHORIONIC TWIN PREGNANCIES AT ABERDEEN MATERNITY HOSPITAL 2010–2012**

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**Objectives:** To assess and compare neonatal and maternal outcomes in MC and DC twin pregnancies over a 3 year period at Aberdeen Maternity Hospital (AMH), and then to compare these outcomes with the wider literature.

**Method:** Retrospective data was collected from the medical notes of 232 consecutive twin pregnancies who delivered at AMH between January 2010 and December 2012, and entered onto an SPSS database. Maternal demographics included age, parity, assisted reproduction (ART) and BMI and obstetric outcomes included pre-eclampsia, antepartum and post partum haemorrhage, Neonatal outcomes included gestation, mode of delivery, birth weight, neonatal unit (NNU) admission and any twin-twin transfusion syndrome (TTTS) in MC twins. Statistically significant difference in the outcomes was set at <0.05 p-value.

**Results:** The ratio of MC to DC twins was 1:4. 19% of DC twins were secondary to ART. There were more still births (MC 3.3%, DC 0.8%, p<0.001) and low birth weight babies (MC 69% and DC 52%, p<0.001) in the MC group, statistically not significant. Preterm delivery of <37 weeks (MC 96%, DC 89%, p<0.01) and <32 weeks (MC 17%, DC 11%), and NNU admission (MC 64%, DC 41%, p<0.001) were significantly higher in MC twins. Seven MC twins were diagnosed with TTTS. In MC twins 50% had elective and 14% emergency CS, and in DC 48% and 16% respectively.

**Conclusions:** MC twins had more adverse perinatal outcomes as compared to DC twins. The outcomes which correlated with larger studies were gestation at delivery, aspects of gestation with cervical length, status at birth, birth weight, gestation related birth weight, apgar scores and NNU admission rates, while TTTS was seen less frequently. There were numerous limitations to this study which meant certain outcomes could not be evaluated for every pregnancy.

**FCS47.8**

**THE USEFULNESS OF MATERNAL SERUM C-REACTIVE PROTEIN, LIPID PEROXIDE LEVELS, AND OXYGEN RADICAL ABSORBANCE CAPACITY IN PREDICTION OF INTERVAL BETWEEN MEMBRANE RUPTURE AND DELIVERY IN PRETERM PREMATURE RUPTURE OF MEMBRANES**

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**Objectives:** The aim of this prospective study was to evaluate the usefulness of maternal serum C-reactive protein (CRP), lipid peroxide, oxygen radical absorbance capacity (ORAC) and other variables in predicting the interval between membrane rupture and delivery in patients with preterm premature rupture of membrane (PPROM).

**Method:** Seventy two patients (gestational age <34 weeks) with PPROM and delivered by spontaneous vaginal delivery were analyzed. Patients were categorized into two groups; delivery within 3 days (group A) and after 3 days (group B) since PPROM. Maternal
blood samples were collected at the time of admission. The levels of CRP, lipid peroxide, ORAC and protein carbonyl have been compared between group A and B. Other possible risk factors such as WBC count, amniotic fluid index (AFI), bishop score, and cervix length on admission were also compared.

**Results:** Maternal serum CRP, lipid peroxide and ORAC levels were higher in group A compared with group B (p<0.05, p<0.005 respectively). Bishop score was higher in group A compared with group B (p<0.05). There were no statistically significant differences in AFI and cervix length between two groups. ROC curve analysis showed that CRP (cutoff value; 0.415 mg/L, area under the curve=0.673, p<0.01), lipid peroxide (cutoff value; 2.085 nmol/mg protein, area under the curve=0.795, p<0.001) and ORAC (cutoff value; 173.71 μM/L, area under the curve=0.8, p=0.0001) level on admission are predictive of delivery within 3 days after PPROM.

**Conclusions:** CRP, lipid peroxide and ORAC levels in maternal serum, and bishop score on admission may be useful to predict the interval between membrane rupture and delivery in patients with PPROM.

**FCS48. High Risk Pregnancy**

**FCS48.1 A COMPARATIVE STUDY BETWEEN THREE DIMENSIONAL ULTRASONOGRAPHY, COLOR DOPPLER AND MAGNETIC RESONANCE IMAGING IN THE PRENATAL DIAGNOSIS OF PLACENTA ACRETA**

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**Objectives:** The 1ry aim of this study was to compare the accuracy of three dimensional (3D) transabdominal ultrasonography, color Doppler and magnetic resonance imaging (MRI) in prenatal diagnosis of placenta accreta.

**Method:** This prospective study included 150 patients with suspected placenta accreta antenatally either by history (previous uterine surgery) or persistent low placental position after 28 weeks identified with two dimensional ultrasound among those attending the antenatal clinic at Minia Maternity university Hospital in the period between July 2012 and January 2014. 3D ultrasound, color Doppler and (MRI) were done for all patients. Patients were followed up until delivery. The presence of placenta accreta was confirmed clinically at time of delivery and by histological examination of the placentae. The diagnostic accuracy these modalities was measured and compared with the final diagnosis.

**Results:** The diagnosis of placenta accreta was confirmed clinically and histologically in 110 patients (73.3%).3D ultrasoundography identified 101 cases (87.3% sensitivity, 95.8% specificity, 81% PPV, 92.6% NNP, 92.3% diagnostic accuracy). Color doppler identified 95 cases ((84.9% sensitivity, 95.2% specificity, 79.6% PPV, 80.6% NNP, 85.8% diagnostic accuracy). MRI identified 97 cases ((84.2% sensitivity, 91.9% specificity, 77.5% PPV, 85.2% NNP, 87.2% diagnostic accuracy). Multiple regression analysis demonstrated that prior uterine surgery (OR=1.25, CI: 0.31–1.22) and placenta previa (OR=3.41, CI: 1.59–6.43) were the most specific risk factors for placenta accreta (P<0.01).

**Conclusions:** High index of clinical suspicion is required for diagnosis of placenta accreta (prior uterine surgery and coexisting anterior lying placenta praevia). 3D ultrasonography, color doppler and MRI have good sensitivity and specificity for prenatal diagnosis of placenta accreta. 3D ultrasonography, color doppler are more simple, cheaper and easier to do as compared with MRI. However, in case of inconclusive results, MRI may be useful to clarify the diagnosis.

**FCS48.2 ANTENATAL BODY MASS INDEX (BMI) AND WEIGHT GAIN IN PREGNANCY – ITS ASSOCIATION WITH OBESITY-RELATED COMPLICATIONS**

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**Objectives:** Overweight and obesity is a serious health risk in the developed and developing nations nowadays. It is a common finding among women in their reproductive age. Half of the patients entering their pregnancy in the United States have a BMI of more then 25.0 and are therefore overweight or obese. Moreover, there is a tendency towards more weight gain in pregnancy. Studies have shown that gestational overweight is associated with complications in pregnancy and birthing as well as short-time and long-time impact on neonatal outcome in childhood and adulthood.

**Method:** 591 women visiting our tertiary perinatal center in 2014 were analyzed in antenatal BMI, gestational weight gain, as well as pregnancy outcome and complication together with neonatal weight and outcome. Pregnancy weight gain was assessed based on the IOM guidelines issued in 2009.

**Results:** 29% of our population was overweight (BMI ≥25.0). General weight gain was similar in every BMI group (from 12.0 to 14.0kg). 59% displayed a gestational weight gain outside the recommendations. More then one third gained more then the appropriate amount (37%, p<0.001). Those patients were at risk of labor induction (55.0% vs. 45.7% labor induction in total, p=0.007) and exhibited significantly higher rates of secondary cesarean section (22.4% vs. 15.4%) and decreased chances of spontaneous vaginal birth (57.5% vs. 61.4%) (p=0.008). Furthermore, these women were shown to give birth to neonates with a higher birthweight (>75.centile, 28.3% vs. 21.3%, p<0.001).

**Conclusions:** Altogether, one third of the analyzed population is already overweight or obese when entering their pregnancy. A higher gestational weight gain then the recommended amount was found in 37% of cases. We found an association with pregnancy and birthing complications as well as higher infant weight. This highlights the importance of preconception and prenatal advice, and if necessary, intervention on BMI and weight gain.

**FCS48.3 ENDOTHELIAL NO SYNTHASE GENOTYPE AND RISK OF PREECLAMPSIA IN UZBEK POPULATION**

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**Objectives:** To assess the association between two most commonly investigated NOS3 polymorphisms (rs2070744 and rs1799983) and preeclampsia on a homogeneous population of Uzbeks.

**Method:** A total of 77 cases with preeclampsia and 29 female controls were recruited. The ISSHP definition of preeclampsia was used to identify women with new onset hypertension and proteinuria. Controls, matched for parity, had no history of hypertension in pregnancy. Genomic DNA was extracted from whole blood using standard salt-ethanol method. Genotyping of NOS3 polymorphisms (rs2070744 and rs1799983) were performed by amplification from 20 to 100 ng of genomic DNA on PyroMark Q24 using PyroMark Gold Q24 Reagents and “Amplisense Pyroscreen” VEGA/NOS3-screen reagents and qPCR.

**Results:** Totally 77 cases and 29 controls were analyzed. For the control group, genotype frequencies were as predicted by Hardy-Weinberg equilibrium (HWE) for T786C, but not for G894T. Single locus analysis of T786C polymorphism revealed lack of associ-
atation, while G-allele of G894T showed significant association with preeclampsia, therefore it could be considered as a risk allele in comparison with T-allele. Genotype distribution of the G894T polymorphism differed significantly among preeclamptic and normotensive women. In analysis under a recessive model of inheritance, women homozygous for the G allele were more likely to develop preeclampsia compared with carriers for the T allele.

Conclusions: Our study suggests that Uzbek women homozygous for the G allele of G894T polymorphism are at increased risk of developing preeclampsia, but very large studies or meta-analysis will be required to confirm these findings and refine estimates of the effect size.

**FCS48.4**

**CONTRIBUTION OF PREPREGNANCY BODY MASS INDEX AND GESTATIONAL WEIGHT GAIN TO ADVERSE NEONATAL OUTCOMES: POPULATION ATTRIBUTABLE FRACTIONS FOR CANADA**

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Objectives: Low or high prepregnancy body mass index (BMI) and inadequate or excess gestational weight gain (GWG) are associated with adverse neonatal outcomes. This study estimates the contribution of these risk factors to preterm births (PTBs), small-for-gestational age (SGA) and large-for-gestational age (LGA) births in Canada compared to the contribution of prenatal smoking, a recognized perinatal risk factor.

Method: We analyzed data from the Canadian Maternity Experiences Survey. A sample of 5,930 women who had a singleton live birth in 2005–2006 was weighted to a nationally representative population of 71,200 women. From adjusted odds ratios, we calculated population attributable fractions to estimate the contribution of BMI, GWG and prenatal smoking to PTB, SGA and LGA infants overall and across four obstetric groups.

Results: Overall, 6% of women were underweight (<18.5 kg/m²) and 34.4% were overweight or obese (≥25.0 kg/m²). More than half (59.4%) gained above the recommended weight for their BMI, 18.6% gained less than the recommended weight and 10.4% smoked prenantly. Excess GWG contributed more to adverse outcomes than BMI, contributing to 18.2% of PTB and 15.9% of LGA. Although the distribution of BMI and GWG was similar across obstetric groups, their impact was greater among primigravidas and multigravidas without a previous PTB or pregnancy loss. The contributions of BMI and GWG to PTB and SGA exceeded that of prenatal smoking.

Conclusions: Maternal weight, and GWG in particular, contributes significantly to the occurrence of adverse neonatal outcomes in Canada. Indeed, this contribution exceeds that of prenatal smoking for PTB and SGA, highlighting its public health importance.

**FCS48.5**

**INTRAHEPATIC CHOLESTASIS OF PREGNANCY AND CANCER, IMMUNE-MEDIATED AND CARDIOVASCULAR DISEASES: A POPULATION-BASED COHORT STUDY**

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Objectives: Intrahepatic cholestasis of pregnancy (ICP) is the most common liver disease in pregnancy. It is associated with hepatobiliary diseases that might predispose to cancer and also with gestational diabetes and preeclampsia. In this study, we examined associations between ICP and cancer, and immune-mediated and cardiovascular diseases.

Method: By linking the Swedish Medical Birth Register and the Swedish Patient Register, we identified 11,388 women with ICP and 113,893 matched women without ICP who gave birth between 1973 and 2009. Diagnoses of cancer and immune-mediated and cardiovascular diseases both before and after delivery were obtained from the Patient Register. The main outcome measures were hazard ratios (HRs), calculated through Cox regression, for the indicated diseases after delivery.

Results: ICP was not associated with later overall cancer (HR 1.07, 95% CI: 0.94–1.21), but specifically with later liver and biliary tree cancer (HR 3.61, 95% CI: 1.68–7.77, and 2.62, 95% CI: 1.26–5.46). Later liver-immune-mediated diseases were more common (HR 1.28, 95% CI: 1.19–1.38), specifically diabetes (HR 1.47, 95% CI: 1.26–1.72), thyroid disease (HR 1.30, 95% CI: 1.14–1.47), psoriasis (HR 1.27, 95% CI: 1.07–1.51), inflammatory polyarthopathies (HR 1.32, 95% CI: 1.11–1.58) Crohn’s disease (HR 1.55, 95% CI: 1.14–2.10) except ulcerative colitis (HR 1.21, 95% CI: 0.93–1.58). ICP women had a small increased risk of later cardiovascular disease (HR 1.12, 95% CI: 1.06–1.19).

Conclusions: This population-based study in women with ICP found increased risks of later hepatobiliary cancer, thus we strongly recommend a follow-up of liver function tests 6–12 weeks after delivery in all women with ICP, with and without persisting pruritus, and if liver enzymes are elevated, further evaluation by a hepatologist. It also showed an increased risk of immune-mediated diseases and a small increased risk of later cardiovascular disease. Cardiovascular disease was particularly prevalent in women with ICP and concomitant preeclampsia, for these women we recommend an annual control of blood pressure.

**FCS48.6**

**FETAL ECHO-CARDIOGRAPHIC CHANGES IN PREGNANCIES COMPPLICATED BY DIABETES MELLITUS**

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Objectives: The study aims to evaluate the performance of Fetal left myocardial performance index (MPI) (Tie Index) in pregnancies complicated by diabetes mellitus and its relation to perinatal outcome.

Method: The study included 54 pregnant women with gestational diabetes mellitus, 20 patients whose diabetes was controlled by diet, 34 patients whose diabetes was controlled by insulin. The control group included 65 healthy pregnant women in the same gestational age. All fetuses were examined by using the left myocardial perfor-
mance index (MPI) to evaluate the function of the left ventricle. The perinatal outcome measures used were: Birth weight, 5-minute apgar score, meconium staining of amniotic fluid, cord arterial ph-value, admission to NICU and perinatal death.

Results: The mean left fetal MPI was found to be significantly higher among diabetic pregnancies with large for gestational age (LGA) and polyhydramnios compared to diabetic patients whose fetuses with average for gestational age and normal amniotic fluid. Also pregnant diabetic women with Abnormal high MPI (> 0.59) have worse perinatal outcome as regards low 5-minute apgar score, NICU admission, cesarean section for intrapartum fetal distress, need for neonatal resuscitation compared to the control group. While no difference was found in the incidence of meconium staining of amniotic fluid or mean duration of NICU stay.

Conclusions: The fetal myocardial performance index exhibited some degree of deterioration among diabetic women that require insulin for control especially in the presence of fetal macrosomia and polyhydramnios. Abnormally high MPI in diabetic women was associated with poor perinatal outcome as regards low 5-minute apgar score, intrapartum fetal distress and NICU admission.

FC548.7
ROLE OF POSTPARTUM CURETTAGE IN RECOVERY OF SEVERE PREECLAMPSIA AND ECLAMPSIA PATIENTS – A RANDOMISED CONTROLLED TRIAL

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Objectives: 1. To record mean arterial pressure (MAP) and urine output 4th hourly in postpartum curettage (P) and control (C) groups of preeclampsia and eclampsia patients. 2. To estimate the platelet count 12th hourly in the above two groups. 3. To perform renal and liver function tests 24 hourly in the above two groups. 4. To record the duration of hospital stay of the patient. 5. Thereby, to evaluate the role of postpartum curettage in recovery of severe preeclampsia and eclampsia patients.

Method: This was randomized controlled trial, done at tertiary care hospital, Bagalkot, India. After institutional ethics committee clearance and informed consent from subjects, women >28 weeks of gestation with severe preeclampsia and eclampsia were included. They were allocated into P or C group by block randomization technique (50 in each). Postpartum curettage of placental site was done in P group by ultrasound guidance (vaginal delivery); or direct observation (cesarean section). Both groups were monitored by recording blood pressure, urine output, platelet count, renal and liver function tests, and hospital stay duration. Data was analysed by Student’s t test (OpenEpi software).

Results: The difference in mean arterial pressure and urine output of P and C groups were not statistically significant on admission but were statistically significant from the 4th hour postpartum onwards (MAP (mm of Hg): 116±4.4 and 123.6±6.1 (p<0.001); Urine output (ml): 256±125.92 and 206±116.25 (p<0.04), at 4 hours). Difference in mean arterial pressure and urine output was found in the incidence of meconium staining of amniotic fluid or mean duration of NICU stay.

Conclusions: Immediate postpartum curettage significantly influences the recovery in severe pre eclampsia and eclampsia patients with no adverse sequelae, reducing the stay of the patient in the hospital and decreasing the rate of complications in them thereby reducing the maternal morbidity and mortality rate. This can prove as one simple method which can be employed to achieve early wellbeing of the hypertensive pregnant patients, especially in countries where poor health care facilities and financial constraints exist.

FC548.8
ANTICOAGULANT THERAPY DURING PREGNANCY IN WOMEN WITH MECHANICAL HEART VALVES

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Objectives: Mechanical heart valves induce risks for both mother and fetus. The aim of present study was to investigate feto-maternal outcomes in women with mechanical heart valve according to type of anticoagulant therapy.

Method: In this prospective study, 46 pregnant women with mechanical heart valves who referred to the Maternal Cardiology Service at Shahied Rajaie Heart Hospital were studied between 2010 and 2014. A questionnaire including clinical history and physical exam were completed and a baseline echocardiography was done. According to Anticoagulation regime during pregnancy, women were categorized as: low dose warfarin (less equal to 5 mg; N=27; group 1); high dose warfarin (more than 5 mg; N=16; group 2) and Unfractionated heparin in first trimester continued with warfarin in second and third trimester (N=3; group 3).

Results: Twenty - two patients underwent mitral valve replacement, 13 aortic valve replacement, 7 mitral and aortic valves, 3 pulmonary valve replacements and one bentall procedure. In group 1, 18 patients had C/S and 9 patients underwent abortion. There were no feto-maternal complications except one having nasal bone deformity. In group 2, one woman had NVD, 7 underwent C/S while 7 experienced abortion. One woman underwent legal termination due to fetal abnormalities at 26 weeks. Valve thrombosis occurred in 1 woman. Fetal complications found in 4 newborns. In group 3, there was one maternal valve thrombosis and no fetal complication.

Conclusions: The women treated with low dose warfarin have fewer complications in comparison to high dose group or Heparin therapy group. Embryopathy is observed more in women who took high dose warfarin.

FC548.9
BLEEDING AFTER CHILDBIRTH: CAN A BLEEDING HISTORY QUESTIONNAIRE HELP IDENTIFY WOMEN AT RISK OF EXCESS BLOOD LOSS POSTPARTUM?

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Objectives: Women with inherited bleeding disorders, such as von Willebrand disease (vWD), are at increased risk for developing post-partum hemorrhage (PPH). We aimed to ascertain whether a validated bleeding history questionnaire and scoring instrument, shown to aid in the diagnosis of vWD and other bleeding disorders, could be used as a simple means to assess the likelihood of experiencing excessive bleeding after childbirth.

Method: A prospective trial conducted in two hospitals in Vietnam and Turkey enrolled women presenting for vaginal delivery. At admission, women were asked a series of questions about their bleeding histories using the “condensed MCMFDM-1 vWD questionnaire”, which included questions about prior bleeding symptoms, their frequency, duration, and treatment. Responses were scored per the standardized instrument and summed to obtain a total bleeding score for each participant (possible score range: −3 to 45). Bleeding scores were then compared between women with and without excessive postpartum bleeding (defined as ≥500 mL). Postpartum blood loss was objectively measured in this study (BRASSS-V drape).
Results: A total of 652 participants were enrolled. Blood loss ≥500 mL was measured in 13% (n=85); only 1% experienced severe PPH (≥1000 mL). Bleeding scores ranged from 2 to 5 with the majority of women scoring zero. There was no statistical difference between mean bleeding scores for women with postpartum bleeding ≥500 mL (mean = 0.12; sd 0.79) versus women with <500 mL (mean = 0.04; sd 0.85; p=0.378). Analysis of bleeding scores and other PPH outcomes (i.e. severe PPH ≥1000 mL, Hb fall, and recourse to additional interventions) did not yield any significant findings.

Conclusions: Bleeding history scores were low in this population, were not associated with blood loss ≥500 mL, and there were no elevated scores indicative of any bleeding problem. It is possible that the questionnaire was not sensitive enough to detect bleeding issues experienced by women in these settings (the instrument has only been validated in high-income, non-obstetric settings). Furthermore, bleeding scores may only be correlated with the most severe cases of hemorrhage which were infrequent in our study. It is unlikely that validated bleeding scores for specific bleeding disorders will be able to predict risk for PPH in a general population.

FCS49. High Risk Pregnancy

FCS49.1

POTENTIAL USE OF A SEMIQUANTITATIVE PREGNANCY TEST FOR FOLLOW-UP IN MEDICAL MANAGEMENT OF ECTOPIC PREGNANCY

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Objectives: To apply a theoretic model using a semiquantitative pregnancy test for women who underwent medical management of ectopic pregnancy.

Method: We performed a retrospective review of 94 women who underwent management of ectopic pregnancy with a single dose of methotrexate from 2006 to 2011 at the John H. Stroger, Jr., Hospital of Cook County. Available serum hBHC levels were recorded when and if women followed up after methotrexate treatment. hBHCs for women were categorized in accordance with levels the semi-quantitative test could differentiate; N10,000, 9999–2000, 1999–500, 499–100, 99–25 and b25 as thresholds for expected follow-up times. These data points were graphed over time to assess how the test might perform if it served as a replacement for serum level follow-up.

Results: Among the 94 women, 64 presented for day 7 hCG follow-up and 31 were followed until hCG dropped <25 mIU/mL. For the three women with hCG 25–99 mIU/mL, it took an average of 8.7 days for hCG to drop <25 mIU/mL. Thirty women had a 7-day hCG 100–499 mIU/mL. It took an average of 18.9 days for hCG to drop <25 mIU/mL. For the women with 5–14 days hCG 2000–9999 mIU/mL, it took an average of 21.9 days for hCG to drop <25 mIU/mL. Among the four women with hCG 2000–9999 mIU/mL, it took an average of 29.0 days for hCG to drop <25 mIU/mL.

Conclusions: Follow-up for BHCG levels for medical management of ectopic pregnancy can last for many months. Many women do not follow-up as recommended. The use of a home semiquantitative pregnancy test might have utility in ectopic pregnancy management as has been demonstrated for medical abortion. This may increase compliance and safety while decreasing patient inconvenience.

FCS49.2

WOMEN’S EXPERIENCE OF ECTOPIC PREGNANCY – A QUALITATIVE STUDY

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Objectives: Ectopic pregnancy is a potentially life threatening condition. Due to the specific nature of Ectopic pregnancy the grief experienced may well be overlooked compared to other pregnancy losses. Fertility concerns for the future and recovery from surgical or medical treatment may instead become the focus of care. The aim of this study was to gain insight into women’s experience of Ectopic pregnancy, focusing on the area of emotional recovery.

Method: Seven women who had experienced an Ectopic pregnancy in a large tertiary-level Irish maternity hospital partook in in-depth qualitative interviews. This sample was recruited purposively ensuring Ectopic pregnancies which were managed expectantly, medically and surgically were included. In this study an interpretative phenomenological analysis was utilised as it has an ideographic approach which allows us to gain insight into the women’s experiences of Ectopic pregnancy.

Results: Interviewing this sample concluded how devastating the experience of Ectopic pregnancy can be. Responses included shock, disbelief and confusion as a consequence to diagnosis. The importance of the scan to confirm diagnosis was evidence of the coping strategy adopted and self protection. Other key findings were the importance of clear information on treatments, the need for bereavement counselling and an appropriate method to complete the outpatient care as these issues enabled closure and recovery for these women. As no forum was made available to discuss future pregnancies, apprehension about their fertility escalated and women were reluctant to conceive again.

Conclusions: The findings of this study show that women had difficulty coming to terms with their diagnosis and its implication for treatment. This study found that the lack of follow up had a negative impact on their ability to recover from the Ectopic pregnancy and illustrated women’s reservations to embark on future pregnancies. The results of this study have implications for the care of women who experience Ectopic pregnancy particularly in relation to how they are managed from diagnosis to completion of treatment.

FCS49.3

DO HAPO BASED GLYCEMIC TARGETS CHANGE THE ABILITY OF AN ENLARGED FETAL ABDOMINAL CIRCUMFERENCE (AC) AT 28–34 WEEKS GESTATION TO PREDICT OBSTETRIC AND NEONATAL MORBIDITY IN GESTATIONAL DIABETES (GDM)?

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Objectives: In 2010, the University of Kansas adopted much stricter glycemic thresholds than currently used based on the HAPO study. This study looks at whether an enlarged abdominal circumference measurement at 28–34 weeks still predicts morbidity when all gestational diabetes patients are instructed to achieve glycemic targets of fasting <85 mg/dL and 2-hour postprandial <110 mg/dL.

Method: The charts of 54 patients diagnosed with GDM using the Carpenter-Coustan diagnostic criteria from 2012–2015 were reviewed. Data on abdominal circumference at 28–34 weeks, treatment methods, fetal and maternal outcomes were collected. Patients with an AC ≥70%, ≥80% and ≥90% were compared to those without AC elevation using risk ratios to assess predictive value for large for gestational age infants (LGA ≥90%), macrosomia (birth weight ≥4000 gms), cesarean delivery, and neonatal hypoglycemia (glucose <40 mg/dL). This was then compared to existing data on the ability of abdominal circumference to predict similar outcome measures.
**Results:** An enlarged AC was a significant risk factor for LGA and macrosomia at the 70th, 80th, 90th percentile, risk ratios 4.3–10.2. Only an AC ≥90 was significantly associated with neonatal hypoglycemia (RR 2.2, [1.02, 4.84]). An enlarged AC was not associated with cesarean delivery.

**Conclusions:** The enlarged AC predicts some but not all morbidity in GDM patients universally treated with very strict glycemic targets. An enlarged AC was strongly associated with LGA and macrosomia. However, an enlarged AC was only weakly associated with neonatal hypoglycemia, and not at all for cesarean delivery. The translational impact of an enlarged AC still requires refinement in a practice where all patients are aiming for very strict glycemic targets.

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**FCS49.4**

**ASSESSMENT OF THERAPEUTIC POSITION TO IMPROVE RENAL VENOUS HEMODYNAMICS IN PREECLAMPSIA**

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**Objectives:** The left renal vein is vulnerable to mechanical compression in pregnant women. In women with inadequate ipsilateral collaterals, mechanical compression impedes efferent renal blood flow and increases intra-renal pressure. This increased pressure, which has been shown to acutely increase renin but chronically causes ischemia (endothelin upregulation) and endothelin release, may play an integral role in the pathophysiology of preeclampsia. The objective of this study is to determine whether a therapeutic prone position intended to optimize renal venous flow is associated with reduced intra-renal pressure, reduced renal ischemia, normalization of vasoactive compounds, and reduction in blood pressure.

**Method:** A prospective, randomized, cross-over controlled feasibility trial will test our hypothesis. Thirty women with late-term pregnancy associated hypertension will be enrolled. The intervention involves rest in a therapeutic (prone) position for 2 hours three times a day for 4 days using a custom support surface. Longitudinal assessments will include blood pressure, serum markers of renal injury (e.g., endoglin), and measures of vasoactive compounds affected by intra-renal pressure (renin, aldosterone, endothelin, and metanephrine). Renal Doppler assessment of arterial and venous flow will assess the affect of an acute change in position on renal perfusion.

**Results:** Interim data relating to the effects of a therapeutic prone position on renal venous hemodynamics (after 4 days of therapeutic positioning), markers of renal injury/ischemia (at baseline, 4 days, and 8 days), and measures of vasoactive compounds (collected during the renal Doppler assessment) will be presented. These measures will be compared between treated and control groups.

**Conclusions:** Interim data will suggest the feasibility of whether a therapeutic position can reduce the physiologic effects of “renal compartment syndrome” in women with late-term pregnancy associated hypertension thereby pointing the way towards a simple, affordable behavioral change intervention to manage late-stage PE/E.

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**FCS49.5**

**AN INCREASE IN SPOT URINARY PROTEIN-TO-CREATININE RATIO CAN BE AN USEFUL PREDICTOR OF PREECLAMPSIA**


**Objectives:** Preeclampsia is a major cause of maternal and perinatal morbidity and mortality. Early diagnosis of preeclampsia is important to help patients with preeclampsia, however, 24-hour urine collection is the gold standard at present. Recently, spot urinary protein-to-creatinine ratio (P/C ratio) is used to detect suspected preeclampsia, because P/C ratio can estimate the amount of 24-hour urinary protein. The aim of this study is to whether an increase in P/C ratio precedes emergence of hypertension among patients with preeclampsia.

**Method:** P/C ratio was obtained from normotensive (systolic blood pressure less than 140mmHg and diastolic blood pressure less than 90mmHg) pregnant women of the regular prenatal checkup and inpatients with preeclampsia between April 1, 2013 and March 31, 2014.

**Results:** 4,074 normotensive pregnant women were included. The 95 percentile value in each trimester was 0.100, 0.157 and 0.195 respectively. The 95 percentile value in each trimester and the gestational age were determined as criterion variable (Y) and predictor variable (X) respectively. In simple regression, a regression line was calculated as Y=0.0035X+0.0849. Twenty-one women were diagnosed with preeclampsia. In 14 patients with preeclampsia, the timing of which P/C ratio exceeded the regression line preceded emergence of hypertension. 6 patients had no data of P/C ratio and emergence of hypertension preceded an increase in P/C ratio in 1 patient.

**Conclusions:** An increase in P/C ratio over 95 percentile can be an useful predictor of preeclampsia.

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**FCS49.6**

**MATERNAL HEMOGLOBIN CONCENTRATION IN FAVOR OF BEST PREGNANCY OUTCOME IN IRAQI WOMEN**

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**Objectives:** To analyze the maternal and perinatal outcome in varying degree of haemoglobin concentration.

**Method:** A cohort study, involved a total of 500 pregnant women at enrolment in the obstetric unit in late second and third trimester at Al Elwiya Maternity Teaching Hospital in Baghdad. They were grouped into five categories (according to the maternal haemoglobin (Hb) and mean corpuscular volume (MCV) levels) based on WHO definition. Those categories named; normal Hb, mild anemia with or without microcytosis, moderate anemia and severe anemia. Then were followed up in labor until delivery and their maternal, obstetrical and perinatal outcomes were correlated with maternal Hb and MCV levels.

**Results:** The overall prevalence of anaemia in this study was 44.6% after adjusting for MCV. The differences in mean birth weight among the five categories was statistically significant, being highest (3699.9 g) in group-II A (mild anemia with normocytosis) and declined with reducing maternal Hb to reach its lowest value (2503.1 g) in group-IV (severe anemia with microcytosis) and also it declined with increasing maternal Hb to group-I (normal Hb level) were the birth weight was 347.9 g after adjusting for maternal age and parity. Adverse maternal outcomes and perinatal outcomes were lowest in group - IIA (mild anemia with normocytosis) and increased with increasing or decreasing of Hb concentration.

**Conclusions:** Pregnant women with mild anaemia Hb=9–10.9g/dl (hypochromic normocytic) fared best in maternal and perinatal outcome and was associated with the highest mean birth weight, for that the trend in Iraq of prescribing iron as prophylactic and treatment of mild anaemia need to be revised.

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**FCS49.7**

**HIGH RISK FACTORS ANALYSIS OF 305 RURAL POSTPARTUM HEMORRHAGE CASES**

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**Objectives:** To analyze high risk factors of postpartum hemorrhage (PPH) in rural areas and their effect on the severity of PPH.
Method: From October 2010 to June 2012, cross-sectional study was used to collect information of 305 maternal women who suffered PPH in three counties in central China.

Results: 84.3% of the group had high-risk factors of PPH, of which 79.3% had antepartum high risk factors and 54.1% had intrapartum and postpartum high risk factors. The percentage of maternal women who had one, two or three high risk factors of PPH were 26.2%, 28.9% and 29.2% respectively. When the number of high risk factors increased, the incidence rate of severe PPH increased. The difference is statistically significant (P<0.001). Multivariate logistic regression analysis shows that risk factors of severe PPH are three or more times of pregnancy, no antenatal care visit, placental factor, and cesarean delivery.

Conclusions: Most PPH cases have antepartum, intrapartum, and postpartum risk factors. It is necessary to conduct in time screening and treatment of high risk factors so as to reduce severe PPH rate.

FCS49.8
COLOR DOPPLER ULTRASOUND IN DIAGNOSIS OF PLACENTA ACCRETA

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Objectives: To evaluate the accuracy of Doppler Ultrasonography in the diagnosis of placenta accreta and to compare it with the diagnostic accuracy of both 2D Ultrasoundography and MRI.

Method: Prospective study done at Obstetrics & Gynecology Department at Tanta University Hospital, Egypt, the study included 100 patients with suspected placenta accreta based on 2D ultrasonography, color Doppler and MRI. The intraoperative findings of each case were compared with the preoperative imaging findings.

Results: Sensitivity for the diagnosis of placenta accreta was 100% for color Doppler ultrasound, 93.7% for 2D ultrasound and 75% for MRI. Specificity was 66.6% for color Doppler, 77.7% for 2D ultrasound and 55.5% for MRI. The highest positive predictive value (PPV) was found in 2D ultrasound (88%), MRI had the lowest PPV (75%), while color Doppler had 84% PPV. Negative predictive value (NPV) was 100%, 87.5%, 55.5% for color Doppler, 2D ultrasound and MRI respectively.

Conclusions: Color Doppler Ultrasound is most accurate imaging modality in diagnosis of placenta accreta. Its accuracy, when combined with 2D ultrasound, would increases and provides the best available modality for diagnosis of placenta accreta.

FCS50. High Risk Pregnancy

FCS50.1
PROGNOSIS OF MOLAR PREGNANCY, A PROSPECTIVE STUDY ABOUT 105 CASES IN LOW DEVELOPED COUNTRY, NIAMEY, NIGER

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Objectives: The aim of this study was to evaluate the prognosis of molar pregnancy in Centre Hospitalier Réginal Poudriére.

Method: In this prospective transversal descriptive study in a period of four years from January 1st, 2008–December 31st, 2011, we report result of treatment of molar pregnancy. The patients were in 2 groups in 1 group patients were given anti mitotic drug after abortion. All patients followed up one year by clinical exam 2 weeks, one month and all three months, with oral contraceptive.

Results: The frequency of molar pregnancy was 13.78% of 762 abortions. Patients were 24–29 years old 33.33%, Multigravida 38.10%, with bortion history (20.96% within 4.76% molar pregnancy). The metrorragia was frequent 30.46%, with vesicular expulsion 5.72%. The diagnosis was by ultrasonography in 85.71%. The β hCG blood test realized 3.8%. Complete mole represented 98.10% of all cases. Electrical suction 57.15%, blood transfusion for 2/3 of patients. Antimitotic methotrexa (5mgx3/day) for 5 days 47.62% of patients and systematic oral contraception for all. Recorded 1 case of choriocarcinoma in group1 with no antimitotic treatment.

Conclusions: The molar pregnancy is a real problem of public health in our country. A short duration antimitotic preventive treatment may be given after abortion.

FCS50.2
STUDY OF BETA HUMAN CHORIONIC GONADOTROPHIN (β-HCG) IN CERVICOVAGINAL SECRETION IN WOMEN WITH PRETERM LABOUR AND NORMAL PREGNANCY

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Objectives: To study the levels of β-HCG in cervicovaginal secretions in normal pregnancy and to evaluate its diagnostic value in women with preterm labour.

Method: Total 225 women between 24–36 weeks of gestation with labour pains and without labour pains were enrolled. After obtaining their demographic data, clinical assessment, cervicovaginal secretion sample were obtained during P/S examination, but before P/V examination. All the women were followed till delivery and they were divided into control group (n=150), women with normal pregnancy, delivered at term, and Study Group, women who came with preterm labour. The Study Group was further subdivided into Study Group 1a (n=50), women who delivered preterm and Study Group 1b (n=25), women who came with preterm labour and delivered at term.

Results: In this study mean β-HCG levels in the study group 1a was significantly higher than the study group 1b and control group (23.55±13.1 mIU/ml vs. 7.19±10.8 vs. 2.86±7.1 mIU/ml) (p=0.000). The mean β-HCG was significantly higher in study group 1b (7.19±10.8 mIU/ml) as compared to control group (2.86±7.1 mIU/ml) (p=0.000). The cut off value of β-HCG ≥ 14 mIU/ml in study group la yielded a positive predictive value 90.91%, negative predictive value 67.74%, sensitivity 80%, specificity 84%, prevalence 66.67%, area under ROC 85%. Accuracy Index 81.33%.

Conclusions: The cut off value of β-HCG ≥14 mIU/ml in cervicovaginal secretion, can be used as a predictor for detecting symptomatic and asymptomatic women at risk for preterm birth.

FCS50.3
PRIMARY DISORDERS IN HAEMOSTASIS AND MASSIVE OBSTETRIC HAEMORRHAGE

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Objectives: Evaluation of causes of massive obstetric haemorrhage, retrospective analysis of hidden disorders of haemostasis in women with history of massive obstetric haemorrhage and hemorrhagic shock during labor or cesarean section, improvement knowledge of the pathogenesis of massive obstetric haemorrhage.

Method: From 1989 to 2014, the authors conducted the retrospective analysis of 140 cases of massive obstetric haemorrhage. Control group – 130 women with physiological pregnancy.

Lab methods: Detection of antiphospholipid antibodies circulation, genetic forms of thrombophilia (factor V, II, PAI-1, etc.), factor Von Willebrand, D-dimer, detection of aggregation of platelets, platelet count, inhibitor of FVIII.

Results: Based on this studies the following forms of coagulopathy was identified: (1) DIC syndrome (placental abruption, se-
vere pre-eclampsia, anaphylactoid syndrome, septic shock); (2) lack of adaptive changes in haemostasis during labor (genetic defects of haemostasis predisposing to bleeding, undiagnosed and hidden forms, lack of coagulation factors, act.); (3) thrombocytopenia (particularly miscarriage during pregnancy); (4) iatrogenic violations of haemostasis; (5) liver diseases; (6) the inhibitory forms of haemorrhage.

**Conclusions:** On the basis of this suggested that the vast majority of massive obstetric hemorrhage is the primary coagulopathy that obstetrician-gynecologists do not define. Therefore, of paramount importance acquires prenatal diagnosis, critical analysis of the anamnesis, care and qualification of obstetrician-gynecologist.

**FCS50.4**

**DOES AN ENLARGED ABDOMINAL CIRCUMFERENCE PREDICT MORBIDITY FOR PATIENTS DIAGNOSED WITH GESTATIONAL DIABETES (GDM) USING THE IADPSG CRITERIA?**

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**Objectives:** In 2010, the International Association of Diabetes and Pregnancy Study Group (IADPSG) published new diagnostic guidelines using a 2-hour glucose tolerance test. The IADPSG guidelines have the potential to identify pregnancies at higher risk for diabetic morbidity, but there is no clear evidence that treatment of these increased numbers of GDM result in improved cohort outcomes. For patients diagnosed with these thresholds, we asked whether an elevated fetal abdominal circumference (>70th percentile) can help identify pregnancies with higher risk for adverse outcomes.

**Method:** A retrospective analysis was performed on 614 KUMC patients diagnosed with GDM from January 2012 through February 2015. Patient outcomes were grouped by a non-elevated abdominal circumference (<70%) and an elevated abdominal circumference of ≥70% or ≥95%. Primary outcomes analyzed were macrosomia (>4000g), large for gestational age (LGA) infants (>90th percentile on growth charts), cesarean delivery, and neonatal hypoglycemia (blood sugar <40 mg/dl). Data was evaluated using risk ratios.

**Results:** Of the 614 charts reviewed, 442 patients were diagnosed using the IADPSG guidelines (71.9%). Of those patients, 253 (57.2%) had an elevated AC ≥70%. An elevated AC any time after 28 weeks was significantly associated with macrosomia and LGA infants using both 70th and 95th percentile. These risk ratios were between 1.8 and 23.9. Significant associations were found between cesarean delivery and an elevated AC ≥70% (1.4) and AC ≥95% (2.0) during 28–32wk period. Neonatal hypoglycemia was not associated with an elevated abdominal circumference.

**Conclusions:** Among patients diagnosed with GDM with the IADPSG thresholds, an elevated AC is associated with outcomes of macrosomia, LGA infants, and cesarean deliveries when the AC is enlarged between 28–32 weeks. Our findings can help stratify which pregnancies should be most closely followed.

**FCS50.5**

**POSTPARTUM FUROSEMIDE FOR ACCELERATING RECOVERY IN WOMEN WITH SEVERE PREECLAMPSIA: A RANDOMIZED CLINICAL TRIAL**

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**Objectives:** To determine furosemide effectiveness in controlling blood pressure compared to placebo in postpartum period of women with severe preeclampsia.

**Method:** A triple-masked placebo controlled clinical trial, was conducted including 120 postpartum women with severe preeclampsia. Women with chronic hypertension and diuretics users were deleted. Informed consent was obtained from all participants. Patients were randomized to receive furosemide (40mg orally every twenty four hours) or placebo. The primary outcome were mean blood pressure levels and frequency of hypertensive crises. Secondary outcome were need for maintenance of antihypertensive therapy, number of antihypertensive used to control blood pressure, length of hospital stay, adverse effects and maternal complications. This study was approved by the Research Ethics Committee in humans of the institution.

**Results:** 271 women were screened and 120 were randomized to receive either furosemide or placebo and 118 were analyzed. Most characteristics were similar across groups. Mean arterial systolic and diastolic pressures were lower in the furosemide group (p<0.001). In the furosemide group there were fewer episodes of very high blood pressure in the 2nd (P=0.002) and 5th (P=0.03) days, lower frequency of antihypertensive drugs on the 3rd day of hospital stay (P=0.003), shorter time until control of blood pressure levels (P=0.01) and a smaller amount of antihypertensive agents for control of blood pressure (P=0.004).

**Conclusions:** Compared to placebo, 40mg daily oral furosemide in postpartum period of preeclampsia patients reduces mean arterial blood pressure, hospital stay and number of antihypertensive agents used at discharge.

Register: clinicaltrials.gov (NCT02163655).

**FCS50.6**

**DOES PREECLAMPSIA GIVE BENEFICIAL EFFECT ON NEONATAL OUTCOMES OF PRETERM INFANTS?**

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**Objectives:** In utero “stress” exposed to the fetuses of preeclamptic mothers possibly lead to accelerated maturation and a better prognosis of the infants than other preterm infants. However this issue is still controversial. We aim to compare the neonatal outcomes between preterm deliveries with and without preeclampsia.

**Method:** A retrospective cohort was used in this study to compare gestational age at birth, birth-weight, APGAR scores, neonatal death, and mode of delivery between two study groups. We assessed the database of 1020 women who were delivered preterm infants between January 1 2013, and December 30 2013 at Cipto Mangunkusumo Hospital, Jakarta, Indonesia.

**Results:** A total of 348 women were fulfilled the criteria. Of these, 143 (41.1%) women were diagnosed as pre-eclampsia, while 205 (58.9%) women were normal. Mean of birth-weight, first and fifth min Apgar scores, neonatal death, and mode of delivery between the two groups. We assessed the database of 1020 women who were delivered preterm infants between January 1 2013, and December 30 2013 at Cipto Mangunkusumo Hospital, Jakarta, Indonesia.

**Conclusions:** A total of 348 women were fulfilled the criteria. Of these, 143 (41.1%) women were diagnosed as pre-eclampsia, while 205 (58.9%) women were normal. Mean of birth-weight, first and fifth min Apgar scores were significantly higher in non-preeclampsia group (2041 grams vs 1729 grams, 7.17 vs 6.33, and 8.50 vs 8.05, p=0.000, respectively). However there was no different of neonatal death rate between two groups.

**Conclusions:** Women with preeclampsia do not have a beneficial effect on neonatal outcomes.

**FCS50.7**

**THE FEASIBILITY OF TRANSVAGINAL INTERVAL CERCLAGE IN PATIENTS HAVING DILATED CERVIX DUE TO PRETERM LABOR**

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**Objectives:** The aim of this study was to determine whether an transvaginal interval cerclage (IC) reduced preterm delivery in those women who had undergone an emergency transvaginal cerclage due to dilated cervix and/or protruding fetal membrane with labor.

**Method:** A retrospective cohort study was conducted on women with a transvaginal cervical cerclage who also went over the IC. Sixteen cases underwent a transvaginal cerclage and composed the 7 cases of IC group, whereas 9 others without IC, only elective cerclage (EC) group due to bad obstetric history. IC was performed...
to patients who previously had emergency cerclage due to symptoms of impending preterm delivery at a distance of time. Antibiotics and prophylactic tocolysis were given to all patients. Neonatal outcomes and perinatal complications were analyzed between two groups.

**Results:** Mean initial cervical length before the first surgery was 0.2cm in IC group and 4.3cm in EC group. Cervical length before second surgery in IC groups was 1.94cm. Of all 16 cases, no fetal loss was found during present pregnancy. Mean delivery weeks was 35±0 weeks in IC group while 35±1 weeks in EC group. Mean birth weight in IC group was 1920 g and 2145 g in EC group. Apgar score (1/5 min) was 6/8 in IC group and 6/8 in EC group. Other neonatal outcomes and perinatal complications were not different between two groups as well.

**Conclusions:** It is thought that IC might be a good emergent surgical procedure that can be used in preventing preterm delivery in patients with dilated cervix and/or protruding fetal membrane due to preterm labor.

**FCS50.8**

**A STUDY ON AGREEMENTS AMONG SCREENING TESTS AND RELATED FACTORS WITH POSTPARTUM DEPRESSION**

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**Objectives:** This study was performed to assess agreements among screening tests, to estimate prevalence, and to identify related factors with postpartum depression.

**Method:** For 323 women at 7 days postpartum, self-administered questionnaires were given including postpartum depression screening test such as EPDS, QIDS-SR16, BDI and questionnaires for their demographic and psycho-social information. Obstetric information were collected from medical records. Simultaneous positive cases in EPDS and BDI were defined as gold standard and used to estimate the prevalence of postpartum depression and agreements between 3 kind of screening test and gold standard. Related factors of postpartum depression were analysed by using SPSS.

**Results:** The prevalence of postpartum depression was 19.8% and the Kappa indices of BDI, EPDS, and QIDS-SR16 were 0.711, 0.803, and 0.395, respectively. Feeding method, smoking history, antenatal anxiety/depression symptoms, residence status, marital satisfaction, relationship with husband's parents, and postpartum care method in univariate analysis and premature delivery (odds ratio: 2.9), formulated feeding (odds ratio: 3.8), marital dissatisfaction (odds ratio: 4.3), professional husband's occupation (odds ratio: 4.4), and antenatal anxiety/depression symptoms (odds ratio: 4.4) in the logistic regression analysis were significantly related to postpartum depression (p<0.05).

**Conclusions:** EPDS showed very good agreement among 3 kind screening test for postpartum depression in women at 1-week postpartum and simultaneous tests of BDI and EPDS was very effective in approaching the evaluation of postpartum depression. To establish the findings in this study, further prospective community-based studies are warranted.

**FCS51. High Risk Pregnancy**

**FCS51.1**

**TO STUDY THE IMPACT OF PROGESTERONE (DYDROGESTERONE) ON PROINFLAMMATORY (IL-6 AND TNF-ALPHA) AND ANTI-INFLAMMATORY (IL-10) CYTOKINES IN THREATENED ABORTION**

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**Objectives:** To study the impact of Progesterone (Dydrogesterone) on Proinflammatory and anti-inflammatory cytokines concentrations in threatened abortion.

**Method:** A randomised interventional study.100 women admitted with threatened abortion were randomly divided in two groups and controls. Fifty women in each group. Initial Ultrasonography was done to assess the cardiac activity in all the subjects. Serum levels of IL-6, TNF-alpha and IL-10 were measured in all at the time of admission. Cases were given Tab Dydrogesterone in the dose of 30mg per day and controls were not given any progesterone preparation. Serum levels of IL-6, TNF-Alpha and IL-10 were again measured after 10 days and also at 14 weeks of gestation in both groups and the values were compared.

**Results:** Values of IL-6 showed fall after 10 days and at 14 weeks of gestation in both groups. Mean value in cases at admission, 10 days and 14 completed weeks were 44.69±24.69, 39.71±18.75 and 29.26±8.48 respectively. Values for controls were 50.76±25.16, 36.82±12.46 and 32.51±5.26 respectively. Mean concentration of IL-10 at admission, 10 days and 14 weeks of gestation in cases were 66.68±24.46, 59.31±11.62 and 44.76±9.90. Values for control groups were 61.25±23.34, 56.52±10.53 and 59.04±13.14 respectively. when compared, the p value was not significant. TNF-Alpha was not detectable in both groups. 19/50 women aborted in case group and 15/50 women aborted in control groups.

**Conclusions:** It is concluded that Dydrogesterone has no effect on Proinflammatory and anti-inflammatory cytokines levels in threatened abortion. The number of women who aborted in cases and control group were comparable thereby indicating that there is no role of Dydrogesterone in Threatened abortion.

**FCS51.2**

**AN EVALUATION OF INTRODUCTION OF RAPID HIV TESTING IN A PERINATAL SERVICE**

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**Objectives:** This study was conducted to evaluate the roll-out of rapid HIV testing as part of the provincial emergency Prevention of Perinatal HIV Transmission Program in British Columbia, which aims to identify HIV infection accurately and to prevent perinatal transmission among high-risk pregnant women. Specifically, HIV prevalence in this population, the reason(s) for performing the rapid HIV test, and compliance with recommendations for antiretroviral prophylaxis were assessed.

**Method:** Since November 2011, women presenting to BC Women's Hospital (a tertiary referral hospital with approximately 7,000 births per year) with unknown or undocumented HIV status or ongoing risk of HIV infection are offered rapid HIV testing. The bioLytical 24 INSTI HIV-1/2 Antibody Test Kit was used in 78 women between November 2011 and December 2014. Through retrospective chart review, demographic data, HIV risk and prior testing history, and antiretroviral prophylaxis data were collected and descriptive statistics were performed.

**Results:** All rapid HIV tests were non-reactive as was confirmatory testing. Seventy percent were in cases with previous negative prenatal HIV antibody results but ongoing risk. Seventy-three percent of women had multiple risk factors, including: IVDU (53%), HCV infection (38%), non-IVDU (36%), and STI in pregnancy (34%). The timing of last high-risk activity was available in 44 cases. The median time between potential exposure and the rapid test was 1 day, and 89% of women were within the 4-week seroconversion window period at the time of delivery. Of these, 28% of mothers and 51% of infants received some prophylactic antiretroviral therapy.

**Conclusions:** This program identified a subgroup of pregnant women at increased risk of HIV infection. Most women had appropriate early pregnancy HIV antibody test screening, but had ongoing risk factors,
predominantly substance use. When the timing of potential exposure was documented, the majority of women were within the four-week seroconversion window period highlighting the risk of false reassurance from the rapid test.

**FCS51.3**

**PREGNANCY OUTCOME IN WOMEN WITH MITRAL VALVE STENOSIS**

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**Objectives:** Rheumatic Mitral Stenosis (MS) is still prevalent in developing countries. As It involves mostly young women, it is important to study the natural course and result of Pregnancy in the presence of MS.

**Method:** We have followed up 29 patients with MS who referred to our Clinic from 2010 to 2014. Patients were studied prospectively for their NYHA functional class (FC), echocardiography data including Ejection Fraction (EF), pulmonary hypertension (PH), Mitral valve area (MVA); gravity (G), and various types of delivery and fetal outcome.

**Results:** The EF was 40–55% with mean=52.7±5.06%. Twenty-six patients were in NYHA I and II, and 3 in NYHA III and IV. PH was 30 to 100 mmHg, 50%had normal PH, 25%had mild and 25%had moderate to severe PH. Mean MVA was about 1.04±0.27 cm². Severe MS was found in 39.3%. Six patients underwent percutaneous Mitral Balloon Valvotomy during pregnancy and 14 patients had PMBV before conception. Twenty-eight patients had live birth (23 C/S & 5 NVD), and one underwent abortion. There were no maternal death but one maternal emboli and 1 neonatal died.

**Conclusions:** Patients with significant MS can tolerate pregnancy with close follow up and surveillance.

**FCS51.4**

**A STUDY OF COAGULATION PARAMETERS, MEAN PLATELET VOLUME AND UMBILICAL ARTERY DOPPLER FOR PREDICTION OF PERINATAL OUTCOME IN OBSTETRIC CHOLESTASIS**

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**Objectives:** 1. To study the coagulation parameters (PT, aPTT, D-dimer), mean platelet volume (MPV) and umbilical artery systolic/diastolic ratio (UASDR) in women with Obstetric Cholestasis and to correlate them with symptomatology and liver enzyme levels. 2. To assess the predictive value of liver enzymes, coagulation parameters, mean platelet volume and umbilical artery systolic/diastolic ratio in determining the pregnancy outcome in Obstetric Cholestasis.

**Method:** A cross-sectional study was conducted in the Department of Obstetrics and Gynecology at VMMC and Safdarjung Hospital, New Delhi comprising a study group of 60 women with obstetric cholestasis and control group of 60 (age, parity and gestation matched). Biochemical/haematological (LFT, Coagulation Profile, MPV) tests and USG were done in both groups with weekly follow up till delivery. The study group received Ursodeoxycholic Acid 300mg BD, and had pregnancy terminated at 38 weeks or earlier in case of deteriorating LFT/fetal compromise. Student t test and Mann whitney U test used for continuous data. Binary logistic regression model was used to study relationship between variables.

**Results:** In the study group 56.7% (34/60) women had D-dimer levels (>400ng/ml), 41.7% (25/60) had mean platelet volume levels >13Fl while none in control group had such high levels. 45% (27/60) women in study group had umbilical artery systolic/diastolic ratio more than 3 as compared to 1.7% in control group. D-dimer levels (>400ng/ml), MPV >13fl and UASDR were significantly associated with more cases of meconium, non-reassuring fetal heart pattern, low 5 minute APGAR and NICU admissions. MPV, D-dimmer and UASDR were found to be better predictors of fetal outcome than LFT. MPV was the best predictor of low 5 minute APGAR (OR16; 95% CI: 1.3–185.4; p=0.027).

**Conclusions:** 1. Women with obstetric cholestasis had significantly higher levels of MPV, D-dimer and UASDR when compared with normal antenatal patients. 2. Liver enzymes though helpful in diagnosing a case of obstetric cholestasis could not accurately predict fetal outcome. MPV, D-dimer and UASDR were better predictors of fetal outcome. 3. Estimation of D-dimer, MPV and UASDR which are readily available, economical and easy to perform should be considered besides deteriorating liver enzymes in appropriate management of Obstetric Cholestasis.

**FCS51.5**

**EFFECT OF ADVANCED MATERNAL AGE ON THE COURSE AND OUTCOMES OF PREGNANCY AMONG LIBYAN POPULATION**

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**Objectives:** During past three decades, proportion of women in Libya who gave birth after age of 35 years for the first time increased significantly mainly due to late marriage because of educational and economic factors, whereas in previous generations women might be having their last child in their forties. As a result of that, there is growing interest in pregnancy-related complications and outcome of pregnant women at older age. Aim of this study was to investigate the impact of advanced maternal age on obstetric outcomes in Libyan women of middle and majority of western parts of the country.

**Method:** Prospective controlled study included deliveries of >24 weeks of gestation at Misurata and Sirt University Hospitals, over a period of five years. Women divided according to age: (A) 20–34 years at delivery as referent group, (B) 35–39 years, (C) ≥40 years at the time of delivery. Pregnancies <20 years of age and multiple pregnancies were excluded. Data collected: parity, delivery gestational age, medical & obstetric histories, diabetes, hypertension or anemia, ILFD, mode of delivery, birth weight (BW); (<4000g, <2500g & <1500g), Apgar score, admission to neonatal ICU, postpartum course. Outcomes compared for nulliparous (NP) and multiparous (MP). Statistical analysis using SPSS package. P-value considered to be significant if <0.05.

**Results:** The study included 6865 patients: 68.4% 20–34 years at delivery as referent group, 31.6% 35 to ≥40 years at birth, and 11.9% ≥40 years at age, birth at ≥35 carried a 2.9-fold increased risk (FIR) for pregnancy complications, and 3.5-FIR for adverse perinatal outcomes. (B) and (C) at IR for pregnancy-induced hypertension and diabetes; significantly higher than (A) (P<0.0034), operative vaginal delivery, CS (P<0.01), preterm (PT) and early PT (<34 weeks) deliveries, low BW, stillbirth (SB) and neonatal death in NP, but only with PT birth <37 weeks and CS deliveries in MP. Relative risk of SB was 1.89 for (B) and 2.8 for (C).

**Conclusions:** Advanced maternal age is significantly associated with specific adverse pregnancy outcomes. As the number of this group is increasing, every effort should be made to reduce associated morbidity.

**FCS51.6**

**PROGNOSIS SCORE AND MATERNAL OUTCOME OF ECLAMPSIA IN A TEACHING HOSPITAL**

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**Objectives:** Eclampsia is a poorly understand disorder characterized by seizure or coma in settings of Gestational Hypertension. Applica-
tion of monitoring strategies in many areas of world is not possible owing to the cost and non availability during emergency. Objective of this study is to assess each patient of eclampsia by pre graded scoring scale on subjective examination and with minimum investigation. Documentation of patients scoring and ultimate out come helps to reduce the lapses of care. Another utility is unification of patients condition, treatment strategy and provide feedback to care givers regarding clinical condition.

Method: This cross sectional case study was done in eclampsia ward in Khulna medical college hospital during period of January 2014-February 2015 in 200 women. All types of presentation with eclampsia were included for study. Scores were 0, 1, 2 and 4 with increasing graveness where applicable. Para meters were age, para, number of convulsion and time to reach treatment, level of consciousness, Hyptension, Proteinuria,Hæmaturia, platelet count, Clinical signs and symptoms of organ failure and, duration of gestation and delivery status. We computed total score and Maternal outcome.

Results: A score of 15 to 20 and above included all critically ill mother including maternal death cases. No maternal death occurred with Lower score.

Conclusions: Clinical prognosis score scale can be helpful making clinical scenario in objectively reproducible one at a glance, it can also be used with existing management protocol. Can help to update any intervention and research study.

FCS51.7
ROLE OF GENETIC FORMS OF THROMBOPHILIA IN PATHOGENESIS OF PREECLAMPSIA
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Objectives: To estimate patogenetic value of genetic forms of thrombophilia in pathogenesis of preeclampsia.

Method: 65 women was divided in two groups: group I – 35 pregnant women with recurrent pre-eclampsia in present pregnancy, group II – 30 primigravida women with severe pre-eclampsia. Control group – 20 women with noncomplicated pregnancy.

Results: More frequent in group I has been detected PAI-1 polymorphism 34 (97.14%), group II – 24 (80%), control – 3 (15%). t-PA polymorphism 23 (67.1%), group II – 24 (80%), control – 2 (10%). Fibriogen 455 G/A polymorphism group I – 30 (57.1%), group II – 13 (43.3%), control heterozygous form – 3 (15%). Gene MTHFR C677T mutation group I 18 (52.86%), group II – 3 (10%), control – 4 (20%). More frequent has been detected interleukin-1β “31 T/C” gene polymorphism: group I – 33 (95.72%) patients, group II – 15 (50%), control – 18 (90%) cases. Gene TNF-α “308G/A” polymorphism: group I – 9 (27.14%) patients, group II – 5 (16.67%), control was not found.

Conclusions: Pathogenetic prophylaxis of recurrent pre-eclampsia should be based on prophylaxis of manifestations of genetic forms of thrombophilia and proinflammatory status.

FCS51.8
PREGNANCY OUTCOMES IN ADVANCED MATERNAL AGE: A REPORT ON PREGNANCY OUTCOMES OF 226 WOMEN OVER 40 FROM A HIGH RISK URBAN UK POPULATION
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Objectives: As maternal age increases, many complications of pregnancy including gestational diabetes, pre-eclampsia and small for gestational age babies also increase. Maternal age is also thought to be a risk factor for delivery by Caesarean section. The objective of this study was to assess pregnancy outcomes in an urban district general hospital in the UK.

Method: This was a retrospective cross sectional cohort study of 226 women who delivered 230 babies between January 2014 and January 2015 in a single urban district general hospital. Data were collected from the electronic birth summary records and supplemented by a case notes review.

Results: 226 women over the age of 40 delivered 230 babies in the study period. The age range was 40–51 with a mean age of 41.4. The overall Caesarean section rate was 41.15% compared to 28% of all deliveries in the same hospital. 42.6% of women had a BMI > 30, 30.5% were nulliparous. 11.3% of deliveries took place at less than 37 weeks gestation. The stillbirth rate was 1.3%, admission to SCBU was 3.47% and 3% of babies had Apgars < 7 at 5 minutes. The incidence of post partum haemorrhage > 500ml was 34% and greater than 1000ml was 6.2%.

Conclusions: Increasing maternal age was associated with an increased risk of Caesarean section (both elective and emergency) but not with an increase in instrumental deliveries. The risk of stillbirth was slightly increased and the risk of pre-eclampsia and gestational diabetes was markedly increased. This cohort had a high incidence of obesity (BMI > 30) and this may have contributed to some of the outcomes.

FCS51.9
STUDY OF MATERNAL AND FETAL OUTCOME IN SUBSEQUENT PREGNANCY FOLLOWING PREVIOUS CAESAREAN SECTION
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Objectives: Globally the Caesarean Section rate has increased due to modern technology. This study was aimed to evaluate the maternal and neonatal outcome of pregnancies following the caesarean Section so that the caesarean rate can be reduced.

Method: Study was conducted at Era’s Lucknow Medical College, Lucknow. It was prospective Observational study Eighty pregnant women were included and were observed during Antenatal period and Labour. The intervention was done inform of operative or instrumental delivery. The data was analyzed by using SPSS version 17.0 method.

Results: Out of 80 Women maximum number of women (56%) had vaginal delivery including instrumental delivery. While 39% of total number had Caesarean Section. The difference was statistically significant P value was less than 0.05. Only one woman had scar rupture and had still birth. Number of Neonatal complications was higher in vaginal deliveries, more so in the instrumental deliveries.

Conclusions: In Post Caesarean pregnancy vaginal/instrumental delivery should be encouraged, ensuring the availability of senior obstetrician and pediatrician with NICU facilities.

FCS52. High Risk Pregnancy

FCS52.1
BILE ACID PROMOTES PLACENTA THROMBOSIS VIA INDUCING VASCULAR ENDOTHELIUM AUTOPHAGY IN WOMEN WITH INTRAHEPATIC CHOLESTASIS OF PREGNANCY

Objectives: Fetal sudden death is often found in women with Intrahepatic Cholestasis of Pregnancy (ICP) in late trimester, and the mechanism is still unknown. In this study, we observe increasing of placenta infarction, thrombosis and recanalization in placentas from ICP with stillbirth. So we hypothesize that placental vascular endothelium were impaired by elevated bile acid, which may explain etiology of fetal sudden death in ICP.

To verify above hypothesis, we observe pathological and ultrastructural changes of placental vascular endothelium from ICP, detect re-
labeled protein in placentas by immunohistochemical method, observe the effects of bile acid to HUVEC by in vitro study.

**Method:**

1. In vivo studies:
   - Total 53 placentas were collected from ICP with stillbirth (n=13), ICP with liveborn (n=20) and normal pregnant women (n=20) in our hospital between January 2000 and September 2013. The pathological changes of placentas were observed.
   - Autophagy related protein LC3A/B and vWF were detected by immunohistochemical method. Correlational analyses were conducted.
   - Ultrastructure of vascular endothelium from ICP placenta were observed.

2. In vitro study:
   - HUVEC was stimulated by different concentration of bile acid and harvested for ultrastructural observation, then analyze expression of LC3-II and beclin-1 by western blotting.

**Results:**

- Normal/perfusion. Normothermic perfusion were done not to increase significantly in ICP placenta compared to normal, the comparison of H-score level between three groups was statistically significant (P<0.01). Kendall rank correlation coefficient of LC3A/B and vWF is 0.65 (P<0.001).
- Autophagic vacuoles were significantly increasing in vascular endothelium from ICP placenta and HUVEC treated with bile acid compared to normal.
- Bile acid display concentration-dependent up-regulation on expression of LC3-II and beclin-1 in HUVEC.

**Conclusions:**

1. Compare to normal, more infarction, thrombosis and recanalization were found in placentas from ICP.
2. We observed increasing autophagic vacuoles in ICP placental vascular endothelium as well as HUVEC treated with bile acid, identify elevated autophagy may be one of the pathophysiological mechanism of ICP. Elevated autophagy induced by high bile acid may be associated with microvascular thrombosis in human placenta which may explain etiology of fetal sudden death in ICP.

**FCS52.2 THE CARDIOVASCULAR BYPASS UNDER NORMOTHERMIA DURING PREGNANCY MAY CONTRIBUTE TO BETTER NEONATAL OUTCOME**

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**Objectives:** Maternal cardiovascular operation under cardiopulmonary bypass (CPB) during pregnancy is associated to high embryofetal mortality rate. Although they are rare cases, we sometimes find out patients with dissecting aortic aneurysm or annuloaortic ectasia (AAE) such as Marfan syndrome (MFS) patients during pregnancy. We investigate these cases to consider the risk of CPB during pregnancy and when and how to treat.

**Method:** Retrospective review of the patients who underwent cardiovascular operation under CPB in our hospital since 2004.

**Results:** There were three cases underwent CPB during her pregnancy. The gestational age were 19w6d, 16w0d and 12w4d. Preoperative diagnosis were acute aortic dissection in a case and AAE in the two cases. Hemiarch replacement and aortic root replacement were done. To maintain uterine blood flow, we kept high-flow, high-pressure perfusion. Normothermic perfusion were done not to induce uterine contraction and fetal bradycardia. Fetal heart rate were monitored by transesophageal echocardiography attached on the patients’ abdomen. Their delivery methods were vaginal with epidural anesthesia in two cases (37w38w) and selective C/S (37w) in a case. The neonatal body weight were appropriate and they have grown without problems.

**Conclusions:** It is very important that all patients with cardiovascular disease are well assessed before getting pregnant and informed of their condition and prognosis. When the patient is determined to continue pregnancy and the fetus is immature, conservative therapy is preferred. But if the risk for mother is too high, operations under normothermia and high flow high pressure CPB may have better outcome of pregnancy.
care professionals and wider society of the impact of stillbirth and the need for improved care provision for parents and their families. Future research should focus on assessing interventions that reduce the psychosocial effects of stillbirth.

**FCS52.4 GESTATIONAL SURROGACY: AN OBSTETRIC CHALLENGE**

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**Objectives:** 1. To identify the incidence of various obstetrical and medical complications in gestational carriers and normal biological pregnancies in a tertiary care and academic centre. 2. To identify the high risk factors in surrogates as compared to normal biological pregnancies and study the obstetric and perinatal outcomes and help improve the outcomes in terms of morbidity and mortality.

**Method:** A retrospective analysis of 400 surrogate mothers and 400 biological mothers selected at random who delivered at Dr. L H Hiranandani Hospital over a period of 4 years from July 2010 to June 2014 was done. The obstetric and medical complications with the obstetric and perinatal outcomes in both the groups were analysed.

**Results:** Among surrogates there were large number of twin pregnancies with 232 singleton pregnancies (58%) and 168 twin pregnancies (42%) whereas in biological mothers there were 40 (10%) twin pregnancies. 288 surrogate mothers underwent caesarean section (72%) and 112 had vaginal delivery (28%) whereas the incidence of caesarean section in normal biological pregnancies was 51%. There was very high incidence of postpartum haemorrhage, seen in 51 cases out of which 25 required blood transfusion and Caesarean hysterectomy was needed in 4 cases. 76 (19%) of surrogates had a preterm delivery and 28 (7%) of biological mothers had a preterm delivery.

**Conclusions:** Surrogate mothers hail from a lower socio-economic class. Poor nutrition, pre-existing anaemia and repeated pregnancies predispose to poor reserves. Complications like anaemia, multiple gestation, preterm delivery, operative delivery, postpartum haemorrhage and infection are major obstetric challenges in these patients. Gestational surrogacy is a high risk pregnancy which needs more attention to catch such complications in early stage and rectify them, hence should be managed with vigilance.

**FCS52.5 IMPLEMENTATION OF A CLINICAL PRACTICE GUIDELINES FOR ANTENATAL MAGNESIUM SULPHATE NEUROPROTECTION IN TERTIARY OBSTETRIC UNIT**

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**Objectives:** Antenatal magnesium sulfate (MgSO4) may reduce the excessive rates of cerebral palsy in survivors of very preterm birth. To analyse the success of implementation of MgSO4 for fetal neuro-protection in Tertiary Obstetric Unit.

**Method:** This retrospective cohort study included women admitted at 23–31 6/7 weeks gestation in the first 18 months. A single loading dose of 4g MgSO4. The maintenance treatment was of 2g/12h or un-till birth.

**Results:** There were altogether 201 pregnancies eligible for fetal neuro-protection. MgSO4 was used in 158 pregnancies with 179 live born infants (132 singletons, 25 twins, 1 triplets) at an average gestational age 28.1 6/7. Delivery occurred at an average gestational age 29.2. MgSO4 was not administered in 43 pregnancies (33 women at second stage of labour at admission and in 10 cases unknown reason). The full course of MgSO4 was administered in 63% of pregnancies and delivery occurred within 6 hours of MgSO4 treatment termination in 56% cases. The average bleeding was 680 ml. There were no severe maternal side effects attributed to the treatment.

**Conclusions:** Antenatal MgSO4 neuroprotection was successfully implemented with only 5% of pregnancies with violation of guidelines, all of which having an audit.

**FCS52.6 PRETERM BIRTH AND SOCIAL SUPPORT DURING PREGNANCY: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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**Objectives:** Additional social support is often recommended for women during the prenatal period to optimize birth outcomes, specifically preterm birth. Social support is thought to act in one of two ways; by reducing stress and anxiety, or by providing coping mechanisms for women with high stress. However, evidence in this area is mixed. The purpose of this meta-analysis is to determine if low levels of social support are associated with an increased risk for preterm birth.

**Method:** Five databases were searched for RCTs and cohort studies regarding social support and preterm birth with no limits set on date or language. Inclusion criteria included use of a validated instrument to measure social support, and studies conducted in high income or high-middle income countries.

**Results:** 3467 records were retrieved, 16 of which met the inclusion criteria. Nine studies (n=14,750) demonstrated a pooled OR of 1.11 [95%; 0.89, 1.39] for preterm birth in women with low social support compared to high social support. Among women with high stress levels, two studies (n=6,374) yielded a pooled OR of 1.52 [95% CI 1.18, 1.97]. The results of five studies could not be pooled due to incompatibility of outcome measures.

**Conclusions:** There is no evidence for a direct association between social support and preterm birth. Social support, however, may provide a buffering mechanism between stress and preterm birth.

**FCS52.7 PREGNANCY OUTCOME IN EXTREME GRANDMULTIPARAE**

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**Objectives:** The purpose of this study was to investigate pregnancy outcome among extreme grandmultiparae and impact of advanced maternal age on the outcome in a population still has high incidence of grandmultiparity (GMP).

**Method:** A retrospective study of 3615 grandmultiparous deliveries during one year period (1993) at Jamhoria Hospital of Obstetrics & Gynecology in Benghazi. GMP who were giving their seventh or more births at or later 28 weeks of gestation and have birth > 1000gm. Advanced maternal age those aged ≥ 35. They divide into 2 groups, first para 6–8 (2220) and second para ≥ 9 (extreme GMP 1395). The analysis carried out reviewing the reported medical reports which were examined for pregnancy outcome in 3 categories maternal diseases complicating pregnancy, obstetrical complications and perinatal outcome. Statistical comparison have assessed using Z-score test.

**Results:** A high incidence of extreme GMP (9.2%) was reported. Significantly higher incidence of hypertensive disorders (P=0.0006), diabetes (P=0.023) among extreme GMP who were older (37.5±3.9 years old) compared to first group (33.6±4.2 years old), P<0.0001. Also had a significant increase of placental abruption (P=0.035), preterm labor. They had significantly prolonged second stage and increased cesarean section rate. Perinatal outcome showed a significant higher incidence of macrosomia, low Apgar score among extreme GMP. Advanced maternal age was associated with increased incidence of hypertension, placenta praeavia (P=0.0005) and obstructed labor, prematurity (P=0.018) and low birth weight (P=0.034) in both groups.

**Conclusions:** Extreme grandmultiparae are at higher risk during pregnancy and labor. Advanced maternal age appears to be a cofactor of high parity playing an important role to increase the risk fac-
tor for poor pregnancy outcome. These patients need special medical care, increase their awareness of health also is of great importance within women's reproductive programs including effective family planning and health education.

FCS52.8
SECOND TRIMESTER DELIVERY AND SUBSEQUENT PREGNANCY OUTCOME – THE EFFECT OF PROPHYLACTIC CERCLAGE.
A NATIONAL COHORT STUDY
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Objectives: To analyze the outcome of a subsequent pregnancy and use of prophylactic cerclage by clinical phenotype of a first spontaneous second trimester delivery (16+0–27+6 weeks).

Method: A cohort of 5919 women with a first second trimester delivery in 1997–2012 and a second delivery was identified by combined use of two Danish national registries - the Birth Registry and the Patient Registry. Ten different clinical phenotypes were identified using a conceptual model with explicit criteria on maternal conditions (preeclampsia, uterine anomaly, thrombophilia), fetal conditions (multiple pregnancies, major anomalies) and placental conditions (abruption, previa, insufficiency), as well as pathway to delivery (spontaneous or induced). For each phenotype we analyzed the outcome of a subsequent pregnancy and use of prophylactic cerclage.

In a validated subgroup of 621 cases of spontaneous extreme preterm deliveries, we analyzed clinical signs at hospital admission.

Results: The most common phenotype (54% of total cases) was not associated with any specific diagnoses in the registries. Spontaneous second trimester delivery occurred in 1971 cases (50%), and the recurrence rate was 9.7% with considerable variations by clinical phenotype of the first delivery. Women presenting with cervical dilation had the highest recurrence risk (35%). Both prophylactic vaginal cerclage and abdominal cerclage significantly reduced the risk of extreme preterm delivery in next pregnancy.

Conclusions: Clinical phenotype was highly associated with recurrence risk of a spontaneous second trimester delivery. Women presenting with cervical dilation (cervical insufficiency) were at the highest risk of recurrence. After prophylactic vaginal cerclage in women with cervical shortening, 28% (12/42) had a spontaneous second trimester delivery. Classification of phenotype including signs at admission identifies women at high risk of recurrence and should be part of the classification system and reported to national registries.

FCS52.9
STRIKING THE BALANCE BETWEEN MATERNAL AND PERINATAL OUTCOMES FOR PREGNANT WOMEN WITH GASTRIC BANDING: NATIONAL COHORT STUDY (UKOSS)
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Objectives: Obesity is a huge burden to healthcare services worldwide and increasingly, women of reproductive age are undergoing Laparoscopic Adjustable Gastric Banding (LAGB) to aid weight loss. However, there is no guidance on band management in pregnancy. Our objectives were to:
- Estimate the prevalence of pregnancies following LAGB.
- Establish the management of gastric bands in pregnancy.
- Compare outcomes according to band management (inflation vs deflation).

Method: In this national cohort study, we collected data on all pregnancies following LAGB in the UK (November 2011–October 2012) using the UKOSS data collection system. Outcomes were compared according to band management (inflation vs deflation), and with non-LAGB controls and national data. Multivariable regression analysis was used to control for confounders.

Results: There were 127 pregnancies following LAGB (prevalence approximately 18.0 per 100,000). Band management was variable: inflation maintained in 49.5% and deflation in 39%. There was strong evidence of reduced gestational weight gain (inflation: 7.6kg, deflation: 15.4kg, p < 0.05) and weak evidence of reduced risk of gestational hypertension (inflation: 0%, deflation: 10.5%, p < 0.07) in the inflation group compared with the deflation group. Regardless of band management, adverse maternal outcomes were more likely in LAGB groups compared with controls and national data.

Inflation was associated with lower mean birthweight (inflation: 3380g, deflation: 3712g, p < 0.002) and increased risk of low birth weight infants (inflation: 13.2%, deflation: 6.2%, p < 0.05).

Conclusions: Pregnancy following LAGB was rare and band management variable. Whilst inflation was associated with better maternal outcomes, it may be at the expense of fetal growth. Band inflation for part of pregnancy with close monitoring of maternal and fetal well-being may be appropriate.

FCS53.1
SEXUALITY, SAFE SEX PRACTICES AND ATTITUDE TO PREMARRITAL HIV SCREENING AMONG UNDERGRADUATES IN A DEVELOPING COUNTRY
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Objectives: This study was conducted to determine.
1. The sexual behavior of undergraduates including condom use,
2. Knowledge of HIV transmission among undergraduates,
3. Knowledge of, and previous use of emergency contraception.
4. Attitude of undergraduate students towards pre-marital HIV screening.

Method: This study was a cross-sectional descriptive questionnaire-based study. Structured closed ended questionnaires were self-administered to undergraduates of a tertiary institution in Nigeria who consented to participate in the study. Data was analyzed using SPSS version 17.

Results: Of the 200 questionnaires administered, 140 were returned, giving a response rate of 70%. The mean age was 21.4 with a standard deviation of 2.4. Majority of respondents (97.1%) were single. About 1/3rd (34.3%) did not have correct knowledge about possible ways of getting infected with HIV. More than half (52.9%) were sexually active and 11.4% of these had never used a condom. Most (67.1%) of them had heard about emergency contraception though only 12.9% admitted to ever using it. Premarital HIV screening was viewed favourably by 90% of respondents.

Conclusions: Although all respondents were aware of the HIV virus, there is a need to improve the understanding of adolescents and young adults regarding safe sex practices in order to reduce the burden of unwanted pregnancy, unsafe abortion and HIV infection among youths.
FCS53.2
REHABILITATION AND SOCIAL ACCEPTANCE OF PATIENTS WITH VAGINAL ATRESIA
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Objectives: Vaginal atresia is by far the most upsetting to a girl, young adolescent, or adult woman, and her family. The aim of this article is to discuss in detail about the involved problems.

Method: In a five year period about six cases of Vaginal atresia were seen. Their physical & mental challenges could be sorted out mainly by counselling in addition to specific indicated treatment.

Results: Following treatment & counselling most of them are able to lead happy life. One case could conceive.

Conclusions: Counseling by an experienced team including nurses, social workers, psychologists and/or psychiatrists is recommended and should be strongly reinforced by the treating health care provider when interacting with patients and families.

FCS53.3
FEMALE SEXUAL DYSFUNCTION (FSD) – INDIAN SCENARIO
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Objectives: Talking about FSD is still considered a taboo due to prevalent social, cultural and religious myths in India. The objective of this study was to detect the prevalence of sexual dysfunction and also to investigate possible risk factors associated with sexual dysfunction in Indian women.

Method: The prospective study consisted of 500 women between ages 18 and 66 years from different socio-cultural areas. The women were divided into five groups according to their ages <24 years (n=129), 24–30 years (n=182), 31–37 years (n=125), 38–42 years (n=42). Female sexual function was assessed with a detailed 19-item Female sexual function index (FSFI) questionnaire to evaluate five domains of sexual dysfunction, i.e. desire, arousal, lubrication, orgasm and pain. Demographic characteristics and medical risk factors were evaluated and findings were compared between the women with and without sexual dysfunction.

Results: Based on total sexual function score, 278 (55.6%) of total 500 patients had sexual dysfunction. The commonest dysfunction was orgasmic (91.7%) followed by lubrication (89.2%). Out of 278 patients in the FSD group, 53 patients (19%) were more than 38 years. Female sexual dysfunction was more prevalent in illiterate women. In the FSD group, 7.19% patients were illiterate as compared to 3.15% patients in the group with no FSD (p=0.04). The prevalence of female sexual dysfunction was significantly higher in the older age group and in illiterate patients in the study.

Conclusions: The prevalence of female sexual dysfunction rises with age, illiteracy, chronic disease and menopausal status.

FCS53.4
HIV, ANTIRETROVIRAL USE AND SEXUAL FUNCTION IN NIGERIAN WOMEN
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Objectives: Recent studies have demonstrated the impact of HIV infection on female sexual function, with only few addressing the effect of antiretroviral drug (ARV) use on sexual function. Sub-Saharan African is home to over 80% of women living with HIV, yet only limited number of published studies addressed the association between HIV, ARV use and female sexual function. In this study the effect of HIV infection and antiretroviral drug use on female sexual function were evaluated.

Method: Two thousand nine hundred and seven women (1086 HIV positive; 1821 HIV negative) seen between May 2013, and December 2015 at various community outreaches and clinics of the Nigerian Institute of Medical Research Lagos, were interviewed using the General health (GHQ) and Female sexual function index (FSFI) questionnaires. Obtained information was coded and managed using SPSS for windows version 20. Multiple logistic regressions was used to determine the relationship between HIV infection, antiretroviral drug use and FSFI scores. P<0.05 was considered as statistically significant at 95% confidence interval (CI).

Results: Female sexual dysfunction (FSD) was found to be higher in HIV positives (71.4%) compared to 60.9% in HIV negative women (P<0.05; OR: 3.5; CI: 2.1–6.9). The rate of FSD among HIV positive women on ARVs was significantly (P<0.03; OR: 3.2; CI: 1.9–5.6) lower (64.9%) compared to women not ARV (77.9%). Low FSFI scores were noted among women with severe HIV diseases, menopausal and depressive illness. Among respondents on ARVs, those on protease inhibitor (PI) based regimen (68.3%) had significantly lower FSFI scores compared to those not on PI (61.7%) based regimen (P<0.05; OR: 2.1; CI: 1.2–4.7).

Conclusions: Female sexual dysfunction is common among our cohort. HIV infection, none use of ARV drug, menopausal state and lower GHQ score were found to be associated with FSD. This finding highlights the importance of sexual health care in the management of women living with HIV.
**FCS53.6**

**COLOR DOPPLER ULTRASOUND TO IMPROVE THE DIAGNOSTIC ACCURACY OF THE TRANSVAGINAL ULTRASOUND IN DIAGNOSIS OF ADENOMYOSIS: A CROSS SECTIONAL STUDY**

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**Objectives:** To measure the accuracy of combined two dimensional (2D)-trans-vaginal ultrasound (TVS) and color Doppler in diagnosis of adenomyosis and to assess the role of Doppler indices of the uterine artery and the intramyometrial blood vessels in diagnosis of adenomyosis.

**Materials and methods:** One hundred consecutive women complaining of pelvic pain and or uterine bleeding and were clinically and sonographically diagnosed to have adenomyosis and scheduled for hysterecomy. Eighty patients were recruited and subjected to color Doppler examination in a trial to reach more accurate diagnosis of adenomyosis. Additionally, uterine artery and intramyometrial Doppler studies were measured prior to the scheduled hysterectomy to detect its role in diagnosis. The finding of 2D-TVS and color Doppler were compared to a gold standard of histopathology of the retrieved uterine specimens. Sensitivity, specificity, positive and negative predictive values and overall accuracy were measured.

**Results:** Fifty specimens out of 80 uteri histologically confirmed to have adenomyosis by histopathology. Sensitivity, specificity, positive predictive value, negative predictive value and overall accuracy of the 2D-TVS in the diagnosis of adenomyosis were 76.0%, 83.3%, 88.4%, 67.6% and 78.8%, respectively. However, for combined 2D-TVS and the color-Doppler ultrasound the figures were 86.0%, 86.67%, 91.5%, 78.8% and 86.3%, respectively. Myometrial cysts were the most commonly diagnosed (53.8%) ultrasonographic criteria. Neither uterine artery nor intramyometrial vessels S/D, RI and PI showed significant association with adenomyosis.

**Conclusions:** Combined 2D-TVS and color Doppler ultrasound is superior to 2D-TVS alone in diagnosis of adenomyosis. Uterine artery and intramyometrial Doppler studies were of no diagnostic value in adenomyosis.

**FCS53.7**

**ASSESSMENT OF FETAL HEART IN THE FIRST TRIMESTER TO DIAGNOSE MAJOR CARDIAC ANOMALIES**

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**Objectives:** To assess role of ultrason during first trimester to diagnose cardiac anomalies.

**Method:** Ultrasound done during first then second trimester then post natal exam.

**Results:** First trimester fetal echocardiography detects major anomalies.

**Conclusions:** First trimester fetal echocardiography is possible.

**FCS53.8**

**MATERNAL PERCEPTION OF PRENATAL SONOGRAPHY IN A SOUTH-EASTERN POPULATION IN NIGERIA**

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**Objectives:** The study was designed to assess maternal perception of prenatal sonography in South-Eastern Nigeria.

**Method:** It was carried out on a convenience sample of 150 patients by administering semi-structured questionnaires. The questionnaire contained a total of 17 questions consisting of 16 close ended questions and 1 open ended question. The questionnaire was divided into 3 sections: section A obtains information about sociodemographic characteristics, B obtains information about patient’s perception, and C obtains information about patient’s opinion. The respondents were pregnant women who presented for obstetric sonography in Federal Teaching Hospitals and Federal Medical Centers in South-Eastern Nigeria. The data was analysed descriptively using frequency tables and percentages.

**Results:** There was high indication of clinical use of obstetric ultrasound such as health and well-being of the foetus (35.3%), foetal age determination and expected date of delivery (24.7%) rather than the non-clinical usage like determination of foetal number (4.7%). Most respondents (84.6%) perceived prenatal sonography as being necessary and 66.7% of the patients considered the result of obstetric sonography to be reliable. Majority of the respondents (88.7%) considered the services rendered during their sonographic scan to be satisfactory.

**Conclusions:** Good patient-staff interaction, availability of more trained personnel, provision of an improved ultrasound machine, provision of waiting facilities, appropriate feedback, and standardization of a fixed cost of service, the satisfaction and perceptive of prenatal sonography could be improved.

**FCS54. Imaging in Obstetrics and Gynecology/Infections in Obstetrics and Gynecology**

**FCS54.1**

**HYSTEROSALPINGOGRAPHY IN EVALUATION OF GENITAL TUBERCULOSIS**

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**Objectives:** Tubal assessment is an integral part of female fertility evaluation. Despite of recent advances in imaging tools like computerized tomography, magnetic resonance imaging and ultrasonography, hysterosalpingography is still the standard screening test for evaluation of tubal infertility and a valuable tool for diagnosis of female genital tuberculosis. Genital tuberculosis is a very elusive disease and is very difficult to diagnose. Tuberculosis gives rise to various appearances on hysterosalpingography (HSG) from non-specific changes to specific findings. As hysterosalpingography is a diagnostic procedure, the aim of the study is to know the definitive signs of tuberculosis in hysterosalpingography.

**Method:** A retrospective study of 135 cases of genital tuberculosis who underwent hysterosalpingography for investigation of infertility and were subsequently diagnosed with genital tuberculosis histopathologically are taken into the study. The duration of the study is from 1970 to December 2014. The places of the study are, VSS Medical College, Burla, SCB Medical College, Cuttack, both are tertiary care hospitals and the private clinics of the authors.

**Results:** Tubal occlusion is present in 87% cases. Hydrosalpinx with a “golf club like appearance” is found in 35% cases. “Beaded tube”, (16%), “pipetem tube” (25%), Cornual block 7%, Intravasation and extravasation of dye (21%) are other findings. Normal uterine cavity (59%), irregular cavity (23%), shrunken cavity (3%), and synechie (15%) are observed in Uterus. Other findings are “dwarfed” uterus with lymphatic invasation and “T-shaped” uterus, “Pseudo sunray unicornuate” uterus is observed in Uterus. Cervical findings are elongated tubes (6%) and sun ray appearances (4%).

**Conclusions:** Most of the patients are in their third decade of life, 110 vs 25. Primary infertility more common than secondary infertility. 99 vs 36. The duration of infertility, more than 5 years in majority. Hydrosalpinx may be specific or nonspecific, and moderate or slight is found in 35% cases. HSG is a simple outpatient investigation, is relatively affordable, has well established therapeutic advantages and is associated with low frequency of complications. The characteristic
radiographic appearances on HSG are reliable indicators of genital tuberculosis. However, hysterosalinography should never be done once the disease is diagnosed.

**FC54.2**

**THREE-DIMENSIONAL ULTRASOUND OF RECTOSIGMOID ENDOMETRIOSIS: INTRA- AND INTEROBSERVER VARIATION OF LESION SIZE**

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**Objectives:** The aim of this study was to investigate the variation within and between observers measuring volume of rectosigmoid endometriosis, by the use of transvaginal three-dimensional ultrasound. This knowledge is a prerequisite before trying to apply the method in the clinical setting. An ongoing study from our group relates growth of rectosigmoid endometriosis to the patient’s symptoms of disease. The study implies a good intra-and interobserver variation when measuring the volume of rectosigmoid endometriosis. In addition, no research has been found that investigated the intra- and interobserver variation when measuring volume of rectosigmoid endometriosis in detail.

**Method:** The study was conducted at the Department of Obstetrics and Gynecology, Aarhus University Hospital, Denmark. Three-dimensional ultrasound scans of rectosigmoid endometriosis were collected using a Voluson® E8 machine (GE Healthcare, Wauwatosa, WI, USA) with a 6–12 MHz vaginal probe. Scans were chosen for analysis, on the basis of quality of the scan and demarcation of the rectosigmoid lesion. Virtual Organ Computer-aided analysis within the software of 4D View® was used to measure the volume of each lesion. Only the growth into the muscularis propria in the rectosigmoid wall was evaluated. Testing for systematic difference was done using paired t-test.

**Results:** Thirty three-dimensional ultrasound scans were measured. In Bland Altman plots we found that the differences between and within observers were not related to the average size of the lesion. The average volume of rectosigmoid endometriosis was 1.71 cm³. The mean difference between observers was 0.10 cm³ (95% CI: 0.02; 0.19), which was statistically significant. Ninety-five percent limits of agreements for the interobserver variation were −0.35 to 0.58 cm³. The difference within one observer measuring the same volume twice was 0.15 cm³ (0.07; 0.23) cm³ and statistically significant. Ninety-five percent limits of agreements for the intraobserver variation was −0.27 to 0.58 cm³.

**Conclusions:** This study shows small variability within and between observers measuring volume of rectosigmoid endometriosis. Volume measurement of a three-dimensional ultrasound scan can be applied in the clinical setting. Earlier we have found less satisfying values for interobserver variation with two-dimensional ultrasound. Based on the average size of rectosigmoid endometriosis and the difference between and within observers, we believe that a 10% change of the size or more is clinically relevant. There is a statistically significant difference between and within observers, but the absolute magnitude is so small that it is not considered to be of clinical importance.

**FC54.3**

**PREVALENCE OF TRICHOMONAS VAGINALIS INFECTION IN EGYPTIAN WOMEN: CROSS-SECTIONAL STUDY**

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**Objectives:** The aim of this cross-sectional study was to measure the prevalence of abnormal Pap smears in women with SLE and to evaluate the associations between HPV infection, the use of immunosuppressant and abnormal Pap smears among women with SLE.

**Method:** 52 patients having SLE were recruited in this study. Pap smear and HPV testing using Immunostaining analysis of the specimens was done using labeled streptavidin biotin (LSAB Kit, Dako). The smear slides were fixed overnight in absolute alcohol. After blocking. Endogenous peroxidase, (HPV) ab-3 monoclonal antibody, ready to use (thermo scientific, USA) was applied and incubated for 30 minutes. Endogenous peroxidase, (HPV) ab-3 monoclonal antibody, ready to use (thermo scientific, USA) was applied and incubated for 30 minutes. Three vaginal swabs were collected from the posterior fornix of the vagina by a sterile cotton wool swab sticks with wooden shafts to be examined as follows: The first swab was kept, for wet mount microscopy and Glems staining. The second swab was kept in one of the Kalon TV latex tubes and The third swab was inoculated immediately into the culture tube containing modified Diamond’s medium.

**Results:** Table 1 shows that in our study, there is no correlation between the IUD use and trichomonal infection. (p value:0.669).

**Conclusions:** Latex agglutination is a rapid commercially available kit for detection of T. vaginalis antigens It will be an important addition to the techniques available for T. vaginalis detection. It requires less technical expertise and it could be used to diagnose trichomoniasis when there is difficult access to a microscope and when culture media are not available. Therefore, it could be used as a screening test when rapid diagnostic results are required. It is also recommended to increase the health awareness of females in public health units to seek medical advice if there is any excess discharge or any abnormal symptoms.

**FC54.4**

**PREVALENCE OF ABNORMAL PAP SMEAR AMONG WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS: CROSS-SECTIONAL STUDY**

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**Objectives:** The aim of this cross-sectional study was to measure the prevalence of abnormal Pap smears in women with SLE and to evaluate the associations between HPV infection, the use of immunosuppressant and abnormal Pap smears among women with SLE.

**Method:** Out of the total 50 positive cases, 30 cases were using IUD (4.3%), 10 cases pills (14.3%) and 10 cases no contraception (5.3%). These results show that, in our study, there is no correlation between the IUD use and trichomonal infection. (p value:0.0001).

**Conclusions:** This study provides further evidence that women having SLE are at increased risk of developing cervical changes than their equivalent and highlight the importance of careful screening of those women with lupus. Thus, prospective studies are needed to ascertain the natural history of cervical atypia and HPV infection in SLE women.
FCS54.5
SURGICAL SITE INFECTION IN OBSTETRICS, DGH EXPERIENCE
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Objectives: The two commonest surgical procedures in obstetrics are caesarean and instrumental operative deliveries involving different surgical sites. Inadequate healing of both perineal and abdominal wound have both psychological and financial implication for all. Post-operative morbidity like wound breakdown associated with surgical site infections (SSI) can affect post-natal quality of life of patient & may also affect future maternal choice of delivery. The factors affecting wound healing in pregnancy may be totally different from other gynaecological operations. As part of clinical governance strategy a continuous audit of our practise and outcome in areas of abdominal and perineal wound is undertaken in Royal Berkshire Hospital, Reading, UK.

Method: A retrospective audit are undertaken reviewing the maternity cases that return with problems relating to perineal repair & Caesarean section wound break down from December 2012 to July 2013. A list of women seen in hospital with breakdown perineum and abdominal wound was provided by the Maternity Risk Manager.

Results: 1. The percentage to mode of delivery is as follows: Emergency C-section – 30%, Forceps – 30%, Elective C-section – 24%, Ventouse – 10%, SVD – 6%. 2. There is no strong correlation with BMI for both abdominal and perineal breakdown. 3. Medical conditions that affect wound break downs were Gestational Diabetes – 10%, Diabetes Type II – 3%, Induction of Labour – 10%, Pyrexia in Labour Tx with antibiotics – 6% Hx of STI – 10%. 4. The incidence of SSI for both abdominal & perineal in obstetrics showed sessional variation since the audit began with peak towards the warm months.

Conclusions: The audit did not show any relationship between abdominal & perineal wound breakdown with increasing BMI. Both forceps delivery and emergency C-section have equal association with SSI infection in obstetrics however the location of infection may be different. While both sites may have different morbidity both may have equal postnatal psychological impact on the patients. Gestational diabetes and pyrexia in labour have associated risk with abdominal wound SSI and breakdown but does not show any significant association with perineal SSI. Induction of labour and history of STI has strong association with perineal wound breakdown or SSI.

FCS54.6
SEROPREVALENCE OF HEPATITIS B VIRUS INFECTION AND INFECTIVITY STATUS AMONG PREGNANT WOMEN IN UMUAHIA, SOUTH-EAST NIGERIA
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Objectives: To determine the seroprevalence of Hepatitis B Surface antigen (HBsAg) and infectivity status among pregnant women.

Method: A cross sectional study carried out among pregnant women attending antenatal clinic or delivering at Federal Medical Center (FMC) Umuahia was done by simple random sampling using a computer generated table of random numbers. HBsAg screening was done using an immunochromatographic test kit. The main outcome measure was detection of Hepatitis B Virus (HBV) carriage and infectivity by detecting the presence of HBsAg and HBeAg respectively in the sera. Statistical analysis was done using Epi Info 2008 version 3.5.1 and statistical significance was set at p<0.05 at 95% confidence interval.

Results: A total of 300 pregnant women were recruited into the study. Of these, 5 tested positive to HBsAg, giving a seroprevalence of 1.7%. None of the five HBsAg positive pregnant women tested positive to HBeAg. The HBV/HIV co-infection rate was 0.7%. Although 40% of HBsAg positive women were in the upper socio-economic class, no bio-social characteristic was found to be associated with hepatitis B serostatus. Forty percent of the HBsAg positive pregnant women were nulliparous. Of the expected risk factors, only a previous history of contact with one who jaundice was statistically significant (p=0.003, df=1).

Conclusions: The prevalence of the hepatitis B virus among the pregnant women in the study area is low and transmission is predominantly horizontal. Universal Infant Immunization with emphasis on a Birth Dose Programme and immunization of the population at risk is recommended.

FCS54.7
PERINATAL TRANSMISSION OF HEPATITIS B VIRUS INFECTION IN ILE-IFE, SOUTH WESTERN NIGERIA
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Objectives: To determine the perinatal transmission risk of HBV, and the maternal characteristics influencing it in Ile-Ife, Nigeria.

Method: This cross-sectional study was conducted at the Obafemi Awolowo University Teaching Hospital, Ile-Ife, Nigeria. HBsAg-positive pregnant women identified through routine antenatal screening were followed-up till delivery. Maternal and cord blood samples were obtained at delivery. The sera of each mother-baby pair were analyzed for HBsAg, HBeAg, HBeAb, HBsAb and HBCab using an immunochromatographic 5-in-1 panel kit. Quantitative HBV-DNA was assessed using a PCR based technique. Intrauterine infection was defined as HBsAg positivity and/or HBV-DNA in neonatal blood. Confidence level was set at 95% (p<0.05).

Results: Of the 716 pregnant women screened 73 (10.2%) were HBsAg-positive. Fifty of these HBsAg-positive women completed the study. Twelve (24%) of their newborns were HBsAg-positive and 36 (72%) had detectable HBV-DNA (≥ 100 copies/ml). Overall, HBV perinatal transmission risk was 72%. High maternal HBV-DNA titre was associated with increased neonatal HBV-DNA titre (p=0.001). Parity, maternal age, andmode of delivery showed no association with perinatal transmission.

Conclusions: The risk of perinatal HBV transmission in Ile-Ife is high. Perinatal transmission is increased in the presence of high maternal viremia. Appropriate prophylaxis for HBsAg-positive mothers and their newborns is advocated.

FCS54.8
LOGIC MODEL EVALUATION OF MAKING VACCINATION PAINLESS IN OBSTETRICAL/GYNECOLOGICAL PRACTICE
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Objectives: Identify medical means to reduce or eliminate vaccination injection fear and/or discomfort in an effort to avoid vaccine-preventable causes of stillbirth and damaged babies at birth.

Method: We performed Medline and PubMed English-language searches for controlled or uncontrolled evidence for prevention of vaccination injection pain. We hierarchically categorized recommendations according to U.S. Public Health Service (USPHS) criteria.
Results: (1) Our review of current (FIGO/ACOG) publications showed no mention of vaccine injection pain and no means to prevent injection pain.
(2) Recommendations supported by USPHS class I or II evidence include: (a) medical providers can provide distractions at the time of injection; (b) use of cold or vibration at skin site contralateral to the proposed injection site; (c) inject the most painful shot last; and (d) do not invoke “man up” imprecations or false reassurances.

Conclusions: (1) Evidence from non-reproductive medicine literature demonstrates effective means to reduce vaccination injection pain.
(2) The listed USPHS recommended suggestions can be utilized without cost or difficulty in clinical OB/GYN practice.

FCS55. Infections in Obstetrics and Gynecology

FCS55.1 PRIMARY BEHAVIORAL PREVENTION OF FETAL DEATH AND CONGENITAL INFECTION CAUSED BY MATERNAL INFECTION USING A CHECKLIST-ENABLED ACRONYM PROMPT “LESS BABY TORCHES”
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Objectives: Using established microbiologic, epidemiologic, and systems-based pregnancy care knowledge, we collaboratively modified a widely-known medical-teaching mnemonic “TORCHES” for 1) recognizing/remembering important and preventable “textbook” causes of vertical infections which may lead to fetal death (FD) (including stillbirth) or congenital infection (CI), and 2) enabling a novel teaching device for both pregnancy providers and patients to enable locally practicable evidence-based, behavioral prevention strategies.

Method: We employed “Logic Analysis” systematic literature review and responded to parent enquiries via crowdsourcing.

Results: We propose “LESS BABY TORCHES” as follows to enable, inform, and guide primary behavioral prevention of FD or CI: L for Listeria (food selection/preparation) and Leishmaniasis (bug bite avoidance); E for Enteroviruses (hygiene, food preparation, handwashing); S for Syphillis (new sex contacts, use condoms); S for Seasonal infections such as influenza (immunization) and West Nile Virus (avoid mosquito bites); A for Asymptomatic bacteriuria (ASB/Urinary tract infection screening); B for Borrelia species (Lyme disease/tick precautions); Y for Barnyard leptospirosis (hygiene); T for Toxoplasma gondii (food selection/preparation) and Tuberculosis (vaccination); others to follow.

Conclusions: 1) We derived an expanded behavior-oriented checklist that may be individualized on the basis of location, season, environment, lifestyle, food style, and personal factor (immunization status) evidence-based prevention strategies.
2) Individually generated checklists can enable behavior change and generate patient problem lists for providers, payors, and policy makers.
3) Generated checklists may be incorporated into electronic medical records (EMRs) and be adapted to become quality performance standards (HEDIS, USPHS, WHO) which may also lessen morbidity costs and liabilities.

FCS55.2 REDUCING PERINATAL INFECTION RISKS FROM SEXUALLY TRANSMISSIBLE COMPONENTS OF THE REPRODUCTIVE TRACT MICROBIOME THROUGH PARENTAL BEHAVIOR CHANGES: A CROWDSOURCED-INSPIRED ANALYSIS
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Objectives: Devise biologically-based primary prevention behavioral strategies to reduce risks of potentially lethal or damaging vertical infections caused by genito-urinary/reproductive microbiome microorganisms.

Method: We agglomerated questions and answers regarding microbiologic and infectious disease (ID) into action-oriented responses.

Results: 1) Enquiring parents readily comprehended (microbe-host) pathophysiological principles including necessity to “screen and treat” commonly accepted STDs (or venereal disease [VD]) which are recommended to be screened during pregnancy by the Centers for Disease Control and Prevention (CDC), the American Congress of Obstetricians and Gynecologists (ACOG), or other bodies. 2) Parents frequently express frustration and dismay that pregnant women are not screened for recognized bacterial, viral, fungal, or pathologic vaginal microflora such as “bacterial vaginosis (BV)” or dysbiosis.
3) Once informed, parents readily understood that various microbes (e.g., GBS, CMV, and HSV) may be transmitted or inoculated during sexual contact.

Conclusions: Understanding of possible transmission methods may lead to new research initiatives to reduce the risk of GBS disease.

FCS55.3 PRIMARY PREVENTION OF PRETERM BIRTH ASSOCIATED WITH PREVALENT REPRODUCTIVE TRACT INFECTION: A CRITICAL TIME AND TREATMENT ANALYSIS FOCUSING ON BACTERIAL VAGINOSIS AND ABNORMAL VAGINAL MICROFLORA
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Objectives: Analyze selected prospective controlled trials evaluating primary prevention of preterm birth (PTB) or late miscarriage (LM) associated with bacterial vaginosis (BV) and/or related abnormal vaginal microflora for factors associated with clinical success.

Method: Searches in Medline, PubMed and Cochrane Database indexes were conducted to identify English language studies published which reported experimental trials of antibiotic treatment intended to reduce risk of PTB, LM, and related other outcomes among asymptomatic women with BV or related abnormal vaginal bacteria.

Results: Ten studies met evaluation criteria. Four study characteristics associated with >0.50 reduction in PTB or LM were identified: 1) early (<20 weeks gestation) screening and completed treatment; 2) clindamycin (macrolide/lincomamide) oral or topical treatment; 3) comprehensive “screen and treat” study designs in which prevalent reproductive tract infections (RTIs) were systematically identified and treated; and 4) timely “test of cure” (TOC) with indicated re-treatment. Overall, populations at highest risk of idio-pathic/unexplained PTB benefitted most, as did African-American women. Metronidazole treatment was observed to be beneficial when given early in pregnancy.

Conclusions: Trials evaluating prevention of PTB and/or LM demonstrated biologically plausible and clinically practicable features that were associated with improved outcomes: 1) early gestation screening and treatment of BV and/or abnormal microflora followed by TOC with indicated re-treatment; 2) use of oral or vaginal clindamycin for
treatment at <20 weeks gestation; and 3) comprehensive screening and treatment of prevalent genito-urinary infections and BV. Benefits tended to be greatest in populations with higher rates of PTB. These findings can inform both future research design and clinical care strategies designed to prevent PTB and associated sequelae caused by susceptible infections/BV and inflammation.

**FCSS5.4**

**RELPAROTOMY AFTER GYNECOLOGICAL & OBSTETRICAL OPERATION IN DEPARTMENT OF OBSTETRICS & GYNECOLOGY OF RAJSHAHI MEDICAL COLLEGE HOSPITAL, BANGLADESH – EXPERIENCE OF ONE YEAR**

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**Objectives:** Relaparotomy is a life saving measure where early abdominal second interventions have advocated for various complications arising from primary surgery. Now a days with the rising trend of caesarian section in Bangladesh, the rate of post operative complications are also gradually increasing. Among the gynecological operations total abdominal hysterectomy accounted for majority of surgery with significant morbidity. Objective of this study is analysis of cases requiring relaparotomy following primary surgery in obstetrics and gynecology, its incidence, indications, risk factors and outcome of patients in a tertiary referral hospital. So that measures can be taken to prevent these dreadful emergency situations.

**Method:** A cross-sectional observational study during a period of one year from July 2013 to June 2014 in the department of Obstetrics and Gynecology of Rajshahi Medical College Hospital (RMCH) of Bangladesh was performed. All the cases among which relaparotomy were done after primary surgery were recorded following a prepared questionnaire protocol. The data were collected from patients and attendants history, operation theater records, discharge and referral notes of the primary operations. Demographic profile, indications of primary operations, indications of relaparotomy and outcome were assessed in 66 patients who underwent a relaparotomy after the initial obstetric or gynecological surgery.

**Results:** Total 17,452 patients were admitted in department of Obs & Gynae, RMCH during the study period, about 6721 patients needed emergency operations, among them 66 patients underwent relaparotomy. Incidence was 0.98%. Indications of relaparotomy included infection (38.4%), peritonitis (26.9%), bowel perforation (19.7%), urinary tract infection (9%), paralytic ileus (4.5%), hernia (2.9%), postpartum hemorrhage (2.9%), rectus sheath hematoma (12%), burst abdomen (5%) and retained foreign body (2%). Often more than one procedure was needed to manage the cases. Total 12 patients died after relaparotomy. Death occurs due to renal failure in 7 patients, in haemorrhagic shock 3 and DIC in 2 cases.

**Conclusions:** Relaparotomy causes much morbidity & mortality with increase in hospital stay and cost. Though many cases required reoperations after gynecological surgeries but mortality was more in reoperations done after primary obstetrical surgeries. Careful selection of cases for primary operation, expertise of the surgeon, good surgical technique and careful postoperative follow-up can reduce the need for relaparotomy.

**FCSS5.5**

**TYPE OF CAUSATIVE ORGANISM, ITS CLINICAL CORRELATION AND ANTIBIOTIC SENSITIVITY IN CASE OF SEPTIC ABORTION**

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**Objectives:** Abortion is a sensitive and contentious issue with religious, moral, culture and political dimensions. It is also a public health concern in many parts of the world. Infected abortion is the one of the major cause of maternal mortality in developing countries. To perform a correlation analysis between bacterial pattern and antibiotic sensitivity for buildup standard antibiotic schedule for the treatment.

**Method:** This cross sectional study was done in admitted patients with infected abortion in dept. of Obs & Gynae of Dhaka Medical College Hospital from January - December 2007, without antibiotics for last two weeks. high vaginal swab was taken from posterior fornix of vagina. Specimens were inoculated in to three Medias (Blood Brain Agar, Mac Conkey’s Agar, and Muller Hinton Agar) at 37°C temperature for 48 hours. Then injectable antibiotic was used empirically and changed according to culture sensitivity report. Data was analyzed by SPSSv12. Measures of dispersion (mean, standard deviation), test of significance ($\chi^2$ test), t test was performed.

**Results:** Total 56 patients were enrolled by purposive sampling. 82% were clinically presented with vaginal bleeding, 62% with pain abdomen and 14% with abdominal distension. Anaerobic culture was unavailable. Organisms were E coli (75.4%), Klebsiolla (56.4%), Proteus (17%), Pseudomonas (31.2%), Staphylococcus (3%) which were sensitive to Cephalosporin, 4-Amino Quinolones and Penicillin. Causative organisms are multiple in varieties. No growth was found in 8.5%. After antibiotic and blood transfusion, surgery was needed in 85.72% cases, includes evacuation, dilatation & curettage, repair, laparotomy followed by total abdominal hysterectomy. One Patient was died of septic shock in study period.

**Conclusions:** Proper antibiotic should be applied to prevent the untoward consequence of septic abortion, as well as contraceptive practice should be improved.

**FCSS5.6**

**PARTNER DISCLOSURE OF HIV STATUS IN PREVENTION OF MOTHER TO CHILD TRANSMISSION PROGRAMME IN NIGERIA**

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**Objectives:** Male partner involvement is an effective intervention in Prevention of Mother to Child transmission (PMTCT) programmes. The objective of this study was to determine the effectiveness of male partner notification by HIV positive women in the PMTCT programme and to identify gaps that can be improved upon to facilitate the successful implementation of PMTCT programme.

**Method:** The PMTCT registers from January to December, 2008 at the UNICEF supported PMTCT facilities of six states (Akwa Ibom, Bayelsa, Benue, Ebonyi, Enugu and Rivers) were reviewed retrospectively. The states are among those with the highest HIV prevalence in Nigeria.

**Results:** During the one year study period a total of 94,579 pregnant women accessed PMTCT services and 86,069 (91%) of them accepted HIV counseling and testing. Out of those women tested, 13,773 (16%) were HIV positive and 7,255 (52.3%) of them agreed to partner notification. A total of 1,315 (18.3%) of the partners responded and 87.6% of them accepted HIV testing. Six hundred and three (52.3%) were HIV positive, giving a sero discordant status rate of 47.3%.

**Conclusions:** Appropriate counseling of all women who register for antenatal should be explored to achieve universal HIV testing. The number of male partners who responded and had HIV Counseling and Testing was low compared to the number of women who agreed to partner notification. It is not known if all the male partners were actually notified. However, strategies should be developed to ensure direct male partner participation.
OBJECTIVES: Mother-to-child transmission of HIV constitutes a substantial burden of new HIV infections in sub-Saharan Africa. Prevention of mother-to-child transmission of HIV (PMTCT) faces the challenges of access to and utilisation of antenatal clinic (ANC) services. Loss to follow-up continues to undermine the effective PMTCT.

Method: We conducted a descriptive cross-sectional study of 269 mother-infant pairs enrolled into the PMTCT programme of the Hospital between January and December 2013. We obtain information on socio-demographic characteristics, parity, HAART use by the mother, Gestational age at booking, prophylaxis given at birth and feeding options. We screened all newborns based on national PMTCT guidelines. We conducted bivariate and multivariate analyses to determine factors associated with effective PMTCT.

Results: A total 64 (23.6%) women had at least four antenatal visits, 144 (53.5%) delivered in the hospital. Only 64 (23.6%) were on HAART during pregnancy. All the 15 (5.5%) transmission had occurred by 6 weeks postpartum, the mothers were not on HAART and 12 (80%) practiced exclusive breast feeding. Reasons for not attending ANC regularly was long distance from home 104 (50.7%), for delivering at home was lack of efficient means of transportation 69 (55.2%) and for exclusive breastfeeding was cost 198 (73.6%). Most 133 (64.9%) of those not on HAART during pregnancy had poor knowledge of PMTCT.

Conclusions: Exclusive breastfeeding and non use of HAART were associated with increased risk of HIV transmission. Community sensitization on the importance of PMTCT, Provision of wider access to HAART and support for safer infant feeding practices are recommended.

Obstetric and gynecologic infections with Clostridium sordellii and Clostridium perfringens have resulted in a toxic shock-like syndrome with a very high fatality rate. This study aimed to characterize the presence of these bacteria in the vagina and rectum, identify correlates of presence and presence of key toxins, and describe antimicrobial susceptibility.

Method: A quasi-representative sample of reproductive-age women in the U.S. were screened at up to three time points using vaginal and rectal swabs analyzed by PCR and culture methods. We used multivariate regression models to explore predictors of presence. Isolate identification was confirmed through MALDI-TOF, strains were characterized by PFGE, and PCR assays tested for toxins. We tested 90 isolates of each species for susceptibility to 10 antimicrobials by the CLSI reference agar dilution method.

Results: Of 4152 participants, 3% were positive for C. sordellii and 10% for C. perfringens at baseline. Presence of the bacteria was not associated with any adverse outcomes, and the vast majority who had positive results for the bacteria had negative results at the following visit. Pregnancy status, antibiotic usage, and undergoing an abortion were not associated with presence. Two of 238 C. sordellii isolates contained the lethal toxin gene and none contained the hemorrhagic toxin gene. Both species were 100% susceptible to seven antimicrobials, with highest rates of resistance seen for doxycycline.

Conclusions: The relatively rare and transient nature of C. sordellii and C. perfringens presence in the vagina and rectum make it inadvisable to use any screening or prophylactic approach to try to prevent clostridial infection.

OBJECTIVES: Identify the various gynecologic manifestations of the human papilloma virus genotypes.

Method: We studied 64 patients with positive PCR result for human papilloma virus, determining viral type, cytology, colposcopy and histopathologic confirmation of the clinical manifestation as well as search for other associated infections.

Results: Only 9% (6/64) has coinfection, i.e. more than a viral type. Between 28 to 38 years, is the most affected age group 52% (33/64). The viral types, more frequent were 31.33, 51, 39, 16 and 59 among others. The 11% (7/64) is a carrier of the infection. The 14% (9/64) condylomata, 41% (26/64) presence of Koiolyctes. 16% (19/64) CIN 1, 1% (6/64) CIN 2, 8% (5/64) CERVICAL CANCER in situ and 1% adenocarcinoma. In the high-grade lesions were detected various viral types 33, 51, 16, 39, 45 and 59.

Conclusions: Starting from the local incidence of HPV infection that is 9% of the population. In this study, the coinfection, did not determine the severity of the injury. The 18% of the patients affected by human papilloma virus presented high-grade lesions and cancer in situ. The vast majority 71% studying with gynecologic manifestation of low grade. The 11% is asymptomatic carrier. In the high-grade lesions, the viral types were frequent, 33, 51, 16, 39, 45 and 59. This study provides an understanding of the variability of viral types as well as its presentation gynecological in our population.

OBJECTIVES: Study provides an understanding of the variability of viral types among women in the United States.

Method: We conducted a descriptive cross-sectional study of 269 mother-infant pairs enrolled into the PMTCT programme of the Hospital between January and December 2013. We obtain information on socio-demographic characteristics, parity, HAART use by the mother, Gestational age at booking, prophylaxis given at birth and feeding options. We screened all newborns based on national PMTCT guidelines. We conducted bivariate and multivariate analyses to determine factors associated with effective PMTCT.

Results: A total 64 (23.6%) women had at least four antenatal visits, 144 (53.5%) delivered in the hospital. Only 64 (23.6%) were on HAART during pregnancy. All the 15 (5.5%) transmission had occurred by 6 weeks postpartum, the mothers were not on HAART and 12 (80%) practiced exclusive breast feeding. Reasons for not attending ANC regularly was long distance from home 104 (50.7%), for delivering at home was lack of efficient means of transportation 69 (55.2%) and for exclusive breastfeeding was cost 198 (73.6%). Most 133 (64.9%) of those not on HAART during pregnancy had poor knowledge of PMTCT.

Conclusions: Exclusive breastfeeding and non use of HAART were associated with increased risk of HIV transmission. Community sensitization on the importance of PMTCT, Provision of wider access to HAART and support for safer infant feeding practices are recommended.

OBJECTIVES: To describe antimicrobial susceptibility.

Method: A quasi-representative sample of reproductive-age women in the U.S. were screened at up to three time points using vaginal and rectal swabs analyzed by PCR and culture methods. We used multivariate regression models to explore predictors of presence. Isolate identification was confirmed through MALDI-TOF, strains were characterized by PFGE, and PCR assays tested for toxins. We tested 90 isolates of each species for susceptibility to 10 antimicrobials by the CLSI reference agar dilution method.

Results: Of 4152 participants, 3% were positive for C. sordellii and 10% for C. perfringens at baseline. Presence of the bacteria was not associated with any adverse outcomes, and the vast majority who had positive results for the bacteria had negative results at the following visit. Pregnancy status, antibiotic usage, and undergoing an abortion were not associated with presence. Two of 238 C. sordellii isolates contained the lethal toxin gene and none contained the hemorrhagic toxin gene. Both species were 100% susceptible to seven antimicrobials, with highest rates of resistance seen for doxycycline.

Conclusions: The relatively rare and transient nature of C. sordellii and C. perfringens presence in the vagina and rectum make it inadvisable to use any screening or prophylactic approach to try to prevent clostridial infection.
When in different periods of formation, and different species of lactobacilli have various effects on the biofilm. Lactobacilli can also interfere the formation of biofilm, approximately. Lactobacilli can also interfere the formation of biofilm, 24h after cultivation and the biofilm comes to be mature after 48h after the biofilm had formed and cocultivated these bacteria for 4h, 8h, 12h, 16h, 20h, 24h, 48h, 72h, 96h and 7th day respectively. Then, we added equal amount of lactobacilli at 0h, 24h, 48h after the biofilm had formed and co-cultivated these bacteria for another 24h to observe the formation of Gardnerella vaginalis biofilm with LIVE/DEAD BacLight Bacterial Viability Kit. The five strains of lactobacilli were isolated, purified and identified by the laboratory of gynecology in Peking University First Hospital from the vaginal secretion of patients. The OD values were significantly different at various time points by micro-quantitative analysis. Scanning electron microscope images showed that the scattered single colony existed at 4–20h and began to aggregate at 24h. The images also showed that the colonies attached mutually were surrounded by extracellular polymeric substance at 48h, but there were no changes after 48h. By fluorescent staining, we observed that biofilm became thinned and dispersed at 0h, 24h after adding Lactobacilli. However, there were no differences in density of the colonies. The number of dead bacteria increased and Lactobacilli were the major live bacteria at 48h.

Conclusions: Our results suggest that the process of biofilm formation is relatively slow. Gardnerella vaginalis begins to form biofilm at 24h after cultivation and the biofilm come to be mature after 48h approximately. Lactobacilli can also interfere the formation of biofilm, and different species of lactobacilli have various effects on the biofilm when in different periods of formation.

**FC556.3**

**THE EFFECTS OF LACTOBACILLI ON GARDNERELLA VAGINALIS BIOFILM**

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**Objectives:** To observe the growth of Gardnerella vaginalis biofilm in vitro and the effects of lactobacilli on the formation of Gardnerella vaginalis biofilm.

**Method:** We cultivated Gardnerella vaginalis ATCC14018 in vitro to form the biofilm and assessed the amount and the morphology of biofilm at 4h, 8h, 12h, 16h, 20h, 24h, 48h, 72h, 96h and 7th day respectively. Then, we added equal amount of lactobacilli at 0h, 24h, 48h after the biofilm had formed and co-cultivated these bacteria for another 24h to observe the formation of Gardnerella vaginalis biofilm with LIVE/DEAD BacLight Bacterial Viability Kit. The five strains of lactobacilli were isolated, purified and identified by the laboratory of gynecology in Peking University First Hospital from the vaginal secretes of health women.

**Results:** The OD values were significantly different at various time points by micro-quantitative analysis. Scanning electron microscope images showed that the scattered single colony existed at 4–20h and began to aggregate at 24h. The images also showed that the colonies attached mutually were surrounded by extracellular polymeric substance at 48h, but there were no changes after 48h. By fluorescent staining, we observed that biofilm became thinned and dispersed at 0h, 24h after adding Lactobacilli. However, there were no differences in density of the colonies. The number of dead bacteria increased and Lactobacilli were the major live bacteria at 48h.

**Conclusions:** Our results suggest that the process of biofilm formation is relatively slow. Gardnerella vaginalis begins to form biofilm at 24h after cultivation and the biofilm come to be mature after 48h approximately. Lactobacilli can also interfere the formation of biofilm, and different species of lactobacilli have various effects on the biofilm when in different periods of formation.

**FC556.4**

**GENITAL TUBERCULOSIS SERIAL CASE A DILEMMATIC DIAGNOSTIC**

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**Objectives:** Genital tuberculosis of women is part of extra pulmonary forms of tuberculosis. The causative agent is, in most cases, Mycobacterium tuberculosis. Genital tract is commonly affected secondary to a primary lesion via peritoneal, hematogenous or lymphatic spread. Most patients with genital tuberculosis present with infertility, abdominopelvic pain, or menstrual irregularity. The definitive diagnosis is made by microbiology and histology. Because this affection is paucibacillary, these tests may be falsely negative; in fact, diagnosis can then be focused on radiological, endoscopic and nosological arguments.

**Method:** Case series.

**Results:** Reported four cases of genital tuberculosis of a 37 year-old woman that underwent laparotomy due to adnexal mass, intra-operatively found the bowel were adherent to anterior abdomen wall, a 29 year-old, P1 underwent laparotomy due to bilateral adnexal mass, intra-operatively found severe adhesion interna organ genitalia, a 30 year-old, P2, underwent laparoscopy due to abdominal mass suspect genitalia Tuberculosis, intra-operatively found white spots cover all intraabdominal organ, and the last one was a 31 year-old, P0 that underwent laparoscopy due to primary infertility suspect pelvic Tuberculosis, intra-operatively found there was white spots surround interna genitalia organ.

**Conclusions:** The genitourinary tract is the most common site of extra-pulmonary Tuberculosis. The primary focus of genital tuberculosis is fallopian tubes, which are almost always affected bilaterally but not symmetrically. Established the diagnosis is not easy because genital tuberculosis has a wide range of clinical and radiological manifestations with slow growing symptoms.

**FC556.5**

**STUDY ON THE PREDICTIVE VALUE OF HIGH-THROUGHPUT SEQUENCING ON THE RECURRENCE OF BACTERIAL VAGINOSIS**

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**Objectives:** To develop an in-depth and accurate understanding of the composition and ecology of the vagina microbial ecosystem after standard intravaginal treatment by using a high-throughput method based on pyrosequencing of barcoded 16s rDNA. Using this method, we hope to construct the potential correlations between vaginal microbial communities and the treatment outcome.

**Method:** We recruited 192 women (aged 18–53) with regular menstrual cycles to examine vaginitis at Peking University First Hospital. Two vaginal samples (one for gram staining, one for bacterial genome DNA extraction) were collected at the initial visit, 6–8 days and 1 month after a 5-day treatment with intravaginal metronidazole gel. BV was diagnosed according to Nugent and modified Amsel criteria. A total of 204 samples from 68 women were collected and analyzed by 454 pyro-sequencing. The relations between bacterial components at the visit after 6–8 days and treatment outcomes after 1 month were determined by bioinformatical analysis.

**Results:** All of 68 women turned to normal after treatment, while 19 relapsed and 49 had been cured at 1 month. Three situations were observed under microscope at the end of treatment including normal flora, a few bacteria (even no bacteria) and numbers of cocci. According to 454 pyro-sequencing, the vaginal bacterial communities can be divided into 3 clusters at 6–8 days. They were dominated by Lactobacillus, Enterococcus and BV related bacteria including Prevotella, Atopobium, and Gardnerella respectively. It had been proved that the bacterial compositons of all samples at 6–8 days is meaning-
ful to predict the outcomes by bioinformatics analysis like heatmap and Principal component analysis (PCA).

**Conclusions:** The results from this study suggest that 6–8 days after treatment with metronidazole can be a special follow-up point to predict the final treatment outcomes after one month. Molecular tools could help us better understand vaginal microbial populations. It can also evaluate the vaginal bacterial structure accurately than Nugent criteria or Amsel method. We can postulate that this study may provide a theoretical basis on BV treatment individually.

**FC56.6**

**SYPHILIS IN PREGNANCY**

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**Objectives:** Syphilis, a disease caused by *Treponema pallidum* is very rare in Malta. Antenatal screening for syphilis aims for early diagnosis and treatment of the infection to prevent congenital syphilis with its potentially serious complications.

**Method:** A multidisciplinary team including obstetrician, gynaecologist and infectious disease paediatrician who counselled the patient on the effects of syphilis, including fetal complications. The patient was treated with two doses of 2.4 MU of benzathine penicillin intramuscular injection given at weekly interval. Prednisolone 10mg three times daily was given for three days, including the day before and after treatment in order to prevent the Jarisch-Herxheimer reaction. Anamaly scan and serial growth scans were performed and these were all within normal limits. Screening was also offered testing to her one year old daughter.

**Results:** 26 year old secundagravida presented at 13 weeks gestation. Syphilis testing: *Treponema pallidum* Particle Agglutination test (TPPA) positive titer 1:1280+: Veneral disease research laboratory test (VDRL) was however negative <1:1. A syphilis immunoblot was submitted results of which were negative (IgM TP47, TMA, TP17, TP 15, TP 257M, TP 453). A confirmatory sample was sent to a tertiary centre: TPPA <ve at a titre of 1:1280+, Treponema pallidum antibodies IgG IgM positive, Treponema pallidum antibodies (IgM/EIA) <20, VDRL <1:1. The patient was diagnosed with a latent syphilis infection. Tested negative for HIV and Hepatitis.

**Conclusions:** The patient was admitted at 40th gestation for induction of labour. A healthy female baby weighing 3.59kg was born by normal vaginal delivery. The neonate’s titres showed the presence of maternal antibodies but no evidence of congenital syphilis syndrome (VDRL >ve; TPHA 1:1280+: IgM negative). No further treatment was necessary. The neonate will continue being followed up by the paediatricians until she has cleared all the maternal antibodies. This case highlights the importance of antenatal screening for syphilis and its timely treatment and management by the multidisciplinary team in the prevention of potentially serious fetal congenital syphilis.

**FC56.8**

**SCHISTOSOMIASIS AMONG OBSTETRIC FISTULA PATIENTS IN LILONGWE, MALAWI**

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**Objectives:** Malawi has one of the world’s highest rates of infections with the parasite *Schistosoma haematobium*. Schistosomiasis has been documented as an uncommon cause of vesicovaginal fistula and can result in impaired wound healing of urogenital tissues. Therefore, schistosomiasis could be associated with an increased rate of obstetric fistula among women who experience obstructed labor. Schistosomal infection could also lead to a higher failure rate of obstetric fistula repair. We aimed to study the prevalence of schistosomiasis among Malawian women who had recently undergone obstetric fistula repair.

**Method:** From July–October 2013, we conducted *S. haematobium* testing on 96 patients undergoing obstetric fistula repair surgery at the Fistula Care Centre in Lilongwe, Malawi. Urine was obtained post-operatively from the patient’s catheter bag and sent for urine microscopy testing. The results were then entered into a clinical database.

**Results:** The prevalence of *S. haematobium* infection among women with obstetric fistula was 2.1% (n=2). The two patients who tested positive for *S. haematobium* were both from Mangochi District, a lakeshore district with a high rate of *S. haematobium*. Both women were treated for their schistosomal infection upon diagnosis and both women were diagnosed with successful obstetric fistula repairs at the time of discharge.

**Conclusions:** The prevalence of *S. haematobium* in our obstetric fistula patient population was low. Therefore, we do not believe that obstetric fistula formation is linked to *S. haematobium* infection in our patient population or that empiric treatment for *S. haematobium* at our facility would be cost-effective. For other providers in regions with a high *S. haematobium* burden, we recommend testing their obstetric fistula patient population to determine if the prevalence is high enough to warrant empiric schistosomiasis treatment before repair.
FCS56.9
THE POINT IN POINT OF CARE (POC) TESTING FOR SEXUALLY TRANSMITTED INFECTIONS (STIS)
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Objectives: Neisseria gonorrhoea (Ng), Chlamydia trachomatis (Ct) and Trichomonas vaginalis (Tv) combined are three of the most common infectious diseases in the world, with over 488.2 million new infections per year. These infections are often asymptomatic but can lead to serious consequences such as pelvic inflammatory disease, chronic pain, HIV transmission and infertility. Although screening is commonly performed in sexually active people of all ages, empiric treatment often supersedes an accurate diagnosis due to the delay of results and loss to follow-up. The objective of this study was to determine the need for a rapid, POC STI test.

Method: Patients undergoing urine screening tests for STIs and/or patients with concerning exam findings seen at our Women’s Care Center were offered participation in the study. Over a 9 month period 915 participants were enrolled; 257 were seen at the walk-in clinic specifically for STI testing or for an exposure. Using this high risk population composed of 199 females and 58 males, a retrospective chart review was performed to determine the need for POC STI testing.

Results: Among the 257 patients, the incidence of Ct was 13.7% and Ng was 2.3%. Trichomoniasis was not routinely screened for and the 0.8% incidence is significantly underestimated. Of those reporting an exposure, 7% (Ng), 82% (Ct), and 21% (Tv), 43% were appropriately treated empirically at the time of testing; whereas, 56% were overtreated. Only 39% of patients with positive screening results reported symptoms. The amount of time between initial visit and treatment averaged 11 days and 74% of patients were lost to follow-up at the recommended 3 month visit.

Conclusions: The point is, there is an unmet need for simple, affordable POC STI diagnostics. Syndromic approach to treatment and reported exposure, as demonstrated in this study, lacks sensitivity and specificity. The delay in treatment, degree of over-treatment and proportion of patients lost to follow-up is unacceptable. Presumptive treatment is contributing to the epidemic of antibiotic resistance. The ability to diagnose and treat at the same visit is paramount. The innovation of a noninvasive test to rapidly diagnose these common STIs, Tv included, at point of care will meet a tangible need in health care and epidemiology.

FCS57. Information Technology in Gynecology/Labor and Delivery

FCS57.1
FORMAL EDUCATION OR SOCIAL ELECTRONIC MEDIA – WHICH IS BETTER IN CREATING AWARENESS OF EMERGENCY CONTRACEPTION? A STUDY ON NURSING STUDENTS IN NORTH-EAST INDIA
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Objectives: Social electronic media is getting popular in young generation day by day. This study was conducted to compare the depth of awareness created regarding emergency contraception by formal education and social electronic media on nursing students in a tertiary care hospital in North-east India.

Method: It was a prospective randomised controlled parallel group study, done on 200 nursing students of Regional Institute of medical sciences, Imphal, India. Students were equally distributed to formal education group and social electronic media group using WhatsApp and thorough description was given. Awareness regarding emergency contraception was evaluated using pre-tested and pre-validated questionnaire and compared using Chi-Square test and p value.

Results: Awareness of existence of emergency contraceptives was high in WhatsApp group 82% when compared to formal education group 62% with p value 0.0001. Knowledge of proper time frame and efficacy of emergency contraception was higher in WhatsApp group 70% and 65% respectively in comparison to formal education 51% and 55% respectively with p value <0.0001.

Conclusions: Young generation is more inclined to social electronic media, which can be used as a powerful tool to create awareness regarding emergency contraception thereby prevent unwanted pregnancy and its complication.

FCS57.2
WEARABLE TECHNOLOGY USED INTRA-OPERATIVELY TO CONSULT PATHOLOGY IN REAL TIME: A SMALL CASE SERIES OF COLD KNIFE CONE BIOPSIES
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Objectives: Wearable technology such as Glass may prove to be a novel device for physicians to communicate both near and afar. Telemedicine is the use of communication via information technology to provide clinical care. While telemedicine has been used mostly in remote areas to facilitate consultation and critical care, it may even be valuable within a single institution. Namely, Glass may be used to enhance communication between two separate yet synergistic entities: surgery and pathology. This study was conducted to determine the feasibility of using wearable technology to enhance interdisciplinary surgical pathology consultation.

Method: A small case series of cervical cold knife cone biopsies were performed at Hahnemann University Hospital. Google Glass and the software application LiveStream were used across our secure wireless network to transmit video images from the operating room to a remote computer in the Department of Pathology located in a separate area of the hospital.

Results: The surgeon was able to connect to the Department of Pathology via Google Glass and live stream the procedure. Major drawbacks noted include poor battery performance, long transmission latency, and issues with exposure and lighting controls. Poor battery life was addressed by using an external battery. Transmission latency did prolong the interaction, however, did not impede the ability of the pathologist to conceptualize the surgical procedure and specimen orientation. Adjustment of the lighting proved to be the greatest difficulty and will require improvement for future use.

Conclusions: Our case series demonstrates proof-of-concept that wearable computers generate real-time video that enhances the surgical pathology collaboration and facilitates specimen orientation. The surgeon and pathologist collaboration plays a pivotal role in the approach to patients, their diagnosis and treatment. They exist in different domains, functioning independently of each other, yet dependent on one another.

FCS57.3
USE OF AN ELECTRONIC DATA CAPTURE TOOL BY MEDICAL DETAILERS TO EVALUATE PRIVATE PROVIDERS' TRAINING: FOCUS ON IMPROVING KNOWLEDGE AND PERCEPTIONS OF IUD AND MEDICATION ABORTION
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Objectives: Population Services International (PSI) is running a family planning and medication abortion program in Delhi, Rajasthan and Uttar Pradesh. Private obstetricians are trained to offer quality services to eligible women mobilized by PSI’s volunteers. An in-
tervention called “Knowledge Enhancement Exercise for Providers” (KEEP), was introduced in 2014 by PSI’s medical detailers who used a mobile device to display evidence based information on intra-uterine device (IUD) and medication abortion (MA), particularly in areas where providers had been found to be weak during previous “Knowledge, Attitude and Practice” (KAP) surveys. This study documented baseline gaps in those areas prior to the KEEP intervention.

Method: Between September-December 2014, PSI’s medical detailers conducted a survey of its network providers’ knowledge and perceptions about IUD and MA using a GPS-enabled mobile device that administered ten random questions from a question bank programmed into the device. The areas identified included indications of IUD and MA, eligibility of women for IUD or MA, infection prevention practices etc, based upon the evidence based information delivered in the KEEP program. The same providers were re-evaluated every six months. Prior written informed consent was sought from all providers. Data quality assurance was conducted through online monitoring.

Results: In total (N=1100), 90% providers participated in the KEEP evaluation study. Results show that 64% of providers reported correct perception/knowledge about “features of IUD” and 62% reported correct knowledge about “eligibility of a woman for IUD insertion”. Roughly 59% of providers had correct knowledge about both recommended practices for “infection prevention during IUD insertion” and “medical abortion drug regimen” while 86% of providers reported correct knowledge about “indication for post-partum IUD”. Thus, a considerable section of providers had gaps in knowledge/perceptions about the identified areas on IUD and MA, who can be offered customized intervention during follow-up.

Conclusions: The KEEP evaluation study is a more practical approach in a provider training program than a randomized evaluation design where half of the providers would be deprived of a known intervention. It is also expected to demonstrate higher utility and more cost-effectiveness than repeat annual cross sectional surveys, the KAP studies. This exercise was intended to provide information on low performing providers so that customized interventions can be designed from time to time. A successful pilot of this design can be adopted for other health areas where provider training and supervision play an important role.

FCS57.4 BIRTH METHOD SELECTION AND CONCERN OF PREGNANT WOMEN ABOUT THEIR SEXUAL DYSFUNCTION: A CONTENT ANALYSIS STUDY

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Background: Several factors affect the choice of cesarean section and its increasing rate among women. It seems that sexual satisfaction after childbirth plays an important role in this selection. The aim of this study was to describe women’s experiences of concerns and fears due to postpartum sexual dysfunction in the context of birth method selection.

Method: This study was a descriptive qualitative content analysis. Three hospitals and two healthcare centers were the locations of data gathering. Eighteen women who were pregnant, delivered vaginally or underwent elective cesarean section at term were included. Data collection and data analysis was conducted concurrently, and interviews were continued until data saturation was achieved.

Results: The main theme emerged in this study was “sexual attitudes and believes”. Two categories comprising the content of the interviews were “sexual satisfaction” and “preserving the original shape of genital organs”.

Conclusions: Sexual attitudes and believes in the Iranian society play outstanding roles in women’s decisions to choose cesarean section over normal vaginal delivery. Cesarean section selection by women was often influenced by opinions and wishes of husband, family members, peers and friends.

FCS57.5 EFFICACY OF TRAINING OF LOWER CADRE OF HEALTH WORKERS IN THE USE OF PARTOGRAM IN RURAL NIGERIAN HEALTH FACILITIES

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Objectives: To assess the efficacy of training health workers at the primary healthcare level in partogram use and its impact on maternal and perinatal outcome in peripheral health units in a developing country.

Method: Experimental design in which pre- and post-intervention measurements were conducted after training programme of 56 health workers offering delivery services in five primary health care facilities on partogram use. Duration of labour, level of transfer in labour, maternal and perinatal outcome were determined as outcome measures. Data were analysed using the SPSS. Discrete variables were expressed as percentages and presented as frequency tables and cross tabulations. ChiSquare was employed as the test of association between proportions of respondents. Whenever expected cell frequencies were less than five, the likelihood-ratio values were quoted rather than Pearson’s. Statistical significance was accepted at p-values of <0.05.

Results: A total of 242 partograms of women in labor were plotted over a 1-year period; 76.9% of them were correctly plotted. Community health extension workers (CHEWs) plotted 193 (79.8%) partograms and nurse/midwives plotted 49 (20.2%). Inappropriate action based on the partogram occurred in 6.6%. No statistically significant difference was recorded in the rate of correct plotting and consequent decision-making between the nurse/midwives and CHEWs. There was increase in transfer in labour (p=0.013), but reduction in the duration of labour (p=0.00 1); postpartum hemorrhage (p=0.0001), genital sepsis (p=0.0001); perinatal mortality (p=0.0040); and better neonatal Apgar scores at 1 and 5 minutes (p=0.0001).

Conclusions: Lower cadres of primary health care workers can be effectively trained to use the partogram with satisfactory results, and thus contribute towards improved maternal outcomes in developing countries with scarcity of skilled attendants. Introduction of partograph in peripheral health units in a developing country reduced labour complications with resultant reduction in maternal and perinatal mortality and morbidity.

FCS57.6 A RANDOMISED CONTROLLED TRIAL OF EARLY INITIATION OF ORAL FEEDING AFTER CESAREAN SECTION

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Objectives: To evaluate the safety and efficacy of early oral feeding after cesarean delivery.

Method: 200 women with cesarean section were randomly assigned to early feeding or routine feeding. Early feeding group were encouraged to take sips of water 8hours post-operatively, followed by oral tea of 100 mL after another 8 hours. Routine feeding group were managed by restricting oral intake for the first 24 h and administration
of water 24–48 h post-operatively depending on presence of bowel sound. Outcome measures: rate of ileus symptoms, time interval to presence of bowel sounds, passage of flatus, bowel movement, of return to regular diet, length of hospital stay, post-operative complications, acceptability and benefit of early oral feeding.

**Results:** Early feeding group shorter mean post-operative time interval to bowel sounds 18.90±4.17 h versus 36.21±3.52 h (p<0.001), passage of flatus 44.8±2±3.73 h versus 60.58±4.40 h (p<0.001) and bowel movement 58.30±5.91 h versus 72.76±2.25 h (p<0.001). There was no significant difference in paralytic ileus symptoms. Early feeding group had a shorter mean hospital stay 4.80±0.59 days versus 6.69±0.71 days (p=0.001). required less intravenous fluid 7.14±1.34 bottles versus 11.8±1.32 bottles (p<0.001).

**Conclusions:** Early feeding after cesarean section was well tolerated and safe and can be implemented without an increase in adverse outcome.

**FCS57.7**
**EVALUATION OF THE IMPACT OF FETAL EXTRACTION TIME DURING PLANNED CESAREAN SECTION ON THE NEONATAL APGAR SCORE: PROSPECTIVE COHORT STUDY?**

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**Objectives:** To evaluate the relation between fetal extraction time during Cesarean Section, and the neonatal outcome assessed by 1 and 5minutes Apgar score.

**Method:** 100 fullterm, singleton pregnant women were subjected to Cesarean section under spinal anesthesia. The time from initiation of anesthesia till cord clamping (I-C interval) and from the uterine incision till cord clamping (U-C interval) were recorded. 1 and 5min Apgar score were recorded. The incidence of (TTN), (RDS), and NICU admission were noted. The primary outcome was to explore the relation between the Apgar score and the duration of fetal extraction (I-C) and (U-C) intervals. The secondary outcome was to investigate the effect of gestational age and BMI on the fetal extraction time.

**Results:** The relation between I-C interval and 1 and 5min Apgar score was found to be statistically insignificant (p-values=0.32 and 0.72 respectively). However the Apgar score at 5 minutes significantly related to the U-C interval. There was no significant relation between BMI of the pregnant women and Apgar score recorded after 1 min (p-value= 0.802) or after 5 min (p-value=0.895). The incidence of TTN significantly decreased with the advances in the gestational age (p-value= 0.019). Also,TTN was significantly higher when the mean gestational age was <38.4±1.2.

**Conclusions:** The Apgar score at 1 minute is not significantly affected by the I-C interval or the U-C interval, however the U-C interval significantly correlates with the Apgar scores after 5 minutes where an interval more than 1 minute is associated with low 5 minute- Apgar scores (<7).In addition, the type of anesthesia --whether spinal or general, together with number of previous Cesarean deliveries affect the 1 minute and 5 minutes Apgar scores. Other studies with larger sample size are needed to confirm our results.

**FCS57.8**
**MATERNAL HEALTH IN GHANA -MDG 5 APPROXIMATELY 529,000 WOMEN DIE FROM PREGNANCY-RELATED CAUSES ANNUALLY AND ALMOST ALL (99%) OF THESE MATERNAL DEATHS OCCUR IN DEVELOPING NATIONS. CAUSES OF MATERNAL MORTALITY INCLUDE POSTPARTUM HEMORRHAGE, ECLAMPSIA, OBSTRUCTED LABOR, AND SEPSIS**

Lk Otchere. Action on african women foundation, TEMA/GREATER ACCRA, Ghana

Main causes of maternal death in Ghana: Maternal mortality in resource-poor nations has been attributed to the “3 delays”: delay in deciding to seek care, delay in reaching care in time, and delay in receiving adequate treatment. The first delay is on the part of the mother, family, or community not recognizing a life-threatening condition. The second delay is in reaching a health-care facility, and may be due to road conditions, lack of transportation, or location. The third delay occurs at the healthcare facility. Upon arrival, women receive inadequate care or inefficient treatment.

**What contributed to the progress?** A number of interventions introduced by government to improve maternal healthcare include the following:

The implementation of free maternal health services, repositioning family planning and training as well as repositioning reproductice and child health staff.

A safe motherhood task force is operational and government is supporting increased production of midwives through direct midwifery training. For example, with two new midwifery training schools opened in Tamale and other places, the initiative has resulted in 13 per cent increase in national enrolment between 2007 and 2009.

Knowledge in the use of partograph promotes confidence, reduces prolonged labour.

**An impact:** The High Impact Rapid Delivery (HIRD) approach is also being implemented as a complementary strategy to reduce maternal and child mortality. Several districts have indicated progress in service indicators achieved and innovative strategies implemented with regard to improving maternal health Other interventions also include Ghana VAST Survival Programme, Prevention of Maternal Mortality Programme (PMMP), and Safe-Motherhood Initiative. Emergency Obstetric and Neonatal Care (EmONC) is being implemented in all 10 regions, but not yet with full complement of required resources (midwives, equipment).

**Key challenges:** In order to achieve the MDG of reducing maternal mortality by three-quaters, several challenges and bottlenecks have been identified in maternal health services. These challenges include:

- Increase in scaling up maternal health services, particularly at the district level.
- Referrals still remain a problem in many districts. Three out of the five districts visited had no ambulance services.
- There should be enough ambulance at all the district levels, also there should some financial support for family who are very poor at the community levels to enable them go to hospital on time.

**FCS58. Labor and Delivery**

**FCS58.1**
**CHANGING CONCEPT IN THE MANAGEMENT OF PPH-MANAGEMENT OF ATONIA RATHER THAN ATONIC PPH?**

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**Objectives:** To Reduce the Blood loss during deliverly and save each drop of blood to reduce the morbidity and mortality due to PPH. Aggressively manage Atonia rather than Atonic PPH.

**Method:** After active managment of third stage of labour, if atonia is noticed Aggressively manage the Atonia with uterotonics and hit hard at the earliest with all uterotonics. Atonia, which is a definite and consistent finding in atonic PPH. Early surgical intervantion without wasting time. This was studied in 10 patients.

**Results:** The average blood loss in Normal delivery was 150–200 ml, 350–400 ml in LSCS.

**Conclusions:** After doing active management of third stage of Labour, Aggressive management atonia will prevent atonic PPH and reduce the blood loss and prevent morbidity and Mortality due to PPH.
FCSS8.2
DOES THE TYPE OF SURGICAL INTERVENTION AFTER UTERINE RUPTURE AFFECT MATERNAL MORTALITY? A CROSS SECTIONAL STUDY

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Objectives: To determine if hysterectomy compared to repair increases the risk of admission to ICU, duration of hospital stay and the risk of shock and blood transfusions.

Method: Cross sectional study which recruited uterine rupture patients from theatre register and daily obstetric audits in 2012. Duration of hospital stay, admission to intensive care, presence of shock and use of blood products were compared in patients who underwent hysterectomy and those who had repairs. Data was collected at discharge of the patient using a standardised data collection tool by a trained midwife.

Results: There was a statistically increased risk of shock and admission to ICU in the hysterectomy group. Hysterectomies also had increased risk of blood transfusions and duration of hospital stay. This however was not statistically significant.

Conclusions: Hysterectomy in uterine rupture patients reduced the risk of shock. It however increases the risk of admission to intensive care units, need for blood and hospital stay.

FCSS8.3
CAESAREAN SECTION IN RELATION TO SELF-ESTEEM AND PARENTING AMONG NEW MOTHERS IN SOUTH WESTERN NIGERIA

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Objectives: This study aims to assess the self-esteem of newly delivered primiparous women who had caesarean section (CS) in relation to their parenting self-efficacy.

Method: A total of 115 primiparous women who had caesarean section were compared with 97 matched controls who had vaginal delivery during the same period. They completed the Rosenberg self-esteem scale prior to discharge. They also completed the parent-child relationship questionnaire at six weeks postpartum together with the Rosenberg self-esteem scale.

Results: The mean score of the Rosenberg self-esteem scale was significantly lower in the CS group both prior to discharge (p=0.006) and at six weeks (p<0.001) compared to the vaginal delivery group. The mean score of the parent-child relationship questionnaire was also significantly lower in the CS group compared with those who had vaginal delivery (p<0.001; OR 4.71, 95% CI: 1.75–14.71).

Conclusions: CS in Nigerian women is associated with lowered self-esteem and predicts poor parenting self-efficacy in the postpartum period. Psychological support and techniques to improve self-esteem and parenting should be incorporated into the management of women having CS.

FCSS8.4
INDUCTION OF LABOUR AT TERM IN WOMEN WITH ONE PREVIOUS CAESAREAN SECTION IN SOUTH-EAST NIGERIA

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Objectives: To determine the incidence and determinants of successful vaginal birth after caesarean section (VBAC) among pregnant women undergoing induction of labour at term after a previous caesarean section (cs).

Method: This was a prospective multi-center observational study of women, who attempted induction of labour following one previous lower segment caesarean delivery in Nnamdi Azikiwe University Teaching Hospital, Nnewi and Federal Medical Center, Umuahia, both in south-east Nigeria. Analysis was by Epi info 2013 version 7.0 for Windows using descriptive and inferential statistics at 95% level of confidence.

Results: Thirteen women were recruited. The mean gestational age was 40.6±2.1 weeks while mean birth weight was 3.2±1.3 kg. Of the 13 women, 83.3% had Foley catheter inserted intracervically while 16.7% had misoprostol inserted vaginally for cervical ripening. Up to 30.8% had successful vaginal delivery while 69.2% women had failed VBAC; given a ratio of 1:3. Of the nine women with failed VBAC, 77.8% had repeat cs while 22.2% had uterine rupture. Only women that received misoprostol had uterine rupture. Only parity and history of successful vaginal delivery before and/or after the first cs had significant association with success of VBAC (p<0.05).

Conclusions: Approximately one in every three women had successful vaginal delivery after induction of labour in a prior caesarean section and significant determinants of successful VBAC were multiparity, history of a previous vaginal delivery before and or after the first cs. Consultation to these women should include proper and optimal antenatal evaluation of possible favourable factors for successful VBAC following induction of labour.

FCSS8.5
DUTTA’S SCORING TECHNIQUE FOR EARLY DETECTION AND MANAGEMENT OF UTERINE ATONY DURING EMERGENCY LSCS

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Objectives: To analyze the efficacy of Dutta’s score for early detection and management of uterine atony during emergency LSCS and to prevent subsequent post partum hemorrhage.

Method: This study was undertaken at JNM, NSGN, CN at Kalyani, Nadia, West Bengal, India from 1st January 2007 to 31st December 2011. Three hundred cases undergoing emergency LSCS were selected for randomized trial. Clinical observations were made after placental expulsion for scoring which includes shape and size of uterus, ruggosity, tone, placental localization and time of placental expulsion. Score of 0, 1, 2 were given on each observation. Three groups are created depending on scoring: Group A (130) – 8 to 10, Group B (N-100) – 5 to 7 and Group C (N-70) – <5 for better management.

Results: After adopting Dutta’s score, management protocols it was interesting to observe that intra- and post-operative blood loss within 2 hours were found to be significantly reduced in group A – 69.3% (<300 cc), 84.6% (<200 cc) and group B – 70% (<300 cc), 72% (<200 cc). Intra-operative blood loss >500 cc were also found to be reduce in group A – 7.6%, group B – 14%. In group C intra-operative blood loss >500 cc were seen in 47.1% and post-operative – 32.9% cases. Hemoglobin level <11 gms after 24 hours of LSCS was found to be minimally reduced (in comparison to preoperative hemoglobin level) in Group A (1.5%), Group B (2%) and Group C (11.4%).

Conclusions: Early diagnosis and management of uterine atony during emergency LSCS after adopting Dutta’s score was found not only to reduce intra- and post-operative blood loss but also was found to maintain a satisfactory hemoglobin level and hemodynamic status. Maternal mortality was found to be nil. This randomized trial highlighted the importance of prompt treatment in Group C to reduce intra- and post-operative blood loss and maternal morbidity and mortality.
**FCS58.6**
THE ROLE OF CARBETOCIN IN PREVENTION OF POSTPARTUM HEMORRHAGE IN HIGH RISK PATIENTS

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**Objectives:** Evaluation of the prophylactic role of carbetocin versus oxytocin in prevention of the occurrence of PPH in high risk patients.

**Method:** The study included 200 patients pregnant (37–42) weeks gestation having at least one high risk factor for postpartum hemorrhage. Patients were allocated into two groups to receive either 100μg of carbetocin or 20 IU of oxytocin as early as possible after delivery of the anterior shoulder.

**Results:** As regards mean blood loss and incidence of PPH; they were lower in women received carbetocin but with no significant difference between the two groups. A significant difference was noticed between the two groups as regards drop in hemoglobin (mean ± SD: 0.53±0.36 vs. 0.69±0.37) (95% CI −0.26 to −6.22, P=0.02), need for additional uterotonics (95% CI 8.33 to 0.36, P=0.002), interventional procedures, blood transfusion (95% CI −9.68 to 0.18, P=0.04) and occurrence of side effects in favor of carbetocin group.

**Conclusions:** Carbetocin spares the use of additional uterotonics, interventional procedures & blood transfusion with minimal drug related adverse effects and these results establish carbetocin as a perfect alternative to oxytocin as a prophylactic agent against PPH in high risk patients.

**FCS58.7**
INTRAVENOUS INFUSION OF PARACETAMOL VERSUS INTRAVENOUS TRAMADOL AS AN INTRAPARTUM ANALGESIC IN ACTIVE LABOR

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**Objectives:** To evaluate the efficacy and adverse effects of an intravenous infusion of 1000 mg of paracetamol as compared with an intravenous injection of 50mg of tramadol for intrapartum analgesia.

**Method:** In a randomized prospective study at Pt. BDS PGIMS, 200 women in active labor were allocated to received either paracetamol (n=100) or tramadol (n=100). The primary outcome was the efficacy of the drug to supply adequate analgesia as measured by a change in the visual analog scale (VAS) pain intensity score at various times after drug administration. The secondary outcomes included the need for additional rescue analgesia and the presence of adverse maternal or fetal events.

**Results:** The mean age of cases were 25.55±3.849 years and 25.60±3.655 years respectively As recorded by the VAS score, there was significant pain reduction at 30 minutes, and at 1 and 2 hours in both groups (P <0.01). On comparison between group I and II, significantly higher rate of nausea and vomiting in tramadol group (14% vs 8%; P<0.03) patients. Similarly, drowsiness (0% vs 11%; P<0.01), dry mouth (0% vs 8%; P<0.04) and dizziness (0% vs 9%; P<0.02) was also significant in group II.

**Conclusions:** Due to difficulty in administering epidural analgesia to all parturients, administration of paracetamol and tramadol infusion for analgesia is simple and less invasive alternative. In the present study both paracetamol and tramadol were equally effective for labour analgesia but paracetamol has emerged as safe alternative as compared to tramadol due to low incidence of side effects.

**FCS58.8**
PREDICTING THE CHANCE OF VAGINAL DELIVERY AFTER ONE CESAREAN SECTION – VALIDATION AND ELABORATION OF A PUBLISHED PREDICTION MODEL

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**Objectives:** We aimed to validate a widely used US prediction model for vaginal birth after cesarean (Grobman et al., Obstet Gynecol. 2007) and modify it to suit Swedish conditions.

**Method:** Women having experienced one cesarean section and at least one subsequent delivery (n=49,472) in the Swedish Medical Birth Registry 1992–2011 were randomly divided into two data sets. In the development data set, variables associated with successful trial of labor were identified using multiple logistic regression. The predictive ability of the estimates previously published by Grobman et al., and of our modified and new estimates, respectively, was then evaluated using the validation data set. The accuracy of the models for prediction of vaginal birth after cesarean was measured by area under the receiver operating characteristics curve.

**Results:** For maternal age, body mass index, prior vaginal delivery, and prior labor arrest, the odds ratio estimates for vaginal birth after cesarean were similar to those previously published. The prediction accuracy increased when information on indication for the previous cesarean was added (from area under the receiver operating characteristics curve=0.69 to 0.71), and increased further when maternal height and delivery unit cesarean section rates were included (area under the receiver operating characteristics curve=0.74). The correlation between the individual predicted vaginal birth after cesarean probability and the observed trial of labor success rate was high in all the predicted probability deciles.

**Conclusions:** Customization of prediction models for vaginal birth after cesarean is of considerable value. Choosing relevant indicators for a Swedish setting made it possible to achieve excellent prediction accuracy for success in trial of labor after cesarean. During the delicate process of counseling about preferred delivery mode after one cesarean section, considering the results of our study may facilitate the choice between a trial of labor or an elective repeat cesarean section.

**FCS59.1**
FACTORS ASSOCIATED WITH EPISTOMY AMONG PARTURIENTS DELIVERING IN A TERTIARY CARE CENTRE IN NIGERIA

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**Objectives:** The use of routine episiotomy is now less favoured among Obstetricians. Given considerable evidence that it use increases maternal morbidity and without evidence to support maternal or neonatal benefit.

**Objectives:** To determine the current rate of episiotomy among parturients delivering at Federal Medical Centre, Owo, Ondo State, Nigeria and to identify factors associated with episiotomy.

**Method:** The retrospective study was conducted using the delivery records between 1st January 2012 and 31st December 2012. Information were obtained from the delivery register and medical records. There were 802 booked patients who had singleton vaginal deliveries between the studied period. A total of 728 of these patients’ case records were obtained for analysis using SPSS 17.
Results: The incidence of episiotomy was 9.3%. Those age <20 years, nulliparous, those who had assisted breech and instrumental deliveries had more episiotomy (p <0.0001). All the instrumental deliveries and most assisted breech deliveries (67%) were taken by the doctors. Episiotomies were more common when doctors took deliveries (Doctor vs Nurses: 28.6% vs. 5.8%) (p <0.0001).

Conclusions: While this study has identified factors associated with episiotomy, the episiotomy rate remain within normal rate at the studied centre. It is pertinent that health care providers always bear in mind the standard indications for episiotomy. This will go a long way in reducing the episiotomy rate and maintaining the recommended WHO rate of 10%.

FCS59.2 PROVIDER PERFORMANCE IN ANTENATAL AND DELIVERY CARE AT COMMUNITY-LEVEL GOVERNMENT HEALTH SERVICES IN BANGLADESH
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Objectives: The aim of this analysis was to understand the performance of health service providers at UH&FWCs those are supported by MaMoni project in comparison to the all other UH&FWCs in the district.

Background: In Bangladesh government has established the static Maternal and Child Health and Family Planning (MCH-FP) service-providing centers in communities to maximize population service coverage. MaMoni is an integrated project supported this centers for strengthening health system.

Method: In Habiganj district 24 of the 66 union health facilities have been supported by MaMoni project. A total of 34 paramedics at 24 facilities have been deployed to serve local women for their maternity period. A population based survey data including all unions of Habiganj district were analyzed (Total sample 9513 women of reproductive age). Using simple bivariate analysis performance of UH&FWCs were obtained.

Results: Findings show, in the unions where MaMoni HSS supports show more coverage of ANC (77.3% vs 74.8% p=0.01). In the same way, significantly more coverage have found for 4ANC visits by trained providers (41.2% vs 33.7% p=0.00) and distribution of Misoprostol tablets (53.2% vs 45.4% p=0.00) for controlling PPH during home delivery compare to other unions. In the same areas skilled birth attendance at birth has also increased significantly compare to similar facilities were project has no particular intervention (30.1% vs 26.6% p=0.01).

Conclusions: Strategic interventions in the government health facilities increase its utilization of key maternal health interventions at community level in one district in Bangladesh. Overcoming the geographical and socio-cultural barriers around delivery care; community from hard to reach areas prefer government health facilities if they find it functional all around the clock.

FCS90.3 INDUCTION OF LABOR IN WOMEN WITH PREVIOUS CESAREAN SECTION: MIFEPRISTONE VERSUS TRANS-CERVICAL CATHER.
A RANDOMIZED CONTROLLED TRIAL
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Objectives: Cesarean section (CS) rates are increasing worldwide leading to an increase in pregnant women with previous CS. With limited options available, induction of labor is a challenge in pregnant women with previous CS. Hence, search for an ideal agent for induction of labor in these women is need of the hour. So we investigated the role of single dose mifepristone (400 mg) orally for induction of labor in post date women with previous one CS and compared it with trans-cervical Foley’s catheter (TCFC).

Method: In this prospective trial, induction of labor was done in post date (gestation 40 weeks 5 days) pregnant women with previous CS. Women in group 1 received 400 mg of mifepristone orally & those in group 2 were inserted with TCFC. Spontaneous onset of labor (SOL) was recorded. Women were re-assessed 24h and 48h later. If Bishop score was more than 6; amniotomy was done, followed by oxytocin infusion. Primary outcome of the study was SOL. Secondary outcomes were cervical ripening (24h or 48h), vaginal delivery, CS, need of oxytocin and proportion of women with scar dehiscence/rupture in two groups.

Results: From June 2012 to September 2014, we enrolled 107 women. Fifty women were inserted with TCFC and 57 received oral mifepristone. SOL was statistically significantly more in mifepristone group (37/57 vs. 13/50 respectively; p value 0.0001). More women in TCFC group required oxytocin for labor induction as compared to mifepristone group (39/50 vs. 24/57 respectively; p value 0.0007). Scar dehiscence/rupture was seen more commonly (not statistically significant) in group 2 (9/50 vs. 3/57 respectively, p value 0.062). There was no statistically significant difference in rates of normal delivery or CS in either group (p value 0.242 & 0.331 respectively).

Conclusions: Oral mifepristone (400 mg) is a better option for induction of labor in post date pregnant women with previous one CS, as compared to trans-cervical Foley’s catheter.
and nitrous inhalation will be helped to reduce the fear of normal vaginal delivery.

**FCS59.5**

SCREENING FOR PRETERM DELIVERY USING VAGINAL PH AND ULTRASOUND CERVICAL LENGTH MEASUREMENT IN POPULATION WITH SIGNS AND SYMPTOMS OF THREATENED PRETERM DELIVERY

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**Objectives:** To assess diagnostic accuracy of vaginal pH and cervical length (CL) measurement in population of pregnant women with signs and symptoms of threatened preterm delivery (PTD) regarding the prediction of PTD <34 weeks.

**Method:** Prospective cohort study of 120 pregnant women with signs and symptoms of threatened PTD between 24 and 34 weeks. According to the ROC curve analysis the cut off value for vaginal pH was 5.0 (95th percentile) whereas for shortened CL was length 15 mm (5th percentile).

**Results:** The incidence of PTD <34 weeks was 15.8% (19/120). Elevated vaginal pH (>5.0) was found in 19.1% (23/120) whereas shortened CL (<15 mm) was found in 12.5% (17/120). Elevated vaginal pH had two times higher likelihood ratio (LR) in comparison to the shortened CL regarding the prediction of PTD <34 weeks (LR weighted by prevalence 4.3 95% CI [1.3–12.2] versus 2.2 95% CI [1.1–4.2]).

**Conclusions:** Elevated vaginal pH has better accuracy in comparison with shortened CL regarding the prediction of PTD <34 weeks in pregnant woman with signs and symptoms of threatened PTD.

**FCS59.6**

THE EFFECT OF HYOSCINE BUTYLBROMIDE ON LABOR AS A LABOR ACCELERANT & LABOR ANALGESIC: A DOUBLE BLIND RANDOMIZED CONTROLLED CLINICAL TRIAL

**R. Singh, V. Das, U. Singh, S. Deo. King George’s Medical University, Lucknow, India**

**Objectives:** The study was undertaken to observe the effects of 40mg intramuscular Hyoscine butyl bromide on labor as a labor analgesic & labor accelerator.

**Method:** The study was a randomised double blind controlled trial. Two hundred twenty primigravid term pregnant women in spontaneous labor received 2ml of either hyoscine butylbromide (HBB) or placebo intramuscularly in active phase of labor. All were subjected to pain quantification by using the Numeric rating scale at the point of recruitment and 2 hourly thereafter. Since the exact time of full dilatation of cervix is difficult to determine, delivery was taken as the end point. The primary outcome was the injection delivery interval and percentage change in pain. The secondary outcomes were mode of delivery and neonatal Apgar scores.

**Results:** A total of 220 women yielded data for analysis. Of these, 110 women received placebo and 110 received HBB. The two groups were comparable in gestational age & cervical findings at the time of recruitment in the study. The mean injection delivery interval (minutes ± SD) in placebo group was significantly higher as compared to HBB group (254.0±76.6 vs. 194.2±43.5; p=0.001). The percentage change in pain scores from baseline was significant in the HBB versus placebo group (40.4% vs. 20.9%, p=0.001). The neonatal outcome & mode of delivery was comparable in two groups.

**Conclusions:** Hyoscine butyl bromide is effective as a labor analgesic and labor accelerator.

**FCS59.7**

THREE NONINVASIVE INTERVENTIONS FOR PHYSIOLOGIC LABOUR PAIN MANAGEMENT: USE OF BIRTH BALL, SACRUM-PERINEA HEAT THERAPY, AND COMBINED USE OF THEM DURING ACTIVE PHASE

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**Background:** Labor pain is a natural, and unique which could bring major distress for women. Two general approaches for labor pain management, are use of pharmacologic and non-pharmacologic methods. Pharmacologic approach may associate with side effects but non-pharmacologic could be safer.

**Objective:** To evaluate the effectiveness of birth ball usage for pelvic tilt, sacrum-perinea heat therapy and combination use of them on active phase of physiologic labor and delivery process.

**Method:** In this Randomized control trial, 120 Primiparous volunteer with age 18–35 years old, gestational age of 38–40 weeks, whom admitted in one of Hospitals of Iran University of Medical Sciences in Tehran, were randomly selected and divided in four groups: Pelvic tilt by using birth ball, sacrum perinea heat therapy, combined use of two mentioned methods and control group. In this study our tools had 3 main parts of personal characteristic, Client examination form and pain visual analogue scale (VAS). All ethical points were considered.

**Results:** Equality of Personal characteristics of four groups had been checked and there were no significant differences between gestational age, educational level, occupational, wanted pregnancy, history of abortion. Average of pain score first in birth ball group, then combined group and finally in heat therapy were significantly less than control group. Average of pain score in birth ball group and combined group during after 30 minutes use were significantly less than control group but in the heat therapy group average after 60 minutes use were significantly less than control group. (P value <0.05).

**Conclusions:** Since all noninvasive intervention had significant effect on decreasing physiologic labour pain, but Highest decrease of labor pain was in birth ball group. It is suggested that that Obstetrics and Midwives consider and use these safe methods for Physiologic labour pain management.

**Acknowledgments:** Received grants from Research department of Iran University of Medical Sciences (Year 2009–2012).

**FCS60. Labor and Delivery**

**FCS60.1**

INFLUENCE OF CHILD BIRTHING AUDIOVISUALS ON ANXIETY AND OBSTETRIC OUTCOMES OF FIRST TIME MOTHERS: A RANDOMIZED CONTROLLED TRIAL

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**Objectives:** To determine the effect of child birthing audiovisuals on anxiety levels of first time pregnant mothers.

**Method:** A randomized controlled trial was conducted at the University College Hospital Ibadan, Nigeria, from October 2012 to June 2013 involving first time mothers (primigravid). The experimental
group watched a documentary video of childbirth process during the antenatal period, while the controls did not. The primary outcome was mean anxiety levels while secondary outcomes were some selected obstetric parameters. Descriptive analysis, and the student t test was used to compare means for continuous outcomes; while the chi-square test was used to compare categorical outcomes. The level of statistical significance was set at 5%.

Results: Of 120 women recruited, but 115 were followed up till birth and included in the analysis based on the intention to treat (ITT) analysis. The randomization was balanced with no significant differences in the background characteristics between the experimental and control group. The women in the control group had slightly higher anxiety levels during pregnancy while those in the experimental group had higher anxiety levels at birth but this difference was not statistically significant.

Conclusions: Childbirth audiovisuals did not result in a significant reduction in anxiety levels and it may possibly have a negligibly negative effect on first time mothers. It is imperative that providers subject new intervention to local scientific rigour before adopting such practice locally. We recommend more studies for a clearer conclusion before a wholesale adoption or rejection of this intervention is contemplated in this setting.

**FC560.2**
MECHANICAL RIPENING OF THE CERVIX USING DILAPAN-S PRIOR TO INDUCTION OF LABOR IN TERM PREGNANCIES – A PILOT STUDY

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Objectives: Traditionally, labor induction can be achieved through a mechanical device or medications. Here, we observe and analyze the effectiveness and safety of Dilapan-S in mechanical ripening of the cervix prior to induction of labor. Dilapan-S functions through radial expansion and the release of endogenous prostaglandins.

Method: Observational, non-interventional study in the department of gynecology and obstetrics, Vivantes Klinikum im Friedrichshain, Berlin, Germany in 2014. Eighty-three pregnant women at term or beyond 22 weeks’ gestation were included. Cervical ripening was assessed prior and after the application of Dilapan-S. Following labor induction and birth, maternal and fetal outcome was analyzed.

Results: 60.2% of patients delivered vaginally, 4.8% by ventouse/forceps and 34.8% by secondary cesarean section. In patients with condition after cesarean, a tendency towards more vaginal birth compared to patients without previous cesarean section (66.7% vs. 59.2%) was found. In cases of prolonged pregnancies (≥40 6/7 gestational weeks) there was a tendency towards an increased rate of secondary cesarean (48% vs. 34.9% in total). Multiparous women displayed a significantly higher chance of vaginal birth (82.6% vs. 60.2% in total, p=0.019). 74.7% of patients gave birth within 48h after cervical ripening was initiated (67.8% vaginally/instrumental vs. 32.2% cesarean section).

Conclusions: Dilapan-S is an effective and safe device for cervical ripening prior to labor induction. The application is cost-effective as patients can be seen in outpatient care. Moreover, Dilapan-S gives obstetricians a chance to induce labor in pregnant women with condition after cesarean section or other contraindications for the application for prostaglandins.

**FC560.3**
SUBLINGUAL VERSUS VAGINAL MISOPROSTOL FOR INDUCTION OF LABOR AT TERM: A RANDOMIZED TRIPLE-BLIND PLACEBO CONTROLLED CLINICAL TRIAL

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Objectives: To compare the effectiveness and safety of sublingual versus vaginal misoprostol with for termination of pregnancies a term-live fetus.

Method: This randomized triple-blind placebo-controlled clinical trial was performed on 200 primiparous women with normal, singleton, full-term pregnancies candidate for induction of labor. Sublingual and vaginal tablets containing 25 μg misoprostol or placebo in similar shapes were administered every four hours until Bishop Score became ≥8. Maternal and neonatal complications and outcomes were compared.

Results: There were 100 parturients in each group. The mean time interval between starting misoprostol and delivery were 497.10±291.49 and 511.67±308.46 minutes for the sublingual and vaginal groups. 22 women had cesarean deliveries in the sublingual group vs 14 in the vaginal group. Meconium stained amniotic fluid was seen in 12 cases in the sublingual group compared to four in the vaginal group (p=0.03). Late fetal heart rate decelerations were observed in eight cases in the sublingual group vs four in the vaginal group (p=0.22). The mean neonatal birth weights and the length of NICU admissions were not different between the groups.

Conclusions: Sublingual and vaginal misoprostol had similar effectiveness however meconium stained liquor was considerably more observed with sublingual misoprostol compared to the vaginal route.

**FC560.4**
INCIDENCE OF IMMEDIATE POSTPARTUM HEMORRHAGES IN FRENCH MATERNITY UNITS: A PROSPECTIVE OBSERVATIONAL STUDY (HERA STUDY)

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Objectives: Postpartum haemorrhage (PPH) remains a major cause of maternal deaths worldwide and the leading cause of death in France, responsible for 18% of maternal deaths. Hemorrhage-related events are one of the most preventable causes of maternal death. Our principal objective was to estimate the incidence of PPHs in both vaginal (defined by > 500 mL blood loss) and cesarean (> 1000 mL) deliveries. The secondary objective was to estimate the incidence of severe PPH for vaginal (> 1000 mL) and cesarean (> 1500 mL) deliveries, according to maternity unit characteristics, different causes of PPH, and different types of management.

Method: This prospective observational study among French maternity units included women with singleton or multiple pregnancies, regardless of parity, delivered by vaginal or cesarean delivery at or after 22 weeks’ gestation (or, in the absence of a specific date for the beginning of the pregnancy, birth of a child ≥500 g), with delivery of...
a live born or stillborn infant in one of the 182 participating maternity units (participation rate 78.8%) between February 1, 2011, through July 31, 2011. The $\chi^2$ test (or Fisher's exact test, as appropriate) was used to compare the qualitative variables.

**Results:** The incidence of PPH after vaginal delivery was 3.36% [95% CI: 3.25%–3.47%] and after cesareans, 2.83% [95% CI: 2.63%–3.04%]. The incidence of severe PPH after vaginal delivery was 1.11% [95% CI: 1.05%–1.18%] and after cesareans, 1.00% [95% CI: 0.88%–1.13%]. This incidence rate varied according to maternity unit characteristics. The principal cause of PPH for both modes of delivery was uterine atony (66.3% for cesareans and 57.7% for vaginal births). Vascular embolization was more frequent among cesarean than vaginal deliveries (10.2% vs. 2.9%). Women with cesareans required transfusions more often (44.3% vs. 13.0%).

**Conclusions:** This study covered 129,110 of the 786,559 deliveries recorded in France in 2011 or 32.82% of all deliveries during the 6 months of the study. The participation rate was satisfactory (78.79%). The definition of PPH was standardized and the data collection prospective, in a daily clinical setting. Substantial quality control to verify data input quality was performed in 30% of the maternity units. The incidence rates of PPH after both types of delivery were lower than expected, but the incidence of severe PPH was as expected.

**FC60.5 USE OF THE PARTOGRAM FOR LOW-RISK PREGNANCIES AT THE LAGOS UNIVERSITY TEACHING HOSPITAL, IDI-ARABA, LAGOS – AN INTERVENTION STUDY**

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**Objectives:** The partogram is recommended for routine use yet, systematic reviews have reported little or no difference in caesarean section rates between those with or without partographic labour monitoring. The partogram is also used for decision-making in low or high-risk parurients. We evaluated the impact of training on knowledge and utilization of the partogram as well as health outcomes of low-risk pregnancies at Lagos University Teaching Hospital.

**Method:** The sample population comprised consenting health workers who attend to deliveries at the Lagos University Teaching Hospital (LUTH), Lagos, Nigeria. The study was conducted between May and September 2013. A pre-intervention assessment of the knowledge and use of the partogram was done. Study-specific criteria were used to identify low risk pregnancies (LRP). Assessment of those who conduct deliveries was done before and after training using WHO manuals on partogram. Knowledge and utilization before and after training was compared using odds ratio. The outcome measures were compared using risk ratio. The level of significance was $P < 0.05$ at 95% confidence interval.

**Results:** Participants were resident doctors (61.5%) and midwives (38.5%), and supervised median delivery of 8 per week. Only 27% had formal training on partogram use 3 years preceding the intervention. The partograms of 28% and 25% of deliveries adjudged LRP were analyzed before and after the training respectively. Training improved knowledge of charting uterine contraction (P=0.0000) and fetal descent (P=0.0000). Charting of blood pressure (Pre-79% vs. Post-34%) and temperature (Pre-84% vs. Post-88%) were not improved by training. Training caused a non-significant reduction in the rate of caesarean section, prolonged labour and delivery of a mildly asphyxiated neonate.

**Conclusions:** Training on partogram use did improve knowledge of health workers but not the use of partogram and health outcomes in low risk pregnancies.

**FC60.6 HIGH RELIABILITY ORGANISING IN A MATERNITY SETTING**

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**Objectives:** High reliability organisations (HROs) have been identified and studied in the aviation and nuclear power industries, where safety is paramount but the workplace environment is characterized by multiple, complex risks and challenges, with frequent uncertainties and potential emergencies. We sought to determine whether there are parallels in both the environment and solutions with “safe” maternity units – those hospitals delivering excellent clinical neonatal and maternal outcomes.

**Method:** We undertook a collaborative, analytical approach to identifying defining features of HROs from the aviation industry, using one of the author’s expertise in this field. We then examined whether similar characteristics could be identified in a single maternity unit in Southmead Hospital in Bristol, which delivers over 6500 babies per annum. This unit has demonstrated some of the best perinatal outcomes in the published literature, following successful implementation of the PROMPT (PRactical Obstetric Multi Professional Training) package. This analysis involved ethnographic observations, and sharing of detailed local knowledge and understanding of how Southmead functions at an organisational and cultural level.

**Results:** HROs are committed to being standardized and structured, whilst also flexible and adaptive. These features are apparent at Southmead, where standardized training in obstetric emergencies is delivered via PROMPT and facilitated by structured management algorithms, and tools such as postpartum haemorrhage (PPH) boxes and CTG stickers. The use of simulation, and allocation of clear roles and responsibilities organised around emergencies, echoes strongly with observations of traditional HROs. Training at Southmead was also identified as being flexible and adaptive, whereby PROMPT provides a platform for participant feedback on patient safety initiatives, which can be incorporated into subsequent training or clinical practice.

**Conclusions:** PROMPT training at Southmead has contributed to the evolution of its maternity unit into a high reliability organisation. Like the aviation industry, safe maternity units can demonstrate crisis resource management characteristics that allow unexpected emergency to be transformed into routine practice, through deeply standardized yet adaptive training. More work is underway to add depth to this initial analysis, using the management of PPH as a detailed example of how PROMPT training establishes high reliability in the maternity setting.

**FC60.7 SEVERE ACUTE MATERNAL MORBIDITY IN MULTIPLE PREGNANCIES: A NATIONWIDE COHORT STUDY**

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**Objectives:** To assess the risk of severe acute maternal morbidity (SAMM) in multiple pregnancies in the Netherlands.

**Method:** We used data from a two-year nationwide cohort study, conducted between 2004 and 2006, including singleton and multiple pregnant women who suffered SAMM in one of all 98 maternity units in the Netherlands. We calculated the incidence of SAMM in multiple pregnancies using the total number in the Netherlands obtained from Statistics Netherlands (CBS). To identify possible risk indicators we compared different parameters with data from the Dutch Perinatal Registry (PRN).
Results: 2552 cases of SAMM were reported during the two-year study period. Among 202 multiple pregnancies (8.0%), there were 197 twins (7.8%) and five triplets (0.2%). The case fatality rate (CFR) of SAMM in multiple pregnancies was 4/202 (2.0%). The relative risk (RR) of SAMM was 4.5 (95% CI 3.9–5.2) and increased to 8.2 (95% CI 3.3–20.2) in triplet pregnancies compared to singleton pregnancies. Associated risk factors were age ≥40 (RR 2.5, 95% CI 1.4–4.3), nuliparity (RR 1.8, 95% CI 1.4–2.4) and use of assisted reproductive techniques (RR 1.9, 95% CI 1.4–2.5).

Conclusions: Women with multiple pregnancies have an almost five times elevated risk of sustaining SAMM as compared to singletons.

FCS61. Labor and Delivery

FCS61.1
AN AUDIT OF TWIN PLACENTA PATHOLOGY REPORTS
HISTOPATHOLOGICAL FINDINGS
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Objectives: To study placentas of multiple pregnancies with abnormal histological findings and the ratio of placentas within normal limits to those with abnormality or disease. Not all placentas are sent to Pathology for gross and microscopic examination. It is not considered cost effective and a system of triage is in place where placentas are selected on the basis of a list of maternal and fetal risk factors. Multiple pregnancy is considered a risk factor and most agree that all Monochorionic placentas should be sent. Many feel that Dichorionic placentas should not be sent unless there is an additional risk factor present.

Method: A copy of all placentas reported for one year was obtained from computer print out of cases. Reports were examined to identify and count multiple births and to establish the microscopic histological diagnosis of each twin placental part for discordance or concordance. The number of those reported as histologically normal was compared to those that were considered abnormal.

Results: 44 Dichorionic placentas were within normal limits or had minor differences in chorionic villous pattern. 16 had abnormal histological findings. 8 Monochorionic placentas were reported as normal and 3 abnormal. The percentages were 26% and 27%. Only one of five Triplet placentas had a significant histological abnormality. The commonest discordant result was for varying degrees of uteroplacental ischaemia. In this small study concordance for disease was rare and was for chronic villitis.

Conclusions: It is expected that in an efficient triage system, many placentas will show no significant abnormality. The majority of newborn infants are normal. One quarter of placentas reported as having a histological abnormality is a high yield and is greater than would be expected for singleton placentas. Dichorionic placentas of same sex twins are 80% Dizygotic Fraternal and 20% Monozygotic “Identical”. They may have different or similar genetic growth potentials and share the same uterus for nutrition, consequently they form a “placental unit”. They may have different or similar genetic growth potentials and share the same uterus for nutrition, consequently they form a “placental unit”.
(sensitivity 73%, specificity 79%). In a prospective study we identified genetic predictors of inflammatory complications after CS: genotype C/C of IL1A: –889 (–949) C–T and genotype C/C of IL1B: 315 (3953) C–T and developed risk model (sensitivity 48% and specificity 85%).

**Conclusions:** It is advisable to use suggested point scale for prediction of postoperative infectious complications development, and patients with 9 points are at high risk of postpartum inflammatory complications and patients with 8 or less points are at low risk. Detection of molecular genetic predictors can be used to select the tactics of maintaining a patient with abdominal delivery. The high specificity of the prognostic model allows using one to verify the risk of postpartum inflammatory diseases development.

**FCS61.4**

**THE IMPACT OF DIANATAL IN DYSFUNCTIONAL LABOUR**

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**Objectives:** The purpose of this case series was to assess the effect of Dianatal in:

- Shortening 1st and or second stage of labour.
- Reduction of 2nd and or 3rd degree perineal tears.
- Increasing the success rate of instrumental delivery.
- Reducing the need for manual removal of the placenta.
- Cases where it is advised to shorten the duration of labour.

**Method:** A prospective study involving 43 patients during the period commencing Jan 2012 till June 2012. Patients were randomly assigned to either Group A (standard of care in accordance with the established guidelines of the department without obstetric gel use) or Group B (standard of care in accordance with the established guidelines of the department, plus vaginal application of the obstetric gel according to the study protocol). During Stage I, Dianatal Stage I was used (high viscosity). During Stage II, Dianatal Stage 2 was applied (lower viscosity). In cases of retained placenta, stage 2 Dianatal was utilized.

**Results:** Our results showed that Dianatal Gel significantly reduces duration of labour by 25% (stage I: 55 min, Stage II: 20 min). Dianatal reduces the risk of perineal lacerations in 30% of cases. Total duration of labour has been reduced up to 75 minutes.

**Conclusions:** Dianatal can be used in cases where it is advised to reduce the duration of labour such as Vaginal delivery after Caesarean Section, or heart conditions. Dianatal can be used in Dysfunctional or secondary arrest of labour. No significant effect was established regarding increasing the success rate of: Instrumental delivery or Manual removal of Retained placenta. Further studies are necessary in order to conclude the efficacy of Dianatal in dealing with cases of: 1. shoulder dystocia and 2. aftercoming head in vaginal breech delivery.

**FCS61.5**

**DIFFERENTIATED APPROACH TO DELIVERY AFTER MYOMECTOMY**

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**Objectives:** The study was aimed to show feasibility and safety of conducting a vaginal delivery in women with uterine scar after myomectomy, performed with suturing of a fibroid bed with two rows of synthetic absorbable sutures and point to inappropriate technique of coagulation of fibroid bed during laparoscopic surgery. The study also had a goal to define clinical and morphological criteria of a scar sufficiency after myomectomy to form groups of women for vaginal delivery or cesarean section.

**Method:** 68 pregnant women after myomectomy were examined: 29 after laparotomic surgery with bed closure with 2-layers sutures (group 1), 28 after laparoscopic with wound closure with 2-layers sutures (group 2) and 11 after laparoscopic myomectomy with wound coagulation (group 3).

**Results:** Vaginal birth took place in 35 of 68 patients with a uterine scar (51.5%). Cesarean operation was carried out in 33 patients (48.5%). Among indications for emergency abdominal birth in all the compared groups labor abnormalities prevailed: 45.4%, 46.1%, and 33.3% respectively in 1–3 groups. Nevertheless, it should be noted that threatened rupture of uterus in the patients of the 3rd group was the indication for abdominal birth in 33.3% cases, while in the parturient women of 1–2 groups this indication was registered almost 2 times rarer and indicates the inferiority of the scar after coagulation.

**Conclusions:** Coagulation of the uterus wound is associated with increased risk of the scar insufficiency and rupture of the uterus. Therefore, in women undergoing myomectomy uterine wound should be closed with 2 layers of sutures.

**FCS61.6**

**THE 35/39 TRIAL: A MULTI-CENTRE PROSPECTIVE RANDOMISED CONTROLLED TRIAL OF INDUCTION OF LABOUR VERSUS EXPECTANT MANAGEMENT FOR NULLIPAROUS WOMEN OVER 35 YEARS OF AGE**

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**Objectives:** Women in industrialised nations are increasingly delaying childbirth. Women over 35 years have an increased risk of perinatal death. Women over 40 years have a similar stillbirth risk at 39 weeks as women aged 25–29 years have at 41 weeks. In a UK survey of obstetricians 37% induce women aged ≥40 years at term. Some parents support such a policy, but others are concerned it might increase the risk of Caesarean. However a recent systematic review of induction of labour versus expectant management at term, found that induction of labour was associated with a reduction in caesarean sections (OR 0.83).

**Method:** The 35/39 trial is a multi-centre, prospective, randomised controlled trial. 619 nulliparous women aged over 35 years were recruited over 30 months and randomly allocated to either: induction of labour between 390/7 and 396/7 weeks gestation or expectant management. The primary purpose to establish what effect a policy of induction of labour at 39 weeks for nulliparous women of advanced maternal age has on the rate of Caesarean section deliveries.

**Results:** The trial completed recruitment on 3rd March 2015. The results of the trial will be available on 20th April 2015. The results of the trial will be presented.

**Conclusions:** The 35/39 trial is powered to detect an effect of induction of labour on the risk of caesarean section, it is underpowered to determine whether it improves perinatal outcome. The current study will also act as a pilot for a larger study to address this question.

**FCS61.7**

**INVASIVE THERAPIES FOR PRIMARY POSTPARTUM HAEOMORRHAGE: A POPULATION-BASED STUDY IN FRANCE**

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**Objectives:** To describe the characteristics, management and outcomes of women undergoing invasive therapies for postpartum haemorrhage (PPH).

**Design:** A population-based observational study.

**Setting:** All 106 maternity units in 6 French regions.

Methods: Prospective identification of patients with PPH managed with invasive therapies including uterine suture, pelvic vessel ligation, arterial embolization and hysterectomy.

Main outcome measures: Rate of use and failure rate of invasive therapies, with 95% CIs.

Results: An invasive therapy was used for 296 of 6660 cases of PPH (4.4% [95% CI: 4.0–5.0]) and for 2100 deliveries (95% CI: 1.8–2.3/1000). A hysterectomy was performed in 72 women, i.e. 1.1% (95% CI: 0.8–1.4%) of women with PPH, and 0.5/1000 (95% CI 0.4–0.6/1000) of deliveries. A conservative invasive therapy was used in 262 women, including 183 (70%) who underwent arterial embolization and 79 (30%) conservative surgery, as the first-line therapy. The failure rate of conservative invasive therapies was 41/262 (15.6%, 95% CI: 11.5; 20.6%) overall, and was higher after surgical than embolization procedure.

Conclusions: Both the maternal mortality due to obstetric haemorrhage and the rate of invasive therapies used for PPH are high in France. These findings suggest flaws in the initial management of PPH, and/or inadequate use of invasive procedures.

FCS61.8 USING A STANDARDIZED PERFORMANCE INDICATOR TO EVALUATE QUALITY OF OBSTETRICAL CARE IN BRITISH COLUMBIA, CANADA

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Objectives: Obstetrical care has conventionally been monitored using indicators such as preterm birth, maternal or neonatal death, and cesarean delivery. However, the relevance of these indicators is questionable: mortality is very rare and does not capture non-fatal adverse events, while recording the proportion of births delivered by cesarean does not reflect whether the surgery was appropriate or not. The objective of this study was to establish the feasibility of implementing a clinical standardized performance indicator, the Adverse Outcome Index (AOI), using routinely-collected data in a population-based perinatal database and to examine variation in the indicator over time and between hospitals.

Method: Maternal and newborn medical record data contained in the British Columbia Perinatal Database Registry, 2004–2013, were used to calculate an Adverse Outcome Index (a composite of 10 maternal and newborn adverse events) and its severity-weighted scores, the Weighted Adverse Outcome Score and the Severity Index. Temporal trends in the indices were examined by plotting annual risks and weighted risks with 95% confidence intervals. Hospital-level risks were calculated with 95% confidence intervals, adjusting for patient case-mix. The correlation between a hospital’s Adverse Outcome Index risk and severity of its adverse events was examined using Pearson’s correlation coefficient.

Results: Among 436,875 deliveries in British Columbia, the risk of AOI was 7.0 per 100, while the Weighted Adverse Outcome Score and Severity Index were 1.9 and 27.1, respectively. The risk of AOI did not change significantly over the study period, while the Severity Index decreased from 28.7 [95% CI: 26.4–31.0] in 2004 to 25.4 [23.1–25.9] in 2013. Fourteen of 52 hospitals had risks of AOI significantly above the provincial median. The hospitals’ risks of AOI were not correlated with their Severity Indices (r=0.01).

Conclusions: The Adverse Outcome Index can successfully be estimated using data from a population-based database, and used to monitor trends in safety of labour and delivery over time and between hospitals. The low correlation between frequency and severity of adverse events confirms the importance of considering event severity in perinatal population health surveillance.

FCS62. Labor and Delivery

FCS62.1 DIAGNOSING ONSET OF LABOR: A SYSTEMATIC REVIEW OF DEFINITIONS IN THE RESEARCH LITERATURE

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Objectives: The diagnosis of labor onset has been described as one of the most important judgments in maternity care. There is compelling evidence that the duration of both latent and active phase labor are clinically important and require consistent approaches to measurement. In order to measure the duration of labor phases systematically, we need standard definitions of their onset. We reviewed the literature to examine definitions of labor onset and the evidentiary basis provided for these definitions.

Method: Five electronic databases were searched using predefined search terms. We included English, French and German language studies published between January 1978 and March 2014 defining the onset of latent labor and/or active labor in a population of healthy women with term births. Studies focusing exclusively on induced labor were excluded.

Results: We included 62 studies. Four “types” of labor onset were defined: latent phase, active phase, first stage and unspecified. Labor onset was most commonly defined through the presence of regular painful contractions (71% of studies) and/or some measure of cervical dilatation (68% of studies). However, there was considerable discrepancy about what constituted onset of labor even within “type” of labor onset. The majority of studies did not provide evidentiary support for their choice of definition of labor onset.

Conclusions: There is little consensus regarding definitions of labor onset in the research literature. In order to avoid misdiagnosis of the onset of labor and identify departures from normal labor trajectories, a consistent and measurable definition of labor onset for each phase and stage is essential. In choosing standard definitions, the consequences of their use on rates of maternal and fetal morbidity must also be examined.

FCS62.2 PERIPARTUM HYSSTERECTOMY: A RETROSPECTIVE TEN YEAR SERIES IN A TERTIARY HOSPITAL

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Objectives: To review the profile of indications and outcomes for peripartum hysterectomy.

Method: Delivery records for years 2004–2014 (excluding 2012) in a tertiary hospital in Singapore were reviewed for the following: indication, blood transfusion, pre-hysterectomy interventions (Bakri Balloon, B-Lynch suture, uterine artery embolisation), complications, delivery-decision for hysterectomy time interval, ICU admission, maternal death.

Results: 28 of 15905 (0.176%) patients underwent peripartum hysterectomy. 14 (50.0%) patients had placenta creta, 6 (21.4%) uterine atony, 4 (14.3%) had both and 4 (14.3%) had PPH due to neither. Preterm deliveries (17/28, 60.7%) were largely due to antenatally-diagnosed morbidity adherent placental myometrial invasion (18/28, 64.3%: 6 accreta, 8 increta, 4 percreta). Mean age of delivery for antenatally-diagnosed placenta creta was 33 weeks, compared to 38+2 weeks. 26 (92.9%) patients had previous cesarean section. Estimated blood loss was 2928mls. 3464.3mls in immediate peripartum hysterectomy. Post hysterectomy, 17 were monitored in the ICU, 9 in LW, 1 in ICA and 1 in general ward.
Conclusions: Peripartum hysterectomies were largely indicated for placenta creta, which were more likely to be performed at preterm gestations. The common requirement for blood transfusion, intensive care monitoring, managing concurrent urological complications highlight the importance of multi-disciplinary expertise in a tertiary centre. The universal increasing caesarean section rate will increase the incidence of placenta creta. Antenatal diagnosis, while not specific, is important in identifying women at risk of peripartum hysterectomy and referral to tertiary centres.

FCS62.3
IS THE CARE IN ETHIOPIAN HEALTH CENTRES GOOD ENOUGH? A COMMUNITY-BASED STUDY OF 4,432 WOMEN IN RURAL ETHIOPIA WHO DELIVERED A BABY IN THE PRECEDING 12 MONTHS

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Objectives: 1) To determine whether women delivering their baby in a health centre have a lower stillbirth rate than women who deliver their baby at home. 2) To describe the quality of rural-based health centres and women’s self-reported satisfaction with the care they receive when delivering their baby there.

Method: This is a cross-sectional study of women who delivered a baby in the last 12 months (2013–14) and the care they received from 26 health centres. The study was based in the Oromia and Amhara regions of Ethiopia.

A random sample of over 23,000 households were visited to achieve a sample of 4,432 women eligible for a face-to-face survey. The primary outcome measure was stillbirth rate, which we hypothesized would be halved with adequate intrapartum care from a health centre.

Data were also collected from the delivery and ante-natal books and from the health centre staff in 26 health centres.

Results: The health facility delivery rate was 38%. The stillbirth rate in home deliveries was 2.3% and 1.9% in health centre deliveries (p=0.48). However, 27% of health centre deliveries had a complicated labour, possibly leading to decisions to deliver there. Only 0.8% of women had a caesarean section (in hospital) and 3.5% of women underwent assisted vaginal delivery. Symptomatic uterine prolapse rate was 1.8%.

Women walked an average of 81 minutes to a health centre. A third of health centres (36%) had running water, 76% had intermittent electricity and 56% provided BEmOC. Women reported moderate satisfaction with care (mean score 76/100).

Conclusions: The health facility delivery rate within Ethiopia has increased substantially since 2011 when it was 10%. Despite walking long distances to access facility care, the stillbirth rate is only slightly lower in women making this effort. This may be due to the low rate of assisted deliveries and lack of BEmOC. Moreover, the care received appears to be suboptimal.

Although facility delivery rates have increased, a high level of morbidity persists. If health centres are unable to provide women with good quality care, the facility delivery rates are likely to drop to the extremely low levels experienced in previous years.

FCS62.4
PREGNANCY CARE UTILIZATION BY FEMALE GENITAL FISTULA CLIENTS IN BANGLADESH

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Objectives: The objective of this analysis is to describe the prenatal pregnancy care utilization by genital fistula clients in Bangladesh.

Method: This analysis used secondary data of 230 women diagnosed with female genital fistula and who had repair surgery at the National Fistula Center in Dhaka, Bangladesh and at two Ad-din hospitals (in Jessore and Khulna) during 2012–2014. Information about antenatal care, place of delivery, foetal outcome as recorded in the patient history sheets were analyzed using SPSS.

Results: The mean age at the time of surgery was 38 years (95% CI: 36–39 years). The mean age of marriage was 16 years, and the mean age of delivery was 19 years. Out of 230 fistula cases, the antenatal care (ANC) care utilization record was available for 210 clients. Optimum ANC was used by 12% cases; another 16% received some ANC. 47% of fistula clients delivered at home and 53% had hospital delivery. Out of 169 obstetric fistula cases, foetal outcome information was available for 155 clients. 79% of the obstetric fistula cases had a still birth.

Conclusions: The ANC utilization rate was poor among the fistula clients. We did not find any difference in ANC utilization rates between obstetric and iatrogenic fistula cases (data not presented here). More than half of the fistula clients delivered at a hospital, which is well above the national average (30%). Perhaps the abnormally high hospital delivery rate is because clients were taken to a hospital when complications arose. The clients may also have received inadequate treatment at the hospital to prevent fistula. Better use of ANC creates the opportunity for counseling about obstetric fistula.

FCS62.5
CHILDHOOD HEALTH PROBLEMS FOLLOWING PLANNED CAESAREAN DELIVERY AT TERM IN FIRST PREGNANCIES: A POPULATION-BASED RETROSPECTIVE COHORT STUDY OF SCOTTISH DATA

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Objectives: To explore the relationship between planned cesarean section (CS) and offspring health problems by comparing health outcomes (salbutamol inhaler use, severe asthma, obesity, inflammatory bowel disease, type 1 diabetes, cancer, death, learning disability and cerebral palsy) between first-born offspring delivered by planned CS with those delivered vaginally or by emergency CS.

Method: A population-based record linkage study followed up 321,287 first-born term singleton infants delivered in NHS Scotland between 1993 and 2007. Survival analysis and logistic regression models compared outcomes following planned CS with a combined group delivered vaginally or by emergency CS, and with these modes of delivery individually. Confounders considered included maternal age, social class, smoking status in pregnancy, maternal BMI, gestation at delivery, birthweight, offspring sex, maternal salbutamol inhaler use, maternal type 1 diabetes, breastfeeding characteristics and year of birth. Multiple imputation was used to impute missing values on social class, smoking status and maternal BMI.

Results: Salbutamol inhaler use, severe asthma, obesity and learning disability were more likely in offspring delivered by planned CS [adjOR 1.15 (1.03–1.28), adjHR 1.17 (1.07–1.29), adjOR 1.16 (1.01–1.32), adjHR 1.34 (95% CI 1.07–1.68)] than vaginal birth or emergency CS, and when compared with vaginal birth alone. There was no association between planned CS and offspring risk of inflammatory bowel disease, type 1 diabetes, cancer, death or cerebral palsy [adjHR 0.88 (0.51–1.51), adjHR 1.23 (0.97–1.55), adjHR 1.02 (0.70–1.50), adjHR 1.21 (0.90–1.62), adjHR 1.04 (0.40–3.07)] when compared with either group, except increased risk of death compared to vaginal birth alone [adjHR 1.409 (1.047–1.898)].

Conclusions: Offspring delivered by planned CS are at increased risk of asthma-related illness, obesity and learning disability in childhood when compared to those delivered following an apparent plan for vaginal birth. This is consistent with published data on risk associated with any CS delivery. While long-term implications of CS delivery are not expected to influence decisions for emergency CS, these
FCS62.6
BIRTH BY PLANNED REPEAT CESAREAN SECTION AND SUBSEQUENT CHILDHOOD HEALTH OUTCOMES: A POPULATION-BASED RETROSPECTIVE COHORT STUDY OF SCOTTISH DATA
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Objectives: To explore the relationship between planned repeat cesarean section (CS) and offspring health problems by comparing health outcomes between offspring delivered following planned repeat CS with those delivered following vaginal birth after CS (VBAC).

Method: A population-based record linkage study followed up 40,145 second-born term singleton infants delivered between 1993 and 2007 to mothers who had previously delivered by CS. Outcomes following planned repeat CS were compared with a group delivered by vaginal birth after CS (VBAC). Logistic regression models were used where time at risk of an outcome was fixed, while survival analysis models were used where time at risk varied between cases. Confounders included social, clinical and breastfeeding characteristics. Multiple imputation was used to deal with missing values on social class, smoking status and maternal BMI.

Results: When compared with offspring born by VBAC, those born by planned repeat CS were at increased risk of salbutamol inhaler use aged five years, and asthma requiring hospital admission [adjusted odds ratio 1.19 (95% confidence interval 1.01–1.40), adjusted hazard ratio 1.22 (95% CI 1.10–1.49)], but were not at significantly different risk of obesity aged five years, inflammatory bowel disease, cancer, death, learning disability or cerebral palsy [adjOR 1.01 (0.74–1.37), adjHR 1.00 (0.75–1.35)].

Conclusions: Offspring delivered following planned repeat CS are at increased risk of asthma-related illness compared to those delivered by VBAC. Future research should synthesise population-based study findings to strengthen the evidence base on birth after CS.

FCS62.7
SEVEN YEAR FOLLOW-UP OF THE USE OF FETAL SCALP BLOOD LACTATE FOR INTRAPARTUM SURVEILLANCE. A RETROSPECTIVE COHORT STUDY
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Objectives: A randomized controlled multicenter trial was performed in Sweden between 2002 to 2005, where lactate vs. pH in fetal scalp blood was compared. Study results showed that lactate in fetal scalp blood was a good, reliable and useful marker in fetal surveillance. With increasing knowledge into the hypoxic process and dynamics of fetal lactate an 11% reduction in cesarean sections was found concomitant with a reduced proportion of neonates with metabolic acidemia compared with result from the RCT performed in Sweden between 2002–2005.

Results: In 14.2% of the included deliveries the level of lactate in fetal scalp blood was >4.8 mmol/l at the last sampling occasion before delivery. In the study group 1.1% had metabolic acidemia vs 3.2% in the RCT (p<0.001). Corresponding figures for pH <7.00 were 1.1% vs 1.5% (p=0.5), Apgar <7, 5 min 1.9% vs 3.1% (p=0.02) and for cesarean section 26.7% vs 30.2% (p=0.004).

Conclusions: After implementation fetal scalp blood lactate analysis in Swedish routine obstetrical care, one can conclude that lactate in fetal scalp blood is a good, reliable and useful marker in fetal surveillance. With increasing knowledge into the hypoxic process and dynamics of fetal lactate an 11% reduction in cesarean sections was found concomitant with a reduced proportion of neonates with metabolic acidemia compared with result from the RCT performed in Sweden between 2002–2005.
FCS63. Labor and Delivery

FCS63.1 VALIDATING SECOND-GENERATION FETAL PULSE OXIMETRY (FPO) ON NEWBORN PIGLETS AND IN RELATIVELY CYANOTIC HUMAN NEONATAL INFANTS, DURING OPERATIONS JUST PRIOR TO DELIVERY AND DURING INTRAUTERINE REPAIR OF CONGENITAL DEFECTS

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Objectives: Intrauterine FPO may be an accurate measure of fetal oxygenation during prenatal exams, active management of labor, operative delivery, and preterm intrauterine fetal surgical repairs. A second generation of intrauterine FPO designed to be placed directly against the fetal torso with intact uterine membranes and capable of separating any maternal saturation signal from the FPO signal was studied, after institutional, human and animal review committee approval.

Method: We placed two “OxyFirst” so called first-generation and two second-generation “Prothea 5” FPO sensors on 8 newborn anesthetized piglets. An arterial blood gas machine (Radiometer OSM) was calibrated for both porcine and fetal values and multiple samples were drawn during 15-minute intervals when the inspired concentration of oxygen was decreased at 5% intervals from 30% to 0% with a fifteen minute recovery period between each interval to correct for any acidosis. Both SpO2 accuracy and reproducibility were calculated. In our congenitally cyanotic and fetal surgery infants similar calculation and reliabilities were compared for up to two hours.

Results: Piglet lines of identity for both accuracy and reproducibility are clearly within clinical necessity. However the “OxyFirst” sensors were more scattered, data acquisition was intermittent and most worrisome in three of the eight piglets, when the sensor was placed adjacent to an arterial pulsation the saturation never desaturated below 50% despite 0% inspired oxygen and corresponding co-oximeter readings of 18% - 20%. The Prothea 5 sensors adjacent to an arterial signal tracked accurately during controlled periods of severe hypoxia. Similar reliability signals were noted in our human cyanotic neonates and fetal surgical infants when ABG samples were correlated to FPO.

Conclusions: Lack of accurate monitoring of fetal oxygenation during labor, delivery and fetal surgery mandates the development of new and accurate FPO devices. During controlled hypoxemia in piglets and use during labor and operative deliveries of relatively cyanotic neonates this second generation FPO led to accurate, timely and clinically reproducible measurements when correlated to laboratory co-oximeters. This sterile flexible sensor slides easily between the uterine wall either via a trans-vaginal placement (if dilation > 1.5 cm.) during labor or directly via uterine incision under the fetal torso during a prenatal operation.

FCS63.2 COMPARATIVE STUDY OF PREGNANCY OUTCOMES OF TWO DIFFERENT METHODS OF CERVICAL RIPENING FOR INDUCTION OF LABOUR

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Objectives: The study was designed to determine the reasons for, and post partum outcome of two different methods of cervical ripening for induction of labour, which are currently being used at the University of Calabar Teaching Hospital.

Method: This was a prospective analytical study of women undergoing induction of labour. Subjects were recruited based on strict selection criteria which included: parity (<3), gestational age (37 weeks to 41 weeks plus 3 days), cervical state (Bishop Score <6) prior to induction of labour, live single fetus in cephalic presentation and maternal haemacrit of at least 30%, and no contraindications to vaginal delivery. Eligible women were randomly allocated to two treatment groups: 1. misoprostol or 2. Foley catheter. Data was obtained from eighty (80) subjects, consisting of 40 subjects in each group that were exposed to misoprostol and Foley’s Catheter, respectively.

Results: Mean blood loss was found to be significantly less for subjects in group 2, compared with those in group 1 (t=9.85, p=0.00). Mean reduction in haemoglobin level was significantly less for subjects in group 2, compared with those in group 1 (t=3.67, p=0.03). All the subjects in both groups had APGAR scores >7, and the mean + SD scores were not significantly different (p=0.22). Significantly more newborns of subjects in group 1 (17.5%) were admitted to ICU compared with group 2 (2.5%) (p=0.03).

Conclusions: The mean blood loss was found to be significantly less for subjects in group 2 (326.4 + 106.6 mls), compared with those in group 1 (499.2 + 232.4 mls) following induction of labour (t=9.85, p=0.00). There is a significant difference in blood loss following induction of labour comparing the use of misoprostol with the use of Foley’s catheter.

FCS63.3 LABOR MANAGEMENT BASED ON CLINICAL GUIDELINES: A MANAGEMENT MODEL TO REDUCE C-SECTION AND HYPOXIC-ISCHEMIC ENCEPHALOPATHY RATE

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Objectives: The aim of our study is to share the impact on the cesarean section rate and neonatal outcomes when appropriate clinical guidelines are used for labor management.

Method: Descriptive retrospective study. The hospital database was reviewed from January 2004 through December 2014, evaluating cesarean section, forceps and spontaneous delivery rates as well as neonatal outcomes, mainly the frequency of hypoxic-ischemic encephalopathy.

Results: There were 64,721 deliveries between 2004 and 2014. The vaginal deliveries were attended mostly by midwives. Forceps deliveries ranged between 6.37% and 10%, with an average of 7.95% for the study period. The overall cesarean rate for the period was 25.3% where emergency cesarean were 19.4% for the study period. The scheduled cesarean primarily indicate two or more cesarean scar or dystocia presentation, representing 5.8% of births. Hypoxic-ischemic encephalopathy (HIE) had an overall incidence of 1.56/1000 newborns, with a progressive reduction that varied from 2.24/1000 newborns in 2006 to 0.61/1000 newborns in 2013.

Conclusions: The use of detailed and monitored clinical guidelines for labor management had a significant impact on the cesarean section rate and HIE rate reduction. Our rate of c-section and HIE are the lowest in our country and compares favorably with those published in the international literature.
FCS63.4
PLACENTAL CORD DRAINAGE IN THE THIRD STAGE OF LABOR
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Objectives: To determine the effectiveness of placental cord drainage in the third stage of labor.

Method: An open randomized clinical trial was conducted with 226 women. 113 randomized to placental cord drainage and 113 to a control group not submitted to this procedure. Low-risk pregnant women bearing a single, full-term, live fetus were included in the study. Women incapable of understanding the study objectives and those who went on to have an instrumental or Cesarean delivery were excluded.

Results: Considering the primary outcomes, the duration of the third stage of labor did not differ between the two groups (14±13 versus 14±12 minutes [mean ± SD], p=0.74). Likewise, there was no significant difference in mean blood loss (248±254 versus 208±187 ml, p=0.18) or in postpartum hematocrit levels (32.3±4.06 versus 32.8±4.25 mg/dl, p=0.30). Furthermore, no differences were found between the groups for any of the secondary outcomes (postpartum hemorrhage > 500 ml, > 1000 ml, therapeutic use of oxytocin, third stage > 30 minutes, digital evacuation of the uterus, currettage, symptoms of postpartum anemia and maternal satisfaction).

Conclusions: Placental cord drainage had no effect in reducing the duration of the third stage of labor or in reducing blood loss during this stage.

Clinical Trials Registration: ClinicalTrials.gov: www.clinicaltrial.gov, NCT01655576.

FCS63.5
ASSISTANCE TO NORMAL DELIVERY IN BIRTHING CHAIR IN A MATERNITY HOSPITAL IN NORTHEASTERN BRAZIL: MATERNAL AND PERINATAL OUTCOMES
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Objectives: To describe maternal and perinatal outcomes of births attended on a birthing chair in a public hospital in northeastern Brazil.

Method: The authors conducted a prospective, longitudinal study of the cohort, including 320 pregnant women attending a pilot project of humanization of delivery care in a public hospital in northeastern Brazil. The birthing chair is specially made of iron for the Project. Inclusion criteria were to be in active labor with vertex or breech presentation and express interest in parthing from the chair. We excluded cases of fetal death already diagnosed on admission and malformations. All the women agreed to participate and signed the informed consent. The project was approved by the local Ethics Committee in Research.

Results: The results of 300 births attended in the chair are analyzed, with 304 newborns, 4 breech and 296 cephalic presentation. The rate of low Apgar scores in the first minute was 3.3% and there was no death or Apgar scores below 7 in the fifth minute. No episiotomy was performed and a rate of 60% of intact perineum was found. There was a rate of 15% of second degree lacerations requiring suture and the overall suture rate was 20%. High degree of satisfaction with the birth experience was reported by 97% of women.

Conclusions: The birthing chair used in this study resulted in excellent maternal and perinatal outcomes, highlighting the high percentage of spontaneous deliveries with newborns with good vitality and the zero episiotomy rate with a 60% rate of perineal integrity and only 20% of need for sutures.

FCS63.6
A COMPARATIVE STUDY OF THE EFFICACY OF MISOPROSTOL ADMINISTERED BY ORAL, SUBLINGUAL AND VAGINAL ROUTE FOR INDUCTION OF LABOUR AT TERM
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Objectives: The induction of labour at term, in women remains a major challenge in modern obstetrics. The objectives of this study were to determine the efficacy and safety of 50 micrograms of misoprostol by the oral, sublingual and the vaginal routes for induction of labour. The main outcomes of the study were to investigate the vaginal delivery versus cesarean section rates, maternal and foetal safety against the complications, induction-to-delivery interval and the need for oxytocin augmentation after induction by the above mentioned routes.

Method: 1200 term pregnant women admitted for induction of labour during the period of September 2013 to February 2015 were recruited in the study. Each women was allocated to receive 50 micrograms of oral, sublingual or vaginal misoprostol every 6th hourly for a maximum of 3 doses. Six hours after the last dose, if Bishop's score was favourable, amniotomy was performed and if required labour was augmented using oxytocin. All further interventions was left to the discretion of the treating obstetrician. If there was no progress or cervix was unfavourable even after 3 doses, she was considered to have failed induction.

Results: The number of doses of misoprostol required and oxytocin usage was significantly less in oral route compared to vaginal or sublingual routes (46% versus 75.8% and 76%; p<0.0001). Caesarean sections were significantly less in patients induced by oral route (9.5% versus 20.5% and 19.8%; p<0.0001). The induction-to-delivery interval was significantly less in the oral route (11.9 hrs versus 16.68 and 16.96 hrs; p<0.0001). MSAF was also significantly less in patients induced by oral route. The baseline characteristics, 5 minute APGAR score, NICU admissions, maternal and foetal complications were comparable in all the groups.

Conclusions: Misoprostol effectively induces labour, given orally, sublingually or vaginally (400 patients studied in each group). There is a lesser caesarean section rate, shorter induction-to-delivery interval and lesser MSAF in patients induced with oral route. The number of doses of misoprostol required are also less by oral route. There is no increase in maternal or foetal complications when patients are induced by oral route. Thus, the preferred route and dosage of misoprostol administration for induction of labour at term might be 50 micrograms administered orally every 6th hour and it is comfortable to the patients as well.

FCS63.7
NOVEL TECHNIQUE FOR CONSERVATIVE MANAGEMENT OF POST-PARTUM HEMORRHAGE
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Objectives: This study was undertaken to see the use and efficacy of paracervical clamp application in controlling PPH.

Method: This was a retrospective study done in the department of OBG, KIMS,Hubli and a private hospital in Hubli involving 169 patients with PPH between June 2009 to June 2014 for a period of 5 years. Various demographic factors and risk factors for PPH were studied. The various types of PPH and their management were also studied with special reference to the usefulness of paracervical clamp application in controlling PPH.

Results: Of the total 169 patients studied, 82.84% of the patients had atomic pph, 13.2% had traumatic pph, 3.5% had both atomic and traumatic pph and one patient had broad ligament hematoma. In mild to moderate PPH, medical management was given and when it failed, paracervical clamps were applied. Also in severe PPH, paracervical

clamps were applied before the conservative surgery or hysterectomy was undertaken. Paracervical clamps were applied in 68 patients (40.24%) and 7 (4.1%) patients among these required surgical management.

Conclusions: Paracervical clamp application is a novel non surgical management in mild to moderate PPH and also helps to buy time in severe PPH before any surgical management is planned. It can also be applied prophylactically in high risk pregnancies when PPH is anticipated.

FCS64. Labor and Delivery

FCS64.1 ASPECTS OF DISRESPECT AND ABUSE DURING CHILDBIRTH AMONG PARTURIENTS IN SOUTHEAST NIGERIA

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Objectives: To evaluate the prevalence and forms of disrespect and abuse suffered by parturients in urban and rural health care facilities in Ebonyi State Southeast Nigeria.

Method: This was a cross sectional descriptive survey in February 2015 of antenatal clinic attendees at the Federal Teaching Hospital, Abakaliki (urban) and the St Vincent Hospital, Nduibia (rural) who have earlier delivered in the centres. Information was obtained via an interviewer-administered questionnaire in English language or the local Igbo dialect where applicable. Ethical approval was obtained from the Health Research ethics committee of the Federal Teaching Hospital, Abakaliki. Analysis was by Epi info statistical software package (CDC, Atlanta USA).

Results: Two hundred and fifty women consented and participated in the study. They cut across all social strata with majority in class III. The commonest form of disrespect noted was that of unconsented care (32.4%) especially with securing intravenous access and administration of episiotomy. Other forms of disrespect in decreasing frequency included denial of care (26.8%), restrictions in labour (13.2%), verbal and physical abuse (11.6% and 6.8%) respectively. These cases were more in the urban care facility and among parturients in social class I.

Conclusions: Uptake of delivery services in healthcare facilities in Southeast Nigeria may be affected by abuse and disrespect of parturients during childbirth. Such instances of abuse and disrespect have been documented in this study. There is need to re train care providers to provide humane and courteous care of parturients.

FCS64.2 ANALYSIS OF BRAZILIAN CESAREAN RATES USING ROBSON TEN GROUP CLASSIFICATION SYSTEM

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Objectives: Cesarean section (CS) rates have risen far in excess of the optimal 15% recommended by the World Health Organization. The Robson Ten Group Classification System (TGCS) allows meaningful analysis of a CS rate. The aim of this study is to identify the leading patient categories contributing to CS rate in Brazil.

Method: We used data from the survey “Birth in Brazil”, a cohort conducted with 23,894 women from February 2011 to October 2012 in 266 facilities all regions of Brazil. The following data was recorded: parity, singleton/multiple pregnancy, previous CS, mode of labor onset and gestational age at delivery. CS rates were computed for each group, as well as their relative contribution to the overall CS rate in both public and private sector.

Results: We analyzed 23,454 deliveries, excluding 440 women whose gestational age was unavailable. In the public sector, the two largest groups were group 3 (19.9%) and group 1 (19.0%), while in the private sector the two largest groups were group 2 (35.1%) and the group 5 (27.3%). In both sectors, groups 2 and 5 were the main contributors to the cesarean rate. The CS rate was higher in the private sector in all 10 groups, with striking differences in group 1 (69 vs. 28.3%), group 2 (96.4 vs 62.9%), group 3 (25.8 vs 9.4%) and group 4 (78.1 vs 33.5%).

Conclusions: The TGCS allows easy identification of the leading contributing patient groups. Noteworthy is the marked difference in group 2 (nulliparous, cephalic, term, cesarean or induced), whose size in the private sector is double than public sector. In both sectors, the main groups that contribute to the CS rate are groups 2 and 5, indicating that efforts to reduce the number of cesareans involves reducing the number of elective deliveries (induced or cesarean) and encouraging VBAC.

FCS64.3 EFFICACY AND SAFETY OF THE OSMOTIC DILATOR DILAPAN-S FOR CERVICAL RIPENING IN WOMEN WITH/WITHOUT CAESAREAN SECTION

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Objectives: Mechanical and medicamentous methods have been used for cervical ripening prior to labor induction. Recently there is a trend of reintroducing mechanical methods for clinical use. The purpose of this study is to evaluate efficacy and safety of the synthetic osmotic dilator Dilapan-S for cervical ripening prior to labor induction according to defined criteria and to compare results in females with/without caesarean section (CS) in medical history.

Method: The study was designed as an observational, prospective, multicentre, data collection. 125 patients were included in the data analysis. 64 patients (51.2%) had a caesarean section reported in their medical history, while the group of patients without previous caesarean section involved 61 patients (48.8%). Assessment of the primary objective and success of cervical ripening procedure was based on the Bishop (cervical) score.

Results: The evaluation of efficacy of the Dilapan-S showed that the application was effective in terms of the Bishop score progression with the increase from a mean of 2.84 to 5.92. In case of patients with CS increased from 2.88 to 5.36, while in subjects without CS the increase was from 2.80 to 6.51. In both groups the increase was confirmed as statistically significant. The cervix score of 5 or more points was reached totally in 102 (81.6%) women. Vaginal delivery was reported in 66.1% women, among them in 57.1% of subjects with SC and in 75.4% of women without SC.

Conclusions: Dilapan-S administered for cervical ripening prior to labor induction was effective in terms of statistically significant increase of the Bishop score in females regardless of CS in their medical history. The use of Dilapan-S was not associated with occurrence of excessive uterine contractions or other complications in all 125 patients. Their subjective evaluation confirmed good tolerability of the osmotic dilator. This good efficacy, safety and tolerability profile of Dilapan-S in pre-induction of labor supports its use as the optimal method beside prostaglandins or balloon catheters.
**FCS64.4**

**AUDIT AND FEEDBACK STRATEGY: AN EXPERIENCE OF A BRAZILIAN HOSPITAL FOR REDUCING EPISIOTOMY RATE**

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**Objectives:** To evaluate the impact of a strategy of audit and feedback for reducing episiotomy practice in a new maternity hospital of Brazil.

**Method:** After the inauguration of the hospital, the episiotomy rate was evaluated monthly for one year. The planned target was to reach episiotomy rate of less than 10% as recommended by WHO. The actions to reduce the episiotomy rate were directed to obstetricians, recognizing that this is a little intervention practiced by nurse midwives. The strategies used were: monthly disclosure of episiotomy rate, dissemination of scientific evidence, discussion of cases with professionals who more practiced intervention. After 1 year, a symposium discussed selective episiotomy. In the second year, there were only occasional interventions directed to new team members.

**Results:** In the first year (May 2012 to April 2013), 2592 vaginal deliveries occurred and episiotomy rate was 13.6%. The monthly rate ranged from 26.5% (in the first month) to 7.8% (last month). The rate of vaginal birth attended by nurse midwives was 35.6% (28–45%). In the second year (May 2013 to April 2014), 3402 vaginal deliveries occurred and episiotomy rate was 6.5%. The monthly rate varied between 3.1 and 11%. The rate of vaginal delivery by nurse midwives was 42.7% (35–51%).

**Conclusions:** The strategy of audit and feedback can be effective and contribute to reducing the episiotomy rate.

**FCS64.5**

**ACTIVE MANAGEMENT OF LABOR AND DELIVERY USING SECOND GENERATION FETAL PULSE OXIMETRY (FPO) ON THE FETAL TORSO VIA AN INTRAUTERINE PLACEMENT ALLOWS CLINICIANS TO MORE TIMELY MAXIMIZE UTERINE PLACENTAL SUFFICIENCY AND ASSESS PERTURBATIONS THAT MAY INCREASE OR DECREASE FETAL OXYGEN SATURATION**

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**Objectives:** Fetal heart rate (FHR) monitoring has poor sensitivity/specificity for fetal wellness and is a poor indicator of fetal concern. FPO and heart rate monitoring allow clinicians to more readily improve fetal wellness by identifying perturbations that improve fetal wellness. FPO above 40% with non-reassuring FHR should mandate additional concern as average FPO is generally 64%. FPO drifts below 30% are associated with fetal acidosis. FPO allows for timely knowledge of what specific clinical changes may decrease the baby’s saturation during maternal supine positioning, chemically induced labor, epidural anesthesia, or other medical intervention that may be used.

**Method:** A flexible silicone intrauterine FPO sensor (CE-1 certified Prothea5) was advanced via a trans-vaginal insertion after > 1.5 centimeter of cervix dilation in 1500 parturients. 150 of these vaginal births were continuously monitored for FPO for 1, 5, and 10 minute Apgar and Sat% scoring. 50 additional C-section births were placed on their sensor for Apgar-Sat%. All parturients with FPO below 40% were identified. The birthing team was asked to consider changes in maternal body position, alterations in induction medications or minimizing bolus epidural anesthesia, augmenting maternal blood pressure, or any other clinical changes including six who walked with continuous FPO.

**Results:** FHRs correlated well comparing fetal ultrasound and FPO. Sensors placed with intact versus ruptured membranes had mean Sat% of 64 and 65%, respectively. Continuous FPO was obtained 84% of the time. 54 subjects with Sat% below 30% were identified. 11 were associated with bolus injections of 0.25% bupivacaine and/or associated with increasingly dosages of oxytocin. The lowest FPO of 18% in an obese diabetic mother having both medications and normal FHRs. Crash C-section performed after deep decelerations 20 minutes later and recovering FPOs of 38 – 42% delivered with cord ABG of 6.8 and Base of –28.

**Conclusions:** We may hold the smoking gun when we note acute drops in FPO that are also then noted 25 minutes later with non-reassuring FHRs. Large doses of epidural anesthesia, labor inducing medication, supine maternal positioning, restriction from walking, may have significant negative effects on the fetal-placenta circulation. Active repositioning of the mother, carefully titrating induction agents, using maternal inotropes to increase uterine-placental sufficiency increased the FPO values and the margin of safety during labor and delivery in a substantive percentage of this observational study. Interestingly, in this sample the highest FPO improvements were noted among 6 walking epidural parturients.

**FCS64.6**

**TASK SHIFTING: UTERINE TONUS ASSESSMENT BY MIDWIVES VERSUS PATIENT SELF-ASSESSMENT IN THE ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR (UTAMP) TRIAL: A RANDOMIZED CONTROLLED TRIAL**

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**Objectives:** Postpartum hemorrhage (PPH) is the leading cause of maternal mortality globally, especially in low-resource settings. PPH can be prevented by active management of the third stage of labor (AMTSL), a series of steps recommended to be performed by skilled birth attendants (SBAs). Task shifting is a strategy to increase access to AMTSL considering the heavy workload of SBAs and facility-based delivery shortages, and this strategy was successfully explored for the use of uterotonics. The objective of this study was to assess task shifting in the final step of AMTSL and compare uterine tone assessment by a SBA to patient self-assessment.

**Method:** A non-inferiority randomized controlled trial (RCT) was conducted at Korle Bu Teaching Hospital in Accra, Ghana from April 2014. Eight hundred (800) adult women in labor at term with an expected vaginal delivery who received antenatal instructions for self-assessment of uterine tone were eligible for inclusion and randomization. Women with an increased risk for PPH were excluded. Women were randomized to uterine tone assessment by a SBA (midwife) or uterine tone self-assessment. Postpartum blood loss was measured through weighing of disposable mats. Participants and caregivers were not blinded given the nature of the intervention. Clinicaltrials.gov: NCT02223806. PACTR: PACTR201402000736158.

**Results:** As of mid-March 2015, 600 women were randomized. Interim analyses after three months (n=68) showed no differences between the two arms for the main study endpoints PPH (≥500 milliliters blood loss), severe PPH (≥1000 ml blood loss), mean blood loss, and routine maternal and neonatal outcomes. Final results are expected after completion of the trial in March/April 2015.
Conclusions: A reduction of PPH-related maternal mortality requires full implementation of AMTSL. This study is the first to explore if task shifting in uterine tone assessment is feasible and safe in a clinical setting. If this proof of concept if successful, wider implementation studies should be considered.

FCS64.7
THE REALITIES OF PUTTING EVIDENCE INTO PRACTICE: IMPLEMENTING A LOW-DOSE/HIGH-FREQUENCY (LDHF) APPROACH TO TRAIN MATERNAL AND NEWBORN CARE SERVICE PROVIDERS IN GHANA, MYANMAR AND UGANDA

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Objectives:
1. Improve providers’ skills and facility readiness to prevent, detect and manage key maternal and newborn complications at the time of birth.
2. Improve maternal outcomes related to sepsis, pre-eclampsia/eclampsia, and hemorrhage.
3. Improve newborn outcomes related to intrapartum fetal death, newborn asphyxia and newborn death in the first 24 hours of life.
4. Initiate and sustain a culture of continuing practice of key maternal and newborn health skills to maintain competency.
5. Compare the costs of the LDHF approach to costs of the traditional training approach (Ghana).

Method: Ghana: Cluster-randomized stepped-wedge design in 42 facilities in 3 regions to train providers using LDHF approach; baseline survey and service delivery data collected; each facility serves as its own control.

Myanmar: Programmatic intervention to train providers in MNH best practices at 3 levels of facilities in Yangon region using the LDHF approach; baseline survey with subsequent service delivery data collection.

Uganda: 24 trainers from 12 districts used LDHF to train 604 providers in HMS/BAB and HBB; at all public maternity centers. Three study arms with varying interventions; baseline data, service delivery statistics and direct clinical observations collected.

Results: Ghana: No trend in newborn mortality rates observed, but a significant decreasing trend is detected in the stillbirth rate and maternal mortality over the baseline. Significant improvement in provider OSCE results is noted.

Myanmar: High-frequency sessions are occurring in each facility. Service delivery and quality improvement data are being gathered for maternal and newborn outcomes. Challenges include low staffing levels and lack of training space.

Uganda: Increases over baseline are noted in key interventions; most gains are noted in full intervention arm. Fresh stillbirth and early newborn death rates decreased in the full and partial study arms.

Conclusions: Ghana: Trends in improved provider performance and lower newborn mortality are linked to the LDHF approach. If shown to be cost-effective it should be scaled up in Ghana and other countries.

Myanmar: Use of master mentors to implement LDHF is a feasible approach for busy providers in smaller facilities, and is a way to orient new staff. Challenges were addressed through use of quality improvement cycles.

Uganda: Single day, facility-based training using locally available providers can efficiently improve maternal and newborn outcomes. This is a scalable program model to increase provider skills on the Day of Birth.

FCS65. Management of Infertility

FCS65.1
CAN AIR POLLUTION IMPACT ON SPERM PARAMETERS? A META-ANALYSIS

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Objectives: Air pollution is common in all countries and affects reproductive functions. It particularly impacts sperm parameters in men. The aim of this meta-analysis was to examine the impact of air pollution on quality of sperm.

Method: The scientific databases were searched to identify impact of air pollution and male infertility published between 1978 and 2013. 76 retrieved articles which were retrieved. A total of 11 articles were ultimately included in a meta-analysis investigating the impact of air pollution on sperm parameters. Mean and Standard deviation of sperm parameters were calculated and then their CI were compared with CI of standard parameters.

Results: Eleven studies (3000 sample size in total) were included in the analysis. The 95% confidence intervals for pooled means were: 2.68±0.32 for Ejaculation volume, 62.1±15.88 for Sperm Concentration, 39.4±5.52 for Motility, 23.91±13.43 for Morphology and 49.53±11.08 for Sperm Count.

Conclusions: The results of this meta-analysis showed that air pollution can reduce sperm motility.

FCS65.2
PREDICTIVE VALUE OF ENDOMETRIOSIS FERTILITY INDEX (EFI) FOR NATURAL PREGNANCY RATE AFTER LAPAROSCOPY TREATMENT IN CHINESE WOMEN WITH ENDOMETRIOSIS-ASSOCIATED INFERTILITY

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Objectives: To confirm the predictive value of Endometriosis Fertility Index (EFI) for natural pregnant rate treated by laparoscopy in Chinese women with endometriosis-associated infertility.

Method: 1325 patients with endometriosis-associated infertility underwent laparoscopy from January 2008 to March 2012 were reviewed retrospectively in West China Second University Hospital of Sichuan University. Their EFI was recorded according to medical history and intra-operative findings. The natural pregnancy rate (PR) and pregnancy outcome after surgery was followed-up every 6 month. The survival curves were got by Kaplan- Meier method and validated by Log–rank test.

Results: Among the remaining 1051 women, the PR was 48.05% (505/1051) and live birth rate was 38.53% (405/1051). The PR of EFI 10 patients was the highest (73.55%), higher than that of EFI 7–9 (51.39%) (P=0.000). There were no significant difference among EFI 7, 8, and 9 (54.79%, 53.07%, and 44.85%; P=0.091). There were no significant difference of PR among EFI 4, 5, and 6 (22.50%, 20.90%, and 33.33%; P=0.136), higher than EFI 0–3 (10%, 2/20). Kaplan-Meier survival analysis about PR in different time among EFI 8–10, 7, 4–6, 0–3 was statistically significance (P=0.000).

Conclusions: EFI can better predict women’s fecundity in endometriosis-associated infertile women with treatment of laparoscopy.
THE EFFECT OF RECOMBINANT HUMAN FOLLICLE STIMULATING HORMONE (rFSH) ON SEMEN PARAMETERS AFTER VARICOCELE REPAIR IN SUBFERTILE MEN

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Objectives: Varicocele is the most frequent finding in infertile men. This condition can be associated with semen parameter alterations and infertility.

Follicular stimulating hormone (FSH) plays a crucial role in spermatogenesis and sperm maturation. Some researchers have showed that in young men with varicocele, treatment with exogenous FSH leads to significant improvement in the seminal fluid parameters. The exact mechanism is unclear, although reduction in reactive oxygen species (ROS) could be one of the possible mechanisms. We decided to evaluate the effectiveness of treatment with recombinant human follicle stimulating hormone (rFSH) on semen parameters in subfertile men who underwent varicocele repair.

Method: A prospective, randomized and single-blinded controlled trial was conducted in Moheb-e-Yas Hospital, Tehran, Iran, between 2011 and 2014. Ninety-six subfertile men affected with idiopathic unilateral varicocele, abnormal semen parameters and surgically treated by varicocelectomy had been selected. They were randomly allocated to the two groups after operation. Group I received rFSH (Gonal-F; Merek Serono, Switzerland) 75 IU s.c. 3 times per week for 13 weeks, while group II received no medication. Semen analyses were obtained at baseline and the end of treatment course. Student’s t-test and chi-square test were used for comparison of continuous variables and comparison of proportions, respectively.

Results: There were no differences in demographic characteristics between two groups. Semen parameters including: sperm concentration, motility and morphology were associated with improvement after treatment course, in both groups (ρ = 0.001, ρ = 0.001, ρ = 0.002, respectively, group I) and (ρ = 0.043, ρ = 0.048, ρ = 0.037, respectively, group II). In contrast to the statistically significant advantages in terms of sperm motility and morphology in group I compared to these values in group II (ρ = 0.0001, ρ = 0.0001, respectively), the increment in sperm concentration was not statistically significant between two groups (ρ = 0.072).

Conclusions: The data demonstrated that varicocelectomy in subfertile men with clinically palpable varicocele and impairment of seminal parameters is associated with improvement in these parameters. In terms of sperm motility and morphology, there are the statistically significant advantages for post operation administration of rFSH.

CAUSES AND TYPES OF INFERTILITY AMONGST COUPLES MANAGED AT KENYATTA NATIONAL TEACHING AND REFERRAL HOSPITAL IN KENYA

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Objectives: Infertility affects a relatively large number of couples (about 50–80 million) worldwide with an estimated global prevalence of 8–12% but higher in Africa 20–30%. The current pattern of infertility in Kenya remains inadequately determined. Furthermore, the causes of infertility vary among populations and are dynamic. This study describes the current causes and types of infertility amongst infertile couples attending Kenyatta National Teaching and Referral Hospital (KNH) the largest national public referral hospital in Kenya and the region. It forms a base line for the local infertility situation and basis for further scientific research on infertility in Kenya.

Method: A hospital based descriptive study was done in KNH Infertility Clinic and Gynecological Outpatient Clinics between February and September 2012. Recruitment was consecutive until a sample size of 79 was reached. A structured questionnaire was administered to capture key socio-demographic and reproductive health characteristics. The Investigation results and diagnosis were extracted from patients’ records and entered into an SPSS Info data base, cleaned, and analyzed using SPSS (v.17) and STATA (v.11).

Results: The mean age of females amongst infertile couples was 30.5 (SD 5.9) years while that of males was 36.5 (SD 7.8) years. This study found 41.8% of infertility to be due to female factor only, 16.5% male factor only, 35.4% combined male female factor and 6.3% due to unexplained causes. Majority of the infertile females had primary infertility (55.6%) compared to secondary infertility 44.3%. The commonest cause of female factor infertility was tubal factor 83.6% with a majority having bilateral blocked tubes (60.6%). Abnormal sperm characteristics were found in about 52% of male partners in whom 7.6% had azoospermia and 14.6% erectile dysfunction.

Conclusions: There is need to establish facilities capable of management of male infertility due to the high male factor infertility. In addition, strengthening of public health education on safe sex practices to prevent acquisition and transmission of sexually transmitted illnesses and introduction of low cost in-vitro fertilization technology is a priority in Kenya due to the high incidence of tubal factor infertility.

COMPARISON OF ORAL DYDROGESTERONE WITH VAGINAL PROGESTERONE FOR LUTEAL SUPPORT IN IUI CYCLES: A RANDOMIZED CLINICAL TRIAL (RCT)

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Objectives: This study was conduct to compare the effect of oral dydrogesterone with vaginal Cyclogest on luteal phase support pregnancy rate in the intrauterine insemination (IUI) cycles.

Method: This prospective, randomized, double blind study was performed in a local infertility center from May 2013 to May 2014. It consisted of 150 infertile women younger than 35 years old undergoing ovarian stimulation for IUI cycles. They underwent ovarian stimulation with oral dydrogesterone (20 mg) as group A and vaginal cyclogest (400 mg) as group B in preparation for the IUI cycle. Clinical pregnancy and abortion rates, mid luteal progesterone (7 days after IUI) and patient satisfaction were compared between the two groups.

Results: The mean serum progesterone levels was significantly higher in group A than group B (P value = 0.001). Pregnancy rates in A was not statistically different than group B (P value = 0.58). Abortion rate in two group was not statistically different (P value = 0.056), although, rate of abortion was higher in B group than A group. Satisfaction rates were significantly higher in group A compared to group B (P value < 0.001).

Conclusions: We concluded that oral dydrogesterone is effective as vaginal progesterone for luteal-phase support in woman undergoing IUI cycles. Moreover, the mean serum progesterone levels and satisfaction rates in dydrogesterone group were higher than cyclogest group.

PERCEPTION AND MANAGEMENT OF HUMAN FERTILITY IN NIGERIA

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Objectives: The objective of this work is to highlight, within a few key areas of reproductive medicine, some contentious issues, and to elab-
orate ethical principles, which may help to inform clinical decisions in these difficult areas. Also to provide the healthcare professionals an evidence-based management protocol for infertile from medical information overload.

**Method:** A comprehensive review where the literature was searched for “Management of infertility and/or infertile couples” at online by using a cross-search of different medical databases besides the relevant printed medical journals and periodicals. Guidelines and recommendations were retrieved from the best evidence reviews such as that from the American College of Obstetricians and Gynecologists (ACOG), American Society for Reproductive Medicine (ASRM), Canadian Fertility and Andrology Society (CFAS), and Royal College of Obstetricians and Gynaecologists (RCOG).

**Results:** A simple guide for the clinicians to manage the infertile.

**Conclusions:** The study deploys a new strategy to translate the research findings and evidence-based recommendations into a simplified focused guide to applied on routine daily practice. Infertility by itself does not threaten the life, but it has devastating psycho-social consequences on infertile couples and remains problem challenge. Management of infertility has been a difficult medical task not only because of the difficulty in the diagnosis and treatment of the reproductive disorders in each partner or poorly unsteady interaction between the partners’ fertility potentials, but also because of the fact that success of treatment is clearly identifiable entity; the achievement of pregnancy.

**FCS65.7**

**THE INCREASED LEVEL OF TM4SF9 IN VILLI SUGGESTS MORE PROLIFERATION AND INVASIVENESS OF TROPHOBLASTS IN ECTOPIC PREGNANCY**

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**Objectives:** This study was to determine the expression of TM4SF9 at maternal-fetal interface of tubal ectopic pregnancy and to explore the correlation of expression levels of TM4SF9 and tubal ectopic pregnancy.

**Method:** Trophoblastic and endometrial tissues were collected from the patients of tubal ectopic pregnancy and normal early pregnancy, who had voluntary abortion. All samples were collected from women aged 23–40 years. Immunocytochemistry was used to detect the expression of TM4SF9.

**Results:**
1. In human villi: TM4SF9 was primarily located in the cytotrophoblasts (CTs) and extravillous trophoblast (EVCTs) in both intrauterine and tubal ectopic pregnancy. The intensity of TM4SF9 in villi of ectopic pregnancy was significantly higher than that in normal intrauterine pregnancy, showing significant differences (mean of IOD: 109.39±61.84 vs. 89.04±36.44; t=2.33, P=0.023).
2. In human decidua or endometrium: In human decidua and endometrium, TM4SF9 was expressed in glandular epithelial cells and Decidual & Endometrial Stromal Cells (DSC & ESC). TM4SF9 was increased in ectopic pregnancy than that in intrauterine pregnancy and non-pregnancy (mean of IOD: 144.18±106.22 vs. 93.43±67.10, P=0.037; 144.18±106.22 vs. 88.56±33.24, P=0.018).

**Conclusions:** Our study indicated that the trophoblasts in ectopic pregnancy showed more proliferative and invasive characteristics. Presence of TM4SF9 in endometrium does not depend on the existence of embryo. The increased level of TM4SF9 in villi may relate to embryo retention in fallopian tube. We believed that TM4SF9 protein may be useful in targeting the growth and invasion of trophoblast. Thus, the function of TM4SF9 in human tubal ectopic implantation sites deserves further research and discussion.

**FCS65.8**

**NEW METHOD OF OPTIMIZATION OF EMBRYO IMPLANTATION AND THIN ENDOMETRIUM TREATMENT DURING PREPARATION TO IVF PROGRAM**

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**Objectives:** Thin endometrium is often is a cause of pregnancy failure after IVF. It is considered that the endometrium thickness less than 7 mm (during the implantation window) provides minimal chance for successful conception. The study was aimed to developed a new method improving implantation of embryos in IVF cycle. There is no available evidence about treatment of thin endometrium with injection of gas mixture (CO2 and N2) into uterine cavity for stimulation of endometrium growth. This technique may provide considerable enhancement of blood circulation and, as a result, the increase of thickness of basal and functional layers of endometrium.

**Method:** The enhancement of embryo implantation is achieved by injection of gas mixture of 6% CO2 and 94% N2 (60ml with additional pressure of 1.3 atm) into the uterine cavity and creation of additional pressure in the cavity for better contact of blastocyst with endometrium improving its “adhesion”. The study involved patients of 25–46 years of age with primary or secondary infertility of different type lasting more than 5 years and who have had at least 2–4 unsuccessful IVF treatment cycles.

**Results:** Thin endometrium: in our study measurement of the endometrium thickness by ultrasonography was carried out on the days 7th, 9th and 11th of the menstrual cycle. We have selected 65 patients of reproductive age with infertility and with thin endometrium not responding to medical treatment. The initial pretreatment ultrasonography showed that the thickness of endometrium varied from 3.1 mm to 5.9 mm. After the third procedure the endometrium thickness ranged 7.3–10.8mm. The procedure was performed in 42 IVF and ICSI cycles. Twenty two out of 42 patients, who received the procedure of injection of gas mixture achieved a pregnancy.

**Conclusions:** The study demonstrated that in women with previous repeated unsuccessful trials of stimulation of endometrium with hormonal therapy [treatment of endometrium with gas mixture (CO2 and N2)] provides notable growth of endometrium thickness. These preliminary results suggest that the implantation of embryos was probably improved by the injection of gas mixture and creation of additional gas pressure in the uterine cavity.

**FCS66.1**

**COMPARISON OF OVULATION INDUCTION PROTOCOL FOR WOMEN WITH POLYCYSTIC OVARIAN SYNDROME: A PROSPECTIVE RANDOMIZED TRIAL**

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**Objectives:** As one of common disease negatively affected women fecundity, Polycystic Ovary Syndrome (PCOS) account for 75% of anovulatory infertile women. Clomiphene citrate (CC) has been widely used as the first-line for ovulatory induction, letrozole (LE) is a new, acceptable medicine recently. However, we lack of data of control study in China. In this study, we compare the ovulatory rate, pregnancy rate (PR), and livebirth rate of CC, CC+Metformin (Met), LE, and LE+Met in PCOS women.

**Method:** 270 PCOS patients who have conception desire were enrolled into this prospective randomized trial (ChiCTR-TRC-
11001821). All participants were randomized into four groups. The study design is on the 3rd–5th day of cycle CC 50–150mg/d or LE 2.5–5.0mg/d for continuous 5 days; and at least three cycle of ovulatory induction is recommended. Patients in CC+Met of LE+Met groups took metformin 1000–1500mg/d during ovulatory induction until pregnancy. Data were statistically analyzed using SPSS 21.0. P < 0.05 was considered statistically significant difference.

Results: The baseline of clinical and biochemical characters among four groups were comparable, and 242 patients completed this study. The ovulatory rate per cycle of 5.0mg LE was significantly higher than 2.5mg LE (75.7% vs. 52.2%, P = 0.023). Compared to CC, LE has a significantly higher ovulatory rate per cycle (71.5% vs. 49.7%, P < 0.001), and PR (43.3% vs. 32.8%), but the difference had no significant (P > 0.05). Add of metformin either in CC or LE group failed to increase ovulatory rate, PR, and livebirth rate (P > 0.05).

Conclusions: Although LE had a higher ovulatory rate, PR, and livebirth rate than CC, there was no significant difference. Metformin combined with LE or CC did not improve the pregnancy rate or livebirth rate. Therefore, CC alone is still the first-line therapy for ovulation induction in PCOS patients.

FCS66.2 COMPARISON OF SPECIFICITY AND SENSITIVITY OF AMH AND FSH IN DIAGNOSIS OF PREMATURE OVARIAN FAILURE
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Objectives: Anti-müllerian hormone represents the primitive follicular number and ovarian age. Low level of AMH is in relation with early menopausal state and decreased ovarian reserve. AMH level changes occurs prior than FSH level in representing ovarian failure. The aim of this study is to compare sensitivity and specificity of AMH with FSH in diagnosis of POF.

Method: This descriptive study is done on 96 patients referred to Dr Rasekh clinic. Serum level of AMH and FSH were measured and data were analyzed through SPSS 21 software.

Results: Results of AMH and FSH serum level indicate that AMH has more sensitivity (80% vs 28.57%) and almost equal specificity (78.88% vs 78.85%) compared with FSH. Also negative predictive value of AMH (98.61%) and FSH (87.5%) are different. But positive predictive value is the same (17.39%). Diagnostic accuracy of AMH is more than FSH and has significant differences.

Conclusions: According to the results of this study, AMH serum level is more sensitive than FSH serum level. Also AMH has more negative predictive value. Besides, this hormone can be measured at any time of menstrual cycle, against FSH AMH is seemed to be more useful in early diagnosis of POF.

FCS66.3 CLOMIPHENE CITRATE, TAMOXIFEN AND VITE VERSUS ESTROGEN, LETROZOLE AND TAMOXIFEN AS AN INFERTILITY TREATMENT
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Objectives: Infertility is defined as a one-year unprotected intercourse which does not result in pregnancy. The incidence of infertility is 10 to 15 percent during their reproductive age. 50% of infertility are due to female infertility. Anovulation disorders cause 30 to 40 percent of infertility cases. There are several regimens to induce ovulation, the aim of this research is comparison of the two drug regimens in infertile women with anovulatory cycles.

Method: This study is a double blind control trial which was done on 90 infertile women that refer to Dr.Rasekh clinic. Patients divide into 2 groups blindly and each group treat with different regimen. Group A treat with Clomiphene Citrate, Tamoxifen and vitamin E. Group B treat with Letrozole, Tamoxifen and Estrogen. Efficacy of each regimen compare with analyzing endometrial quality and thickening, follicular size pregnancy rate and incidence of OHSS.

Results: Mean of endometrial thickness is more in group B (10.020 vs. 7.360), Endometrial thickness has significant difference between group A and B (P value < 0.001). Mean of follicular size in group A is more than group B (15.630 vs. 14.264). Follicular size has no significant difference between group A and B (P value: 0.1). Frequency of OHSS in group B is more than group A (6.7% vs. 0%) and has no significant difference between two groups (P value > 0.05). Frequency of abortion has no significant differences between two groups (P value > 0.05).

Conclusions: Comparing the frequency of pregnancy in two groups has significant difference, which shows the efficacy of group B is more than group A regimen.

FCS66.4 INFERTILITY INFORMATION: ACCESS, ACCURACY AND LIABILITY IN INDONESIA, NOVEMBER 2013
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Objectives: Infertility is one of reproduction problem that has a great effect and burden for the infertile couple. In recent years, the development of information technology and easier access to all kind of digital information, making the infertility information has a greater demand. However the information for infertility couple in Bahasa is very limited and contain of this information is various and questionable. The aim of this study to explore about the digital information related to infertility in Bahasa from the Google search engine and to know the accuracy and liability of the information.

Method: The accuracy and the liability of the information match with the guideline like NICE guideline, ASRM, ACOG and RCOG. From the Google search engine with the keyword of “infertilitas” has 392000 results, and with the infertility clinic keyword has 130000 results.

Results: The information contain from 30 infertility clinics website all over Indonesia. 73.3% explain about the definition of infertility, only 20% explain about the etiology of infertility, 46.7% explain about the symptom of infertility and 50% explain about the diagnosis of infertility, 53.3% explain about the treatment of infertility and 13.3% explain about the psychosocial effect of infertility.

Conclusions: These results show us the picture of information that digital information for infertility couple in Bahasa still very limited in number and poor in the accuracy of the information.

FCS66.5 LETROZOLE PRETREATMENT WITH MISOPROSTOL IN SECOND TRIMESTER ABORTION: A RANDOMIZED CONTROLLED STUDY (EL-MINIA MATERNITY HOSPITAL EXPERIENCE)
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Objectives: To assess the abortion rate of combined regimen of letrozole and misoprostol in second trimester abortion.

Design: Randomized controlled trial.

Setting: University hospital.

Methods: 130 women requesting legal termination of pregnancy at gestational age between 12 and 20 weeks. Letrozole 10mg daily were given for 3 days, followed by misoprostol 800 mcg vaginally every 3 hours up to a maximum of five doses on the third day, while the
placebo group received placebo for 3 days followed by the same dosage of misoprostol.

Main outcome measures: The complete abortion rate and the side effects. Profiles of the two groups were compared.

Results: The complete abortion rate of the letrozole group was significantly higher than that of the placebo group (82.6% compared with 60.5%). Fewer women complaining of vomiting in the letrozole group than those in the placebo group.

Conclusions: The use of letrozole and misoprostol is associated with a higher complete abortion rate.

FCS66.6
DYNAMIC EXPRESSION OF CORTICOTROPIN-RELEASING HORMONE AND UROCORTIN IN PREGNANT RATS WITH ESTROGEN-INDUCED CHOLESTASIS
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Objectives: The pathological mechanism of fetal distress in intrahepatic cholestasis of pregnancy (ICP) is associated with blood flow dysregulation in the utero-placental-fetal unit, and corticotropin-releasing hormone (CRH) and urocortin (UCN) are potent concentration-dependent vasodilatory regulators of placenta.

Method: This study established an ethinylestradiol (EE)-induced cholestasis pregnant rat model to dynamically observe placent al CRH and UCN expression using real-time PCR and western blotting.

Results: In the EE group, maternal serum CRH levels were down-regulated at 21 days-of-gestation and posterior to placent al CRH expression, which was lower than controls at 17 days-of-gestation and had low levels of increase at 19 and 21 days-of-gestation. Meanwhile, maternal serum UCN levels were transiently down-regulated at 17 days-of-gestation, which had low levels of increase at 19 days-of-gestation and a significant increase at 21 days-of-gestation. Placental UCN expression was persistently down-regulated at 17 and 19 days-of-gestation and had low levels of increase at 21 days-of-gestation. Maternal serum TBA levels had a profound inverse correlation with placental CRH and UCN expression.

Conclusions: The persistent down-regulation of placent al UCN expression and the transient down-regulation of maternal serum CRH, UCN and placent al CRH expression in pregnant rats with EE-induced cholestasis may act in synergy or individually to impair blood flow regulation in the utero-placental-fetal unit and play an essential role in its adverse fetal outcomes.

FCS67. Medical Disorders in Pregnancy

FCS67.1 PREVALENCE AND ASSOCIATED FACTORS OF MENTAL DISTRESS DURING PREGNANCY AMONG ANTENATAL CARE ATTENDEES AT SAINT PAUL’S HOSPITAL, ADDIS ABABA
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Objectives: Common mental disorders (CMDs) like anxiety and depression during pregnancy are significant because they have adverse impact on the outcome of pregnancy and they are associated with postpartum depression. The studies done on CMDs during pregnancy in Ethiopia are very few and are done mainly in postpartum settings.

The objective of the study was to determine the prevalence and factors associated with mental distress (MD) as a proxy indicator of CMDs during pregnancy among ANC attendees at Saint Paul’s Hospital Millennium Medical College (SPHMMC).

Method: A facility based cross sectional study was conducted over a period of four months at the ANC clinic of SPHMMC. An exit interview of randomly selected pregnant women in their third trimester attending ANC at SPH was done using a structured questionnaire to determine their socio-demographic and obstetric characteristics. A validated Self-reported Questionnaire (SRQ-20) was used to measure MD.

Results: A total of 753 pregnant women were included in the study. The majority of respondents 481 (63.9%) were in the age group between 20 and 29 years, with a mean age of 23.4 years. The prevalence of MD (SRQ-20 score >6) was found to be 26.2% (95% CI: 23.04–29.36). Women with obstetric problems in their current pregnancy had a significantly higher MD [AOR=1.941 (1.146–3.287)]. Women with unexplained pregnancy had a significantly higher MD [AOR=3.595 (2.330–5.546)]. Psychiatric illness in the past was also found to have a strong association with the presence of significant MD [AOR (95% CI) = 4.482 (1.614–12.449)].

Conclusions: This study revealed a high prevalence of MD, with one in four pregnant women having a significant mental distress. Those women with unplanned pregnancy, identified and informed to have obstetric problems during the current pregnancy and previous history of psychiatric illness were found have a significantly higher rate of MD. Primary care health workers responsible for ANC must be trained about the relevance and detection of MD during pregnancy. Proper counseling and emotional support should be given for those women with the risk factors.

FCS67.2 SERUM MAGNESIUM LEVELS AND CLINICAL CORRELATES IN PATIENTS RECEIVING MAGNESIUM SULPHATE FOR PREVENTION OF CONVULSION IN SEVERE PRE- ECLAMPSIA AND ECLAMPSIA AT OAUTCHE. ILE-IFE
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Objectives: To determine the mean pre-treatment and treatment serum magnesium levels attained, and to assess adequacy of treatment by observing the occurrence of convulsions in women treated with magnesium sulphate.

Method: Women; 28–41 weeks pregnant or in the puerperium with severe pre-eclampsia or eclampsia, participated in this cross sectional study. All participants received the standard Pritchard regimen and monitoring.

Results: Seventy five patients participated in the study; they were mostly overweight (mean BMI of 26.38±3.40kg/m²). Mean pre-treatment serum magnesium level was 1.96±0.29 mg/dL; eclamp sis had significantly lower levels (p<0.001). Mean treatment serum magnesium level attained was 5.41±0.58 mg/dL. No evidence of magnesium toxicity was observed. Therapeutic range of serum magnes ium was required to prevent seizures, and was attained ≥4-hours after loading dose in most of the eclamptics (74%). All convulsions occurred in the interval between the loading dose and the first maintenance dose; eclampsia had greater risk of convulsing while on treatment (RR=11.56, 95% CI: 0.62–216.36, p=0.049).

Conclusions: Low serum magnesium level is a risk factor for convulsion in OAUTC. Convulsion while on magnesium sulphate is more likely among eclamptics. The Pritchard regimen appears to be effective and has very low risk for toxicity, however, modifications involving greater loading dose and less maintenance doses may be beneficial.
FCS67.3
PRECONCEPTION HYPOTHYROIDISM SCREENING ON OFFSPRING’S MOVEMENT AND POSTURES DURING EARLY INFANCY
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Objectives: Maternal hypothyroidism is associated with inadequate neuropsychological development in the offspring. The aim of this study was to assess the offspring’s early quality of motor performance and evaluated the value of maternal hypothyroidism treatment by general movements (GMs) assessment.

Method: This pilot prospective cohort study have recruited 8 women with preconception hypothyroidism and 8 diagnosed in early pregnancy in Obstetrics and Gynecology Hospital of Fudan University from September 2012 to August 2013. Their clinical characteristics, maternal and neonatal thyroid function were recorded. GMs assessment was conducted with seven-minute video recordings made of the spontaneous motility of each infant ranging 2 to 17 weeks. SPSS was applied for statistical analysis.

Results: Women in the preconception group had higher TSH (6.59±6.08 vs 4.46±1.74) and more Anti-APO positive (50.0% vs 12.5%) at diagnose compared with those in early-pregnancy group. Also, neonatal TSH in preconception group was lower than those in early-pregnancy group (39.12±22.09 vs 52.09±25.63) with no difference of FT3, FT4 and antiAPO. More offspring of women diagnosed before conception had abnormal GMs assessment, with four cases of PR, one case of F+ and two cases of F± in preconception group, while three cases of F+ and one cases of F± in early-pregnancy group.

Conclusions: Offspring’s impaired neurodevelopment at early postterm in women with hypothyroidism suggested the benefits of preconception hypothyroidism treatment. GMs assessment is recommended for the necessary appliance of early assessment of offspring’s neurodevelopment.

FCS67.4
GENETIC DETERMINANTS OF PREECLAMPSIA (PE) DEVELOPMENT IN PREGNANT WOMEN WITH TYPE 1 DIABETES MELLITUS (T1DM) AND PREEXISTING DIABETIC NEPHROPATHY (DN)
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Objectives: Contribution of ACE gene I/D polymorphism to PE development has been established in different subpopulations (including T1DM pregnant women). As kidneys are involved in metabolism of RAAS components, we hypothesized that preexisting renal injury (particularly, DN) might have impact on PE expression in such patients. Our objective was to reveal the factors, by which development of PE might be mediated in carriers of causative alleles of ACE gene I/D polymorphism with preexisted DN. MGP gene polymorphisms drew our attention as they have previously shown to serve as a negative predictor for progression to ESRD and cardiovascular events in CKD patients.

Method: T1DM pregnant women were allocated to study groups depending on presence of PE (group I included 30 patients with superimposed PE and group II – 30 patients without PE). 23 (76.6%) patients from group I and 11 (36.6%) pregnant women from group II had DN diagnosed before current pregnancy. After obtaining written informed consent we performed standard examination and molecular-genetic investigation of polymorphic variants in ACE (ID) and MGP (Thr83Ala, T-138C) genes. Following DNA extraction from whole blood, allele-specific polymerase chain reaction (PCR) or PCR-restriction fragment length polymorphism assay were used. Statistical analysis was performed using SNPstats and Statistica 10.0 software.

Results: Frequencies of ACE genotypes were significantly different between group I and II (genotype II – 16.67%; 56.67%; genotype ID – 53.33%; 26.67%; genotype DD – 30%; 16.67%, respectively). The Akaika information criterion was lowest for dominant inheritance model – 13.83 (p<0.001). The frequency of ID and DD genotypes compared with II genotype was significantly increased in group I as opposed to group II (OR=6.54; 95% CI: 2.08–23.74). We found no differences in MGP (Thr83Ala, T-138C) genotypes frequency. Combinations of all studied genotypes were analyzed in both groups depending on DN. The prognostic unfavorable genotypes (83Thr/Ala(MGP) + DD(ACE); 83Thr/Thr(MGP) + 138TT(MGP) + ID(ACE); 83Thr/Ala(MGP) + 138TT(MGP) + ID(ACE)) combinations dominated in group I.

Conclusions: Higher prevalence of MGP gene polymorphisms within carriers of causative alleles of ACE gene with preexisted DN and superimposed PE is suggestive of their role in PE realization (through genetic interactions and multiplication of effects). Impaired calcium homeostasis in vascular walls induced by MGP gene polymorphisms is supposed to sensitize them to abnormal responses to unusual effects/components of RAAS (generated by ACE gene polymorphisms). To our knowledge it’s the first study to investigate the role of MGP gene in perinatal complications (particularly, in PE); new approaches to PE prevention may be speculated (calcium blockers, appropriate vitamin D and K supplementation).

FCS67.5
RELATIONSHIP BETWEEN MATERNAL SOCIO-DEMOGRAPHIC CHARACTERISTICS AND MALARIAL PARASITAEMIA AMONG PRIMAGRAVIDAEE AT FEDERAL MEDICAL CENTRE, OWERRI, NIGERIA
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Objectives: This study was done to determine the prevalence of malaria parasitaemia and the relationship between sociodemographic characteristics and malaria parasitaemia amongst primigravidae.

Method: Questionaires administered by the researchers were used to obtain information from the parturients at Federal medical Centre Owerri between December 2013 to May 2014. Maternal blood and placental blood were collected and used for analysis. Statistical analyses were done using SPSS v.17.

Results: One hundred and eighty primigravidae and their babies were analyzed. Prevalence of peripheral parasitaemia was 57 (31.7%) while the prevalence of placental parasitaemia was 48 (26.7%) amongst the participants. The mean maternal peripheral parasitaemia, 124.56±27.49 was higher than that of placental parasitaemia, 80±16.51. There was no statistical association between maternal socio-demographic characteristics and placental parasitaemia (p>0.05). Those with secondary education 31 (44.9%) were found to have higher prevalence of maternal peripheral parasitaemia while the least was amongst those with tertiary education 23 (22.5%) (χ²=4.642, df=2,p=0.031). There was no significant association between other socio-demographic variables and peripheral parasitaemia, p>0.05.

Conclusions: The study showed that the prevalence of maternal peripheral parasitaemia was higher than that of placenta. Primigravidae with tertiary education were at lower risk of peripartum maternal peripheral parasitaemia. Community programmes supporting the
education of the girl child should be supported vigorously as overall reduction in negative health indices especially those involving the mothers and their offspring can be directly traced to the woman’s level of education.

**FCS67.6**

**THE RELATIONSHIP BETWEEN MALARIA PREVENTIVE MEASURES, MALARIA PARASITAEMIA AND AVERAGE BIRTH WEIGHT OF BABIES IN A TERTIARY FACILITY IN OWERRI, NIGERIA**

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**Objectives:** This study was done to determine the relationship between placental parasitaemia, average neonatal birth weight and the relationship between the use of malaria preventive measures and the occurrence of placental parasitaemia with an aim to improve maternal and neonatal outcome.

**Method:** From December 2013 to May 2014, 180 maternal (primigravidae) and baby pairs were recruited consecutively. Following her consent, a questionnaire was used to obtain information from the parturients. Thick and thin smears were made for malaria parasites and later viewed with the assistance of a qualified laboratory scientist. The babies were examined and weighed immediately after delivery.

**Results:** One hundred and eighty mother-baby pairs were studied. Those who had not used intermittent preventive therapy (IPT) in pregnancy (49.2%) (p=0.0004) and those who did not use insecticide treated (ITN) net at all times (46.2%) or never (34.3%) had significantly higher placental parasitaemia than their counterparts, p<0.05. Average birth weight of neonates with placental parasitaemia in mothers who used only IPT, (t=2.22, p=0.005), and IPT + ITN,(t=7.91, p<0.0001) was significantly higher than those who did not use any form of malaria prevention in pregnancy, (t=4.69, p= 0.0001). There was also a strong negative correlation between those using a combination of both.

**Conclusions:** Primigravidae with placental or maternal peripheral parasitaemia who failed to use malaria preventive measures delivered babies with reduced average birth weight. A scheme to introduce Direct Observed Therapy (DOT) for intermittent preventive therapy in the hospital, making ITN readily available and improving the girl child education is highly recommended.

**FCS67.7**

**LOW LEVELS OF GLUTHATIONE PEROXIDASE IN SEVERE PREECLAMPSIA**

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**Objectives:** Our aims was to investigate whether low level of glutathione peroxidase related with severe preclampsia.

**Method:** Cross sectional study between normal pregnancy and severe preeclampsia were performed at 37–42 weeks of gestation. Maternal venous bloods were taken for assessing level of glutathione peroxidase.

**Results:** Of the 20 normotensi and 20 severe preeclampsia pregnancy were investigated. Mean glutathione peroxidase level of preeclampsia is 59.42 mU/mL, lower than normotensi pregnancy (mean = 301.26 mU/mL). Analyze ROC showed that cut off point glutathione peroxidase to differentiate between severe pregnancy and preeclampsia was 41.74 mU/mL. After multivariate analysis for BMI and parity showed that low level of glutathione peroxidase would increase risk of severe preeclampsia OR: 27.0 (95% CI: 4.57–159.7).

**Conclusions:** Low level of glutathione peroxidase increased risk of severe preeclampsia. It seems visible that high micronutrient intake related to increase antioxidant enzyme are useful for prevent severe preeclampsia.

**FCS68.1**

**ASSOCIATION OF HIGH LEVEL OF SERUM FERRITIN WITH GESTATIONAL DIABETES MELLITUS IN BANGLADESHI WOMEN**

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**Objectives:** Ferritin, the major iron storage protein, plays a key role in iron metabolism. Increased serum ferritin, has been identified as one of the risk factor for Gestational diabetes mellitus (GDM). Objective of this study is to measure serum ferritin level in diabetic and non diabetic patients and to compare between two groups.

**Method:** This case control study was conducted at Fetomaternal Medicine wing of the department of Obstetrics and Gynecology in BSMMU Hospital, Dhaka from July 2009 to June 2010. Total 100 pregnant women at third trimester were enrolled for this study. Among them 50 patients were included as cases and 50 cases were as control.

**Results:** The mean serum ferritin level was also measured in two groups. Serum ferritin level ≤12 ng/ml considered as normal.

**Results:** The mean serum ferritin was significantly higher in study group than in control group (36.4±2.5 vs. 17.3±1.0 ng/ml, p < 0.001). A significant linear correlation was observed between serum ferritin
and 2 hours postprandial glucose. More than 90% of the women having GDM exhibited elevated serum ferritin (>12 ng/ml) compared to 70% in control group. The likelihood of having GDM is 5 times higher among those patients with high serum ferritin (>12 ng/ml) than normal serum ferritin.

Conclusions: It was observed, that High level of serum ferritin (>12ng/ml) at third trimester is associated with increased risk of GDM. The obstetricians should, therefore, be cautious enough in prescribing iron to the pregnant women.

FCS68.2
HIV IN PREGNANCY: EXPERIENCES IN A TERTIARY CARE HOSPITAL
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Objectives: To identify the prevalence, treatment services, maternal and neonatal outcome of HIV positive pregnant women in our setting.

Method: This prospective observational study was done in Chittagong Medical College Hospital from November'2013 to January'2015. After proper counseling, consent & rapid testing HIV positive pregnant women were included in this study. Collected data includes age, marital status, education, occupation, address, migrant status, husband’s occupation & HIV status, parity, gestational age, treatment received, mode of delivery, maternal & neonatal outcome. Data analysis done.

Results: HIV counseling & testing done in 5412 pregnant patient. 5 found HIV positive. Mean age 26.4 year (range: 25-28 years). All married & housewives. 60% (n=3) had no education. 20% (n=1) migrant of South Africa. 80% (n=4) patients of rural residence. 60% (n=3) multi gravid/a/para. 40% (n=2) husbands businessmen & rest migrant worker, farmer, carpenter. 20% (n=1) husband died due to HIV related complication. 20% (n=1) husband HIV negative. All patient acquried HIV sexually. 80% (n=4) patients delivered vaginally. 80% (n=4) mother alive. 20% (n=1) patient died at postnatal period due to complications of AIDS. Among neonate 80% (n=4)were alive. All alive babies were on breast feeding, got ARV + cotrimoxazole prophylaxis & HIV DNA PCR negative at 6 weeks of age.

Conclusions: In Bangladesh, the number of HIV infected pregnant women per year is small. The absence of universal screening has left many cases undetected & untreated. By early diagnosis we can take appropriate measures to reduce maternal complication & prevent mother to child transmission of HIV and thereby reduce maternal & neonatal mortality.

PLASMA LEVELS OF THE CEREBRAL BIOMARKER, NEURON SPECIFIC ENOLASE, ARE ELEVATED DURING PREGNANCY IN WOMEN DEVELOPING PREECLAMPSIA

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Objectives: Preeclampsia is one of the leading causes to maternal death worldwide. Amongst all hypertensive disorders during pregnancy, 75% of deaths are caused by cerebral complications. Neuron Specific Enolase is considered to be a peripheral biomarker of central nervous system injury. The aim of this study was to compare levels of Neuron Specific Enolase throughout pregnancy, in healthy pregnant women and in women developing preeclampsia. An objective marker of cerebral involvement in women with preeclampsia could aid in the adjustment of treatment and help to accurately identify the optimal time for delivery.

Method: A nested case-control study within a longitudinal study cohort in Värmland, Sweden, was performed. Healthy pregnant women were enrolled and plasma samples were collected at gestational weeks 10, 25, 28, 33 and 37 according to the general controls for antenatal healthcare in Sweden. In the cohort, 20 women developed preeclampsia and samples were available from 16 women. 302 women in the cohort had a normal, healthy pregnancy and 36 of these were randomly selected and included in the study as controls. Levels of Neuron Specific Enolase were analyzed throughout pregnancy with an enzyme-linked immunosorbent assay.

Results: In gestational week 37, women who developed preeclampsia had significantly higher plasma levels of Neuron Specific Enolase than healthy pregnant controls (p<0.001). The levels of Neuron Specific Enolase did not change between gestational week 10 and 37 in women who developed preeclampsia, but the levels decreased significantly in healthy pregnant controls (p<0.001). In a multivariate regression analysis adjusting for potential confounders, Neuron Specific Enolase remained an independent risk factor for preeclampsia (Adjusted Odds Ratio 5.29, 95% CI 1.17–24.02).

Conclusions: Levels of Neuron Specific Enolase are higher in late pregnancy among women with preeclampsia than in healthy pregnant controls. In women developing preeclampsia, levels of Neuron Specific Enolase do not change during pregnancy in contrast to healthy pregnant controls, where levels decrease throughout pregnancy. The result might be confounded in early pregnancy by extracerebral sources of Neuron Specific Enolase, such as the corpus luteum. A compromised blood-brain barrier might cause leakage of Neuron Specific Enolase into peripheral blood in women with preeclampsia and Neuron Specific Enolase can be further evaluated as a biomarker of cerebral dysfunction in women with preeclampsia.

THE RISK ASSESSMENT AND MANAGEMENT OF VENOUS THROMBO-EMBOLISM IN PREGNANCY: AN AUDIT AGAINST CURRENT NEWCASTLE-UPON-TYNE HOSPITALS AND RCOG GUIDELINES

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Objectives: Pulmonary embolism is the leading direct cause of maternal death in the UK, yet with appropriate prophylactic treatment many pulmonary embolisms are preventable. NUTH undertakes a VTE risk assessment to identify women in need of thromboprophylaxis, but recent RCOG guidelines (Green-top No 37a.) suggest additional risk factors e.g. parity >3,

• Assess whether all women diagnosed with an ante-natal or post-natal VTE in an 18 month period were risk assessed and managed correctly as per NUTH guidelines.

• Identify whether any women would have been risk assessed or managed differently had RCOG guidance been followed.

Method: All women who had a confirmed or suspected VTE during pregnancy or post-natally from July 2013 - December 2014 were identified from the Obstetric Haematology database. Retrospective analysis of these patients’ case-notes against the standards was then performed.

Results: 16 women had an ante-natal VTE and 10 women had a post-natal VTE during the audit period: a higher incidence than expected. 5 women had no documentation of risk assessment, 4 of whom had been booked at a different trust. NUTH guidelines identified 5 women ante-natally and 2 woman post-natally as being at increased risk of VTE, 6 of whom received appropriate thromboprophylaxis. Had RCOG guidelines been followed, 14 women would have been at increased risk and would have received thromboprophylaxis.

Conclusions: The lack of risk assessment in cases where women were booked elsewhere highlights a need for risk assessment to be undertaken once care is transferred to NUTH. Following the RCOG guidelines would have resulted in a significant increase in the number of women receiving thromboprophylaxis. The inclusion of criteria such as smoking in RCOG guidelines appears to be particularly useful in identifying women at increased risk of VTE.
EVALUATION AND QUANTIFICATION OF THE SUGGESTIVE SYMPTOMS OF THE CARPAL TUNNEL SYNDROME DURING PREGNANCY

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Objectives: To estimate the prevalence of indicative complaints of CTS in pregnant women in the city of Botucatu-SP, to quantify the symptoms and functional state of the pregnant women who present them.

Method: 200 women were evaluated and submitted to Durkan test and DASH questionnaire to quantify the disability in upper limbs caused by the CTS symptoms.

Results: The CTS symptoms were identified in 26% of women, the Durkan test was positive in 69.2% of women complaining of pain in the wrist. Tendinitis, bursitis, and rheumatologic problems in the upper limbs were identified; however they do not have association with the presence of CTS symptoms. The parity got statistically associated, in the complaining group, 77% of women were multiparous. Regarding the difficulty in performing activities from daily life, the DASH questionnaire showed that 60% of women did not report difficulties and 28.8% reported little difficulty.

Conclusions: The CTS was shown to be common in pregnancy. The scarcity of studies about CTS causes in this period make it difficult to conduct researches and to understand this discomfort. The literature verifies the persistence of CTS after pregnancy, and it brings difficulties with the newborn care, highlighting the need for surveillance of these women and continuing studies on this topic.

PERINATAL OUTCOME IN EXTRAPULMONARY TUBERCULOSIS

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Objectives: The prevalence of TB, especially extrapulmonary TB, is increasing worldwide. One third of the global population have tubercular infection. Pulmonary tuberculosis is the most common manifestation, extrapulmonary constituting about 15 to 30% (India 20%). There are many misconceptions about pregnancy associated with tuberculosis and the perinatal outcome. Though few studies are there as regards perinatal outcome in pulmonary tuberculosis including our work, the outcome of pregnancy with EPTB is scarce. Hence the study.

Method: This study started in 1988 in the Department of OB/GYN of SCB Medical College Cuttack and the private clinics of the authors till 2014. There were 51 cases of EPTB and a control group of 51 with out tuberculosis matched with age, parity and socio economic status. The usual pregnancy management was done along with short course chemotherapy i.e.2 EHRZ and 4 HR regimen in the study group. The perinatal outcome was compared in both the groups. Out of 51 cases of EPTB, 26 had tuberculous lymphadenitis, 10 genital tuberculosis, 7 intestinal, 5 spinal, 2 joint and one renal tuberculosis.

Results: The tuberculous lymphadenitis and the control group has no difference in their perinatal outcome. Out of the 25 other EPTB, FGR compared to study 28%/9% (p<0.001). The birth weight below 2000 gms, extreme prematurity (p<0.01), low Apgar scores were observed more in the study group (20%/8%) In the study one perinatal death occurred, none had congenital anomalies or congenital tuberculosis. Out of the 10 cases of genital tuberculosis, 7 had normal babies, 2 had IUGR, and one had prematurity. Of the 5 spinal cases, 2 normal, 2 IUGR, 1 premature (who died).

Conclusions: Pulmonary Tuberculosis and tuberculous Lymphadenitis has got no adverse peinatal outcome where the treatment starts from first trimester. As in other forms of EPTB, FGR compared to study 28%/9% (p<0.01). The birth weight below 2000 gms, extreme prematurity (p<0.01), low Apgar scores were observed more in the study group (20%/8%). In the study one perinatal death occurred, none had congenital anomalies or congenital tuberculosis. Out of the 10 cases of genital tuberculosis, 7 had normal babies, 2 had IUGR, and one had prematurity. Of the 5 spinal cases, 2 normal, 2 IUGR, 1 premature (who died).

MODERN MULTIDISCIPLINARY APPROACH PROVES EVIDENCE OF EARLY AND LATE ONSET PREECLAMPSIA

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Objectives: Recent data suggest that preeclampsia (PE) should probably be classified as two or more distinct clinical phenotypes, with differing etiologies and manifestations. The placental bed plays a key role in placentation but its potential role in women with early (before 34 wks) and late (after 34 wks) PE are not yet clear as well as mitochondrial dysfunction and microRNA expression. Further advances in proteomic methods of protein separation, identification and quantitation could make identification of proteins and peptides that could facilitate early detection of PE, correct diagnosis, and allow effective monitoring of women at risk for PE.

Method: 200 pregnant women 18–43 yrs old were divided into 3 groups: I – 50 women with early onset PE, II – 50 women with late PE and 100 women as control. Samples of placental bed were obtained during C-secton after prior patient’s informed consent. Urine samples, placental tissue were also analysed. Clinical, morphological, immunohistochemical, molecular methods were used for systemic
analysis of PE's pathogenesis. To study mitochondrial morphology in thin vital slices of placenta and in trophoblast cells fluorescent and confocal microscopy were applied. Systemic biology approach for detecting peptidomic predictors candidates for early and late onset PE were used.

**Results:** 28% young primigravida in group I conceived within 6 months after marriage. BMI was higher and cardiovascular disorders occurred more often in group II (p < 0.05). Re-PE had 22% and 10%, IUUG occurred in 68% and 22%, respectively (p < 0.01). Delivery terms – 33.1±2.3 and 38.1±1.0 wks (p < 0.01). Placental bed disorders (CKW+ cell's in placental bed tissue, Vimentin+ elements in endometrium, CD34+ in vessels, % of nonremodeled vessels, expression of SMA, HIF-1, VEGF, VEGFR, miR-34A) were pronounced in group I (p < 0.05). Mitochondrial fragmentation in trophoblast cells expressed in group I (p < 0.05). 22 urine peptidomes as candidates to predict PE were revealed.

**Conclusions:** The study results confirm two distinct pathological conditions previously defined by a single term preeclampsia. We have identified more profound abnormalities in the area of placenta and in trophoblast cells in cases of early PE. These changes resulted in deficient physiologic vessel transformation and are likely to be good immunohistochemical markers of spiral arteries remodeling and endothelial dysfunction. Besides, the level of mtDNA can be used as a marker of compensatory mechanism. Mir-34A is dysregulated in early-onset PE affecting trophoblast invasion. Further research will help to create a basis for prediction, early diagnosis, and adequate treatment of PE.

**FCS69. Medical Disorders in Pregnancy**

**FCS69.1**

**THE INFLUENCE OF PREGNANCY ON SURVIVAL IN WOMEN WITH BREAST CANCER DIAGNOSED DURING PREGNANCY**

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**Objectives:** The breast cancer holds one of the leading places in female mortality. Women of reproductive age (from 30–35 years) more often suffer from breast cancer and sometimes the onset of the disease is diagnosed during pregnancy. The questions of chemotherapy during pregnancy, its duration and effects impact of pregnancy on the disease and survival of patients are still controversial. The aim of this study was to evaluate the influence of pregnancy on overall and disease free survival in women with breast cancer diagnosed during pregnancy.

**Method:** The overall and disease free survival was analysed in group of women with breast cancer (n=26) (1 group) diagnosed during pregnancy and control group (n=38) of nonpregnant patients with breast cancer (2 group). The average time of observation of patients treated was 20.7 months (from 3 to 61 months). The median age at diagnosis of breast cancer in group 1 was 32 years (range: 25–40 years), in group 2 – 33 years (range 23–41 years).

**Results:** According to histology the infiltrative type of tumor prevailed in both groups 1 and 2, in 61.5% and in 65.8% cases respectively as well as localized stages of disease (I and II) prevailed in 65.4% and 68.4% cases in the 1 and 2 group respectively. Only one patient (3.8%) of 26 died from thromboembolism during pregnancy. The local recurrence was diagnosed in one case. Ten patients (26.3%) from the 38 cases of the control group had metastases and recurrence, among them 8 women died. The overall and disease free survival didn't significantly differ in both groups (r=0.648 and r=0.786 respectively).

**Conclusions:** The general and disease free overall survival didn't differ in groups of pregnant and nonpregnant women with breast cancer in case of adequate and early treatment during pregnancy. So we can make the conclusion that pregnancy hasn't on the outcome of breast cancer.
followed till delivery. Cord blood samples were collected at the time of delivery for estimation of hemoglobin, hematocrit, red cell indices and serum values of iron, ferritin, folate and cobalamin.

Results: Cases were divided into three groups, microcytic anemia and serum values of iron, ferritin, folate and cobalamin. Hemoglobin, hematocrit, red cell indices followed till delivery. Cord blood samples were collected at the time of delivery.

Conclusions: Megaloblastic anemia is not a rare type of anemia in pregnancy. Cord blood values show that fetus is able to compensate for low levels of maternal iron and folate but not for cobalamin, indicating the absence of preferential transfer of cobalamin to the fetus. This is of special concern in cases of macrocytic anemia which is associated with higher perinatal problems which are likely to continue postnatally and impact infant and childhood development. Public health interventions should be made by way of appropriate food fortifications to reduce prevalence of anemia in both pregnant and non-pregnant women.

FCS69.4 PERFORMANCE OPTICAL SPECTROSCOPY OF SERUM SAMPLES FROM PREGNANT WOMEN WITH PREECLAMPSIA

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Objectives: Determination of stage intensity of lipo-peroxidation is not a routine method and requires use of special reagents. However, the spectrum intensity of the optical radiation absorption is possible to judge the intensity of free radical oxidation and the concentration of active forms of oxygen in the blood serum. The purpose of our research is to evaluate the prognostic significance of spectroscopic research of serum samples from pregnant women with preeclampsia.

Method: Optical spectra of blood serum was determined by spectrophotometer. The operation principle of the spectrophotometer based on the measurement of the two light fluxes: passing through the investigated sample (serum) and passed through the sample comparison (air). In research used mode with automatic baseline correction in a given wavelength interval. We performed research of serum samples from 97 pregnant women risk group for the development of preeclampsia, out of them 56 pregnancy was complicated by preeclampsia varying severity (main group). The comparison group consisted of 41 pregnant women with uncomplicated preeclampsia during gestation.

Results: In physiological pregnancy spectral signature is in the zone of normal metabolism, thus confirming, that the levels of oxygen active forms is within the normal range. In pregnancy complicated by preeclampsia, the spectral signature is characterized by increased absorption of optical radiation, and the spectral signature is much lower than spectral signature, characteristic for physiological pregnancy. At preeclampsia quantity of oxygen active forms in serum was increased. In conditions when reactive oxygen formation is increased, structure of water molecules disrupted, it leads to slower reaction and increases reactive oxygen species.

Conclusions: Thus, our research revealed a high content of oxygen active forms in the blood of patients with preeclampsia, evidenced by increased intensity of the absorption of serum by pregnant women with preeclampsia. Spectrometric characterization disorder of structure of water clusters and the high concentration of active forms of oxygen indicates the damage to the vascular endothelium and the development of endothelial dysfunction in pregnant women with preeclampsia. Spectroscopic research of serum samples from pregnant high-risk groups for the development of preeclampsia can be used as a prognostic test for the development of this pregnancy complication.

FCS69.5 THE EFFICACY OF RECOMBINANT HUMAN SOLUBLE THROMBOMODULIN FOR DISSEMINATED INTRAVASCULAR COAGULATION CAUSED BY OBSTETRICAL UNDERLYING DISORDERS

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Objectives: Disseminated intravascular coagulation (DIC) is a syndrome characterized by systemic activation of coagulation, resulting in widespread fibrin deposition and excessive consumption of platelets and clotting factors. The central pathogenesis of DIC is the uncontrolled generation and activation of thrombin due to certain underlying conditions, such as sepsis, malignancy, and trauma. Recombinant human soluble thrombomodulin (rhTM) is a novel anticoagulant agent that regulates the imbalanced coagulation system by reducing excessive activation of thrombin. We performed the present study to examine whether administration of rhTM can be an effective treatment for DIC induced by obstetrical underlying disorders.

Method: This is a single-center retrospective study at department of obstetrics of Toyota Memorial Hospital. Patients from January 2007 to February 2015 in whom known or suspected obstetrical DIC was documented based on clinical and laboratory parameters were eligible for the study. Baseline imbalance between patients with and without treatment of rhTM was adjusted by an inverse probability of treatment weighting using propensity score composed of 7 independent variables: severe postpartum hemorrhage, placental abruption, preeclampsia/eclampsia including HELLP syndrome, initial laboratory data (platelet count, D-dimer level, fibrinogen level, prothrombin time international ratio). We evaluated laboratory variations and clinical outcomes.

Results: Eligible participants were 66 patients; 37 received rhTM and 29 did not, defined as rhTM group and control group. After the adjustment based on the propensity score analysis, platelet count, D-dimer level, fibrinogen level, and obstetrical DIC score were significantly improved in rhTM group compared with control group (p < 0.05). Treatment with rhTM was significantly associated with reduction in platelet concentrates transfusion (p = 0.016). The incidence of cardiac, respiratory, renal, and liver failure was relatively lower in rhTM group. No bleeding-related adverse events had occurred in rhTM group during the study period.

Conclusions: The anticoagulant, antifibrinolytic, and anti-inflammatory properties of rhTM integrally improve the systemic disorder of DIC. It may be also associated with reduction of platelet consumption, which can be also beneficial to the secondary bleeding-related complications related to consumptive hemorrhagic coagulopathy. This study suggests rhTM administration can be an effective treatment for DIC caused by obstetrical underlying disorders.

FCS69.6 CERVICAL INCAPACITY—CO–MORBID PCOS CAUSES A WORSE PROGNOSIS: A RETROSPECTIVE ANALYSE FOR 178 PATIENTS

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Objectives: To analysis the influence of polycystic ovary syndrome (PCOS) on onset gestational age and pregnancy outcomes in cervical incompetence patients.

Method: Clinical data from cervical incompetence patients with/without PCOS over September 2006 and September 2013 were ret-
respectively analyzed, including onset gestational age, termination gestational age, pregnancy outcomes, the co-morbidity of insulin resistance (IR) in PCOS patients and the influence of IR.

Results: A total of 178 cases of cervical incompetence were found. The average onset gestational age was 23.87±4.25 weeks and termination gestational age was 32.52±5.51 weeks. 40 cases (22.47%) abortion, 82 cases (46.07%) preterm birth and 56 cases (31.46%) term birth: 80 (56.25%) had co-morbid PCOS, with an average on- gestational age 22.26±3.79 weeks and termination gestational age 31.23±5.73 weeks (P=0.000, 0.000). Compared with non-PCOS group the PCOS group had a worse pregnancy outcomes (P=0.012). Among the 80 PCOS patients, 45 cases (56.25%) had co-morbid IR, compared with non-IR group, IR group had a significantly worse pregnancy outcomes (P=0.031).

Conclusions: The cervical incompetence patients who co-morbid PCOS have an earlier onset gestational age, earlier termination gestational age and a worse pregnancy outcomes. In these patients, if co-morbid insulin resistance, the pregnancy outcomes are more gloom expected.

FCS69.7
MATERNAL SERUM ANGIPOIETIN-LIKE PROTEIN 2 (ANGPTL2) CONCENTRATIONS IN EARLY PREGNANCY AND SUBSEQUENT RISK OF GESTATIONAL DIABETES MELLITUS: PROSPECTIVE COHORT STUDY
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Objectives: To investigate the association between first trimester maternal serum levels of Angiopoietin-like protein 2 (ANGPTL2) and development of gestational diabetes mellitus (GDM).

Method: This prospective cohort study was conducted at a general hospital. Pregnant women who first visited our hospital during the first trimester (13 weeks of gestation) between Dec. 2011 and Sept. 2012 were enrolled. Inclusion criteria included singleton pregnancy, and the absence of preexisting diabetes mellitus. A total of 1116 women participated in this study. The association of plasma ANGPTL2 concentrations with the onset of GDM later in pregnancy was measured.

Results: Among 1116 participants, 89 (8.7%) had GDM and 927 (91.3%) did not. The ANGPTL2 of the entire cohort was 2.51±1.01 ng/ml and was higher in women with GDM than in women without GDM. The distribution of GDM was 13 (4.9%) in Q1, 11 (3.9%) in Q2, 25 (9.0%) in Q3, and 40 (14.9%) in Q4. Women with higher plasma ANGPTL2 concentrations during early pregnancy were 2.75-fold more likely to develop GDM in a later phase of pregnancy. The ROC curves revealed under the curve (AUC) values to be 0.689 in model A, 0.765 in model B and 0.903 in model C.

Conclusions: At 11–13 weeks in pregnancies that develop GDM, the serum concentration of ANGPTL2 is increased, and it can be combined with maternal factors to provide effective early screening for GDM.

FCS69.8
DEVELOPMENT OF A SIMPLIFIED MGSO4 DELIVERY METHOD FOR THE TREATMENT OF SEVERE PREECLAMPSIA AND ECLAMPSIA: A PRECLINICAL STUDY ON THE BIOAVAILABILITY OF A RECTALLY ADMINISTERED MGSO4 FORMULATION
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Objectives: Severe preeclampsia and eclampsia can be successfully managed by treatment with the anticonvulsant magnesium sulfate (MgSO4). Unfortunately this drug is underutilized in low-resource areas, primarily due to the complexity and resources required for intravenous infusion of MgSO4. Case reports and some research in animals and humans indicate that rapid uptake of magnesium can be achieved through rectal infusion of magnesium-containing solutions. In order to investigate a simpler alternative delivery method for MgSO4, suitable for use in low-resource areas, we developed and evaluated an MgSO4-containing enema presentation for the rectal delivery of magnesium.

Method: A preclinical study on the bioavailability of rectally administered magnesium was conducted in female minipigs. Groups of animals (n=4) received rectal infusions of the test article formulated with MgSO4 at either a high or a low concentration. A control group was administered MgSO4 by intravenous infusion at a dose equivalent to the human therapeutic dose. Blood samples were collected before dosing and incrementally over a period of 6 hours after administration. Necropsies of the colonic tissues from each group were analyzed after dosing to observe any test article-related damage.

Results: The low-dose test article was well retained, but delivery of the high-dose test article resulted in immediate expulsion of the majority of the enema. Therapeutic concentrations of serum magnesium (Mg2+) were observed in the control group, but serum Mg2+ did not increase significantly above baseline levels for the high- or low-dose rectal delivery groups. No significant damage was observed in the colonic tissue of the low-dose group, but minimal hemorrhage and inflammation was observed in the colonic mucosa of the high-dose group.

Conclusions: The results of this study show that the rectal delivery of this test article did not result in significant increases in serum Mg2+. The high-dose enema was poorly retained in the unanesthetized animals and resulted in damage to the colonic mucosa, likely due to the hypertonicity of this test article. The low-dose formulation was well retained but did not result in the uptake of magnesium. The observations and data from this bioavailability study will be used to inform further formulation development and preclinical trials evaluating the feasibility of rectally delivered magnesium for the treatment of preeclampsia and eclampsia.

FCS70. Medical Disorders in Pregnancy

FCS70.1
HYPEREMESIS GRAVIDARUM AND PERINATAL OUTCOME
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Objectives: To evaluate the relationship between hyperemesis gravidarum (HG) and adverse perinatal outcome.

Method: A prospective cohort study of 700 pregnant women were carried out in ZHSMCH during 2012 to 2014 June.330 were with HG &370 with no HG were enrolled. All were in 8 to 16 weeks of gestation. Presence of any serious illness like heart disease, hypertension, diabetes, were excluded from the study. HG was diagnosed if severe vomiting in pregnancy associated with dehydration, electrolyte -metabolic imbalance and or weight loss >5% (Fairweather criteria). Throughout antenatal and postnatal period was monitored in a predesigned protocol, data were analyzed by SPPR. 40 controlled were dropped out.

Results: Neonatal outcome like SDF [89 (27.0) vs 7 (2.1), p < 0.001], IUGR [52 (15.8) vs 10 (3.0), p < 0.001] were significantly higher in HG and preterm labour [45 (13.6) vs 40], Birth defect [2 (0.6) vs 1 (0.3), ns] were more in HG but statistically not significant. Again apper score <7 (1.2 vs 1.2 95% CI), death (0 vs 0) were similar and baby resuscitation [11.8 vs 8.8 95% CI: 3.0 (1.8–7.7)], NICU admission [6.4 vs 5.8 95% CI: 6 (.3–1.3–P1.2)] were not much different.

Conclusions: Previously we thought HG affects mothers only, neonates are escaped but recently it is challenged by several studies so also our study. It showed HG is associated with significant increase in SDF, IUGR and PTL. Though NICU admission, Baby resuscitations are more and miscarriage is less in HG but not significant. Congenital
defect and death are not related to HG. So along with severe maternal effects neonates have adverse health outcomes. Obstetrician needs to be vigilant while treating women with HG.

**FCS70.2**
**MATERNAL CARDIAC FUNCTION IN TWIN PREGNANCY AND PREECLAMPSIA: A LONGITUDINAL STUDY**

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**Objectives:** Peripartum cardiomyopathy (PPCM) is a serious maternal complication. The diagnosis is often delayed because the presentation of heart failure is non-specific especially during peripartum period, resulting in death or severe heart failure requiring heart transplantation. The prevalence of twin pregnancy and preeclampsia in women with PPCM is higher than that in the general population. However, while preeclampsia is known to deteriorate the maternal cardiac function, the effect of twin pregnancy on maternal cardiac function remains unclear. The aim of this study was to reveal the maternal cardiac function in twin pregnancy and whether preeclampsia had added effect among that population.

**Method:** A total of 144 patients with twin pregnancy who underwent perinatal check-ups and delivered at Toyota Memorial Hospital between January 2010 and February 2015 were enrolled in this study. Thirty-two patients with singleton pregnancy were enrolled as the control group without any complications. Echocardiography and serum brain natriuretic peptide (BNP) levels were examined at the early, middle, and late stages of pregnancy, within 5 days of delivery, and at the one-month follow-up. The left ventricular ejection fraction (LVEF) and early transmittal velocity/early diastolic velocity of the mitral annulus (E/E’) were measured to evaluate systolic and diastolic cardiac functions.

**Results:** Among the twin pregnant patients, 22 patients had preeclampsia. In the control group, only the E/E’ deteriorated after delivery, and LVEF and BNP did not change through the perinatal period. On the other hand, the twin pregnant patients with or without preeclampsia experienced deterioration of the E/E’ and BNP at the late stage of pregnancy and after delivery. Twin pregnant patients with or without preeclampsia showed significantly higher BNP than control patients, whereas E/E’ was significantly higher only in twin pregnant patients with preeclampsia. Among the twin pregnant patients, preeclamptic patients showed significantly higher E/E’ and BNP than non-preeclamptic patients.

**Conclusions:** Twin pregnancy deteriorates maternal cardiac function, and the diastolic function was predominantly affected. Twin pregnant patients compromised by preeclampsia had a risk of earlier and more severe deterioration of maternal cardiac function. Obstetricians need to recognize twin pregnant patients, especially with preeclampsia, as a high-risk group of cardiac dysfunction. Particular attention should be paid to maternal cardiac function in twin pregnancy, especially from the late stage of pregnancy to the early postpartum period.

**FCS70.3**
**THE PREVALENCE OF OSTEOPOROSIS AMONG PREGNANT WOMEN IN A RURAL MISSION HOSPITAL IN SOUTHEAST NIGERIA**

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**Objectives:** To assess the prevalence of osteoporosis among pregnant women attending antenatal care in a rural mission hospital south east Nigeria.

**Method:** Hospital based cross sectional descriptive study involving three hundred and twenty seven pregnant women attending Antenatal clinic at the Mile 4 hospital Ishieke, a rural setting in Abakaliki from October 2014 to February 2015, selected by stratified random sampling. For consenting women, a self administered pretested structured questionnaire was used to collect demographic data and other relevant information after which the Bone mineral density (BMD) was measured using ultrasound densitometry of right calcaneal bone. This study used the manufacturers Africa reference database for Bone mineral Density. Data was analyzed using Epi-info Statistical software (Atlanta Georgia, version 3.5.4).

**Results:** The average age of the 327 participants was 29 years (+4.55D) and age ranged between 18 to 44 years. The average parity was 2 (+1.6SD) with range 0 to 9. Mean T score was −1.19 +4.9 SD and ranged −7.1 to 34.6. Osteoporosis was recorded in 119 women (36.4%). Osteopenia in 56 (17.1%) and 152 (46.5%) were within normal range. There was no statistically significant difference in the mean T scores value for different gestational age (P-value=0.9421; p >0.05) and parity (P-value=0.6871; p >0.05), as well as for intake of calcium vs not taking calcium (P-value 0.1788; P >0.05).

**Conclusions:** The level of Osteoporosis in this group is high. Routine calcium supplementation may need to be advocated among the pregnant women in this environment although Larger scale study is recommended with the view to advocating for or against routine calcium supplement in pregnancy.

**FCS70.4**
**FETOMATERNAL OUTCOME IN HIV INFECTED PREGNANT WOMEN IN RIMS, IMPHAL, MANIPUR, INDIA**

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**Objectives:** 1. Fetomaternal outcome of pregnancy in the HIV positive mother. 2. Plan a new strategy for PPTCT at national level.

**Method:** Prospective study was carried out from July 2006 to September 2014 in Department of obstetrics and gynecology, RIMS, IMPHAL. Five hundred HIV infected women (cases) were compared with 1500 controls. Statistical analysis was done using chi square test. p value <0.5% was taken as significant. The patients in the study group were followed regularly for progress and complications during the pregnancy period. HAART was given to all retropositive women. Newborns at term were administered weight adjusted dose of Nevirapine drops at birth. Replacement feeding was opted by every couple. Birth parameters of newborn were recorded and followed for seroconversion at 3rd and 18th month.

**Results:** Out of 142577 patients attending the antenatal clinic, 110088 (77.21%) were counselled and 96007 (86.585) were tested. five hundred two patients were found HIV positive with prevalence of 0.52%. The overall antepartum complications were 68% in cases versus 33% in control. anemia and preterm labor were significantly more in cases, p=0.0001 and p=0.02 respectively. The mean gestational age at birth was shorter in study group (37.33±2.32 vs 38.13±1.43). Mean birth weight was found slightly lower (3.08±0.454 kg vs 3.19±0.491 kg). Vertical transmission at 18 month of age was found to be very low (0.02%).

**Conclusions:** The prevalence of HIV infection among pregnant women in Manipur is high. HIV infected women had higher incidence of adverse pregnancy outcome than uninfected controls. The course of HIV infection seems to be unaffected by pregnancy though CD4cell count of less than 250 was found in 48%of cases. HAART, elective caesarean section at 38 weeks period of gestation and replacement feeding were found to be associated with lower rate of mother to child transmission.
FCS70.5
ENGAGING LOWER-CADRE HEALTH CARE PROVIDERS TO IMPROVE MATERNAL AND FETAL OUTCOMES IN PRE-ECLAMPSIA: EXPERIENCES FROM KANO STATE, NIGERIA

Objectives: In Nigeria, about 25–30% of maternal deaths are due to pre-eclampsia/eclampsia (PE/E). While most of these deaths occur in rural areas, care of pregnant women with PE/E is still being viewed as a tertiary level intervention. The objective of this study is to engage lower-cadre health care providers in rural areas of Kano state to improve case-detection and management of PE/E in order to reduce the mortality and morbidity associated with this pregnancy disorder.

Method: From August 2011 to February 2013, 40 lower-cadre health-care providers were trained and mentored to detect pre-eclampsia in antenatal care settings, determine its severity and assist the clients to make decisions on the likely course of action using a simplified, specifically-designed algorithm appropriate for primary care setting in Nigeria. Providers’ performance was monitored using a special questionnaire that records interactions between women with pre-eclampsia and the service providers from detection of PE until delivery of the babies. Maternal and fetal outcomes over the study period were compared with the baseline (2010–2011).

Results: A total of 175 pregnant women were detected to have developed PE over the intervention period. The results indicate that while 15% of women who developed pre-eclampsia died during the baseline period, only 1.7% died during the intervention period in the same facilities (p-value <0.0001). However, there was an increase (not significant) in the number of fetal deaths (p-value <0.3440) following the intervention period than at the baseline (10% and 15% respectively). These excess peri-natal deaths mostly resulted from prematurity due to increase in pregnancy terminations before the age of viability. Caesarean section rate also declined from 11.9% to 3.9% (p-value <0.0001).

Conclusions: Targeted training of lower-cadre health care providers to increase early case detection of pre-eclampsia and timely delivery can improve maternal survival and reduce morbidity from pre-eclampsia at primary care level. As providers become increasingly competent in early detection and timely delivery of women with pre-eclampsia, there will be increased incidence of prematurity with associated complications such as early neonatal deaths. Therefore, this effort must be complimented with improvement in the quality of neonatal care services.

FCS70.6
MATERNAL OUTCOME OF PREGNANCY WITH HEPATITIS E INFECTION
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Objectives: To determine the maternal outcomes of pregnancy with hepatitis E infection.

Method: This was a prospective, observational, case serried study. Pregnant patients with diagnosis of hepatitis E virus (HEV) were enrolled. Detailed history, physical examination, anthropometrics and biochemical measurements were recorded. Ultrasonic abdomen was done to determine gestational age. Patients were followed till time of delivery for different maternal outcome.

Results: A total of 237 patients meeting inclusion criteria were enrolled. 151 (63.7%) were below 30 years of age & 86 (36.3%) were 30 years and above. 26 (11%) presented before 20 weeks of gestation while 211 (89%) presented after 20 weeks of gestation. 59 (24.9%) were nulliparous and 178 (75.1%) were multiparous. The most common complications noted in these patients were Acute hepatitis in 90.3%, Fulminant hepatic failure in 45.6% and Coagulation disorders in 47.7% of patients. Mortality of patients below 30 years of age was 43.06% and 41.86% in patients above 30 years. (p 0.484).

Conclusions: Hepatitis E virus (HEV), a member of the genus Hepivirus in the family Hepoviridae. Hepatitis E (HEV) is major cause of enterically transmitted non A NON B Hepatitis in many developing countries. Hepatitis E infection (HEV) in pregnancy is associated with increased incidence of acute hepatitis, fulminant hepatic failure, coagulation disorders, antepartum hemorrhage, postpartum hemorrhage, encephalopathy, tonic clonic seizures, renal failure and premature rupture of membranes. This is leading to increase in maternal mortality and morbidity of patients especially in cases of females of younger age groups.

FCS70.7
THE EFFECT OF PREECLAMPSIA ON MATERNAL CARDIAC FUNCTION IN PREPARTUM AND POSTPARTUM PERIOD
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Objectives: Preeclampsia is considered a risk factor of peripartum cardiomyopathy (PPCM). While the characteristic of PPCM is systolic dysfunction, past small number of studies reported that preeclampsia caused diastolic dysfunction. The majority of clinical presentations of preeclampsia promptly recover after the delivery, but some complications related with preeclampsia such as eclampsia occur even after delivery. The aim of this study is to reveal the effect of preeclampsia on maternal cardiac function and whether this effect consists after delivery or not.

Method: This is a single-center prospective study at department of obstetrics of TOYOTA Memorial Hospital. The patients with singleton pregnancy who delivered at our hospital between September 2007 and December 2014 were eligible for this study. A total of 332 patients: 247 patients with preeclampsia and 85 patients without preeclampsia, were enrolled. Echocardiography and serum brain natriuretic peptide (BNP) levels were examined at the late stage of pregnancy and within 5 days of delivery. The left ventricular ejection fraction (LVEF) and early transmural velocity/early diastolic velocity of the mitral annulus (E/E') were measured to evaluate systolic and diastolic cardiac functions.

Results: LVEF was not significantly different in patients with or without preeclampsia both before delivery (67.4±5.7% and 66.3±6.5%, p=0.285) and after delivery (67.2±6.2% and 67.2±6.2%, p=0.540). On the other hand, E/E' was significantly higher in the patients with preeclampsia than in the patients without preeclampsia both before delivery (8.9±3.4 and 11.7±12.4, p=0.001) and after delivery (9.6±2.6 and 10.9±2.6, p=0.001). BNP was also significantly higher in the patients with preeclampsia both before delivery (20.6±17.9 pg/mL and 28.6±7.3 pg/mL, p<0.001) and after delivery (60.8±157.5 pg/mL and 66.9±85.9 pg/mL, p=0.037).

Conclusions: This study indicated that systolic function was not affected by preeclampsia. The characteristic of cardiac dysfunction in preeclampsia was diastolic dysfunction, and this result was consistent with previous studies. The deterioration of diastolic function is compensated by maintained systolic function in the patients with preeclampsia, and the patients may develop PPCM when the compensatory mechanism is disrupted. Further study about the time course of the development of PPCM is necessary to examine this hypothesis. The cardiac dysfunction caused by preeclampsia persisted even after delivery. Obstetricians must recognize preeclampsia may develop cardiac dysfunction not only before delivery but also after delivery.
**FCS70.8**
REVERSIBLE CEREBRAL VASOCONSTRICTION SYNDROME ASSOCIATED WITH PREGNANCY: 6 CASE SERIES AND REVIEW OF THE LITERATURE

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Objectives: Reversible cerebral vasoconstriction syndrome (RCVS) is characterized by reversible multifocal narrowing of the cerebral arteries, generally preceded by thunderclap headaches with or without associated neurological deficits. Although this constriction generally resolves spontaneously, RCVS develops a unique set of clinical imaging features such as subarachnoid hemorrhages, intracerebral hemorrhages, posterior reversible encephalopathy syndrome (PRES), and cerebral infarctions. RCVS related to pregnancy has been described in the literature, though there are few reports of RCVS during peripartum period or features of RCVS associated with pregnancy. Here we present 6 cases of RCVS associated with pregnancy and describe characteristics of RCVS associated with pregnancy.

Method: Patients were retrospectively identified at TOYOTA Memorial Hospital, from 2006 to 2014. Because of the high pretest probability of RCVS in peripartum or postpartum clinical settings, the diagnosis was mostly based on the presence of reversible vasoconstrictions of cerebral arteries in magnetic resonance angiography (MRA), and did not require the result of cerebral fluid study and the presence of the typical thunderclap headache. Disappearance of arterial narrowing was confirmed within less than twelve weeks. Patients who had a past medical history such as cerebral aneurysm and arteriovenous malformation, which could also be the cause of stroke, were excluded.

Results: The average age was 36.8 years old and 4 patients were primipara. 4 patients were complicated with preeclampsia/eclampsia. Headache was the initial symptom in 3 patients and only 1 patient developed typical thunderclap headache. In terms of the onset time, 4 patients were during peripartum period, and 2 patients were in postpartum period. Intracranial hemorrhage and non-aneurysmal subarachnoid hemorrhage were detected in 1 patient respectively and PRES was detected in 3 patients. Magnesium sulfate was administered in 2 patients who presented with convulsion related to intracranial hemorrhage or eclampsia. No patient developed neurological sequelae after the resolution of vasoconstrictions.

Conclusions: Frequency of a typical thunderclap headache is relatively low in RCVS associated with pregnancy. Magnesium sulfate might have produced successful outcome in the 2 patients with convulsion, but the efficacy for RCVS is still controversial. Prompt recognition and early imaging studies are essential for the diagnosis RCVS associated pregnancy. Clinical and radiographical follow-up are required even after the improvement of the vasoconstrictions.

**FCS71.2**
THE EFFICACY AND TOLERABILITY OF INTRAVENOUS FERRIC CARBOXYMALTOSE VERSUS ORAL IRON IN PREGNANT WOMEN WITH IRON DEFICIENCY ANEMIA – THE FER-ASAP STUDY

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Objectives: Anemia during pregnancy increases the risk of gestational complications, as well as maternal and infant morbidity and mortality. Iron deficiency is the most common cause of anemia in pregnancy and treatment with oral iron is routinely used. However, oral iron often leads to gastrointestinal side effects that impact on the adherence to, and ultimately the efficacy of, the iron treatment. Ferric carboxymaltose (FCM) is an intravenous iron preparation that provides a more rapid and adequate supply of iron than oral preparations. FER-ASAP was the first randomized controlled trial to assess FCM in pregnant women with iron deficiency anemia (IDA).

Method: In this international, open-label study, 252 pregnant women, in their second or third trimester (gestational weeks 16–33), with IDA were randomized 1:1 to receive 1000–1500 mg iron as FCM intravenously or oral ferrous sulfate (FS) 200 mg iron/day for 12 weeks. The primary objective was to assess the efficacy of FCM versus FS in this patient population; secondary objectives included safety and tolerability of treatment in mothers and newborns. Effects on quality of life (according to the SF-36 health survey) were also assessed. Comparative analyses were performed using ANCOVA; least-squares means models were generated to compare treatments.

Results: A significantly larger proportion of women treated with FCM versus FS achieved correction of anemia (Hb ≥11g/dL; 83.5% vs 70.2%; OR 2.06, 95% CI 1.07, 3.97; P=0.031), and within a shorter timeframe (median weeks, 3.4 vs 4.3). Changes in all SF-36 components favored FCM, with significant improvements in vitality (mean change± SD: FCM, 6.51±21.90; FS, 2.34±22.09; P=0.025) and social

**FCS71.1**
PREVALENCE OF THYROID DYSFUNCTION IN PREGNANCY: AN EPIDEMIOLOGICAL STUDY

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Objectives: To study the prevalence of thyroid dysfunction in pregnant women attending a tertiary care centre.

Method: This is an interim analysis of an ongoing prospective, epidemiological study, conducted in Department of Obstetrics and Gynecology at All India Institute of Medical Sciences Raipur, Chhattisgarh, India, aimed to study the prevalence of hypothyroidism among pregnant women. A detailed history and clinical examination was performed to evaluate thyroid dysfunction. Thyroid abnormalities were diagnosed on the basis of serum Thyroid Stimulating Hormone [TSH] & free T4). Anti TPO antibody estimation was done in cases with TSH > 2.5 mIU/L. Diagnostic criterion were taken as per the American Thyroid Association for the diagnosis of thyroid disease in pregnancy and postpartum guidelines.

Results: From November 2014 till February 2015, 192 pregnant women were enrolled. The overall prevalence of overt hypothyroidism (elevated serum TSH > 2.5 mIU/L with decreased free T4 or TSH >10 mIU/L irrespective of free T4) was found to be 7.8%. None were previously diagnosed. Subclinical hypothyroidism (normal serum free T4 and TSH > 2.5 mIU/ml) were 34.37% and hyperthyroidism were 4.6% cases. Anti TPO antibody was positive in 13.8% cases. History of poor obstetric outcomes in the form of abortion (8%), intrauterine fetal death (4%) and retroplacental clot (4%) was observed in cases of subclinical hypothyroidism.

Conclusions: In the present study, the high prevalence of hypothyroidism, in pregnant women can be attributed to iodine deficiency as Chhattisgarh state is an iodine-deficient belt. As per the available literature review, majority of the high quality evidences suggest that, not only the overt but also the subclinical hypothyroidism is associated with two to three fold increase in risk of adverse pregnancy outcome viz, miscarriages, preterm labour, intrauterine growth restriction, perinatal mortality and poor neurological performance in offsprings. Early diagnosis and treatment of hypothyroidism during pregnancy by routine screening for thyroid disorder will help in improving maternal and foetal morbidity.

**FCS71. Medical Disorders in Pregnancy**
functioning (FCM, 3.03±23.61; FS, -2.5±24.55; P=0.049). Treatment-related adverse events were experienced by 14 (FCM: 21 events; most commonly: “pregnancy, puerperium and perinatal conditions”) and 19 women (FS; 33 events; most commonly: “gastrointestinal disorders”). Newborn Apgar scores and characteristics were similar across treatments.

**Conclusions:** Compared with first-line oral iron treatment, FCM allows more rapid correction of anemia in pregnant women during their second and third trimesters. The quality of life benefits of FCM have been demonstrated by the significant improvements in vitality and social functioning of the treated pregnant women. In late-stage pregnancy, when time-to-delivery is a limiting step, administration of FCM may be a more appropriate option than oral iron for rapid and effective anemia correction.

**FCS71.3 HYPERURICEMIA AND PREECLAMPSIA: EVALUATION OF URIC ACID AS PREDICTOR OF ADVERSE PERINATAL OUTCOME**

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**Objectives:** 1. Primary objective of the study was to evaluate the association of serum uric acid level with perinatal outcome in severe preeclampsia. 2. To establish the role of serum uric acid, if any, as prognostic marker in preeclampsia.

**Method:** A prospective observational study was conducted in a tertiary care teaching hospital on 539 women with severe preeclamp-sia. Women with previous medical, renal or known disorders with hyperuricemia were excluded from the study. After diagnosis of severe preeclampsia was confirmed, further management was done as per standard protocol. Serum uric acid of women were noted and evaluated according to gestational age. Analysis of Perinatal outcome was done in two subgroups: preeclampsia with hyperuricemia and preeclampsia without hyperuricemia.

Statistical analysis of results obtained was done using SPSS software, tests used were chi square, pearson coefficient, multivariate logistic regression analysis etc.

**Results:** Level of uric acid with values more than one SD for gestational age was considered as hyperuricemia. Higher values were associated with worse prognosis. One SD rise of uric acid increases adverse outcome by OR 1.7 (95% CI: 1.4–2.0). Adverse perinatal outcome observed were – SGA LR 1.7 (95% CI: 1.3–2.1), still birth LR 1.4 (95% CI: 0.8–2.7), fetal demise LR 1.8 (95% CI: 1.5–2.1), NICU admission LR 3.2 (95% CI: 1.6–4.8).

**Conclusions:** Adverse perinatal outcome in preeclampsia rises with increasing level of uric acid. Thus supporting the value of uric acid as prognostic marker. However, association of hyperuricemia with different medical disorders and its role in pathogenesis of preeclampsia requires further research.

**FCS71.4 IS THERE AN ASSOCIATION BETWEEN PHYSICAL ACTIVITY DURING PRE-PREGNANCY AND THE FIRST TRIMESTER AND DEVELOPMENT OF GESTATIONAL DIABETES?**

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**Objectives:** To evaluate the association between physical activity during pre-pregnancy and the first trimester of gestation and development of gestational diabetes mellitus (GDM).

**Method:** We conducted a prospective cohort study of a total 1,136 singleton pregnant women. When the pregnant women visited the hospital for the first trimester ultrasound (11–13 weeks’ gestation), they recorded the modified global physical activity questionnaire during pre-pregnancy and first trimester. We analyzed the day/week and the time/day of moderate-intensity activity and walking activity between women who developed GDM and normal women.

**Results:** Sixty four (5.6%) of 1,136 pregnant women developed GDM. Before pregnancy, the time/day of moderate-intensity activity of GDM and normal women were 53.6±31.3 minutes and 95.7±31.3 minutes, respectively (P<0.001). The time/day of walking activity of GDM and normal women were 39.0±31.1 minutes and 48.1±50.3 minutes, respectively (P=0.054). In the first trimester, the time/day of moderate-intensity activity of GDM and normal women were 21.6±10.4 minutes and 78.4±100.7 minutes, respectively (P<0.001). The time/day of walking activity of GDM and normal women were 33.2±24.3 minutes and 41.8±49.7 minutes, respectively (P=0.034).

**Conclusions:** Low level of physical activity during pre-pregnancy and first trimester is associated with development of gestational diabetes.

**FCS71.5 THE PREVALENCE OF HUMAN PAPILLOMA VIRUS (HPV) INFECTION AND ABNORMAL PAPANICOLAU (PAP) SMEAR DURING THE POSTPARTUM PERIOD**

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**Objectives:** To investigate the prevalence of human papilloma virus (HPV) infection and abnormal Pap smear results during the postpartum period.

**Method:** Between January 2014 and December 2014, total 922 patients who had given birth at Cheil General Hospital and Women's Healthcare Center were included in the study group. Liquid based Pap smear and human papilloma virus infection test were performed at one to three months after delivery. HPV detection was performed by the Seeplex HPV4A ACE screening kit.

**Results:** In the postpartum period, 5.2% of the patients (48/922) had positive test results for HPV and 4.8% (44/922) of the patients had abnormal Pap smear findings. Twenty four patients had positive HPV test with normal Pap smear results. Another 24 patients had both positive HPV and abnormal Pap smear results. Of these patients, 23 performed histological confirm test by colposcopic biopsy. 7/23 patients (30.4%) revealed LSIL or HSIL. Twenty patients with abnormal Pap smear showed negative HPV detection. Among them, 14 patients performed histological confirm test and pathologic results of the 2 patients (14.3%) were LSIL and HSIL.

**Conclusions:** The detection rate of HPV during postpartum period was 5.1% and abnormal Pap smear was 4.8%. More proportion of the patients with both abnormal cytology and HPV were confirmed as histologic LSIL or HSIL than the patients with only abnormal cytology.

**FCS71.6 FETOMATERNAL OUTCOME IN MATERNAL PERIODONTAL DISEASE**

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**Objectives:** To find out the incidence and type of periodontal diseases during pregnancy and its relationship with adverse pregnancy outcome.

**Method:** This is a retrospective case control study involving 500 participants selected at random within 72 hours of delivery from 1st June 2011 to 31st May 2012 in the Department of Obstetrics and
Gynaecology, Gauhati Medical College in collaboration with Department of Periodontics, Regional Dental College, Guwahati-32, Assam, India. Periodontal Diseases was considered to be present when the periodontal disease index was found to be more than 4 (Group I) and the rest belonged to Group II. Pre-eclampsia, PROM, PPROM, Preterm delivery, IUGR and still birth were included in the outcome parameters.

Results: Out of the total 500 cases, 160 (32%) had periodontal disease and 340 (68%) did not suffer from the same. Missed teeth and caries in teeth led to higher incidence of periodontal disease. While regular brushing and rinsing of mouth reduces its occurrence, PROM was found more commonly (32%) in the Group I. Similarly the incidence of preeclampsia (8.7%) was higher in Group I. Periodontal diseases did not alter the incidence of PPROM, IUGR or still birth. Complication rates were similar irrespective of the severity of the disease.

Conclusions: Pregnant mothers with periodontal disease may have adverse outcome like PROM, preeclampsia and preterm birth. Treatment during pregnancy may not reduce the risk of preterm birth. Early detection and treatment of periodontal disease in young women before and during pregnancy will be beneficial for women at risk.

FC571.7
COMPARISON OF EFFECTS OF NIFEDIPINE VERSUS HYDRAZINE IN PATIENTS WITH SEVERE PREECLAMPSIA IN A TERTIARY CARE HOSPITAL IN PAKISTAN
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Objectives: Preeclampsia is responsible for 10-15% of maternal mortality in developing countries. The objective is to determine which of the two drugs is more effective antihypertensive preeclampsia in our population.

Method: Seventy pre-eclamptic patients with gestational age of 34 weeks and more were randomized to receive 5mg of nifedipine sublingually and 5mg of injection hydralazine. Women with a history of cardiac disease, lupus erythematosus, and renal disease were excluded from study, for each patient following data were recorded, the mean difference of systolic and diastolic blood pressure, the number of drug administration, the time needed to control the blood pressure, the proportion of hypertensive crises and maternal side effects.

Results: Effective control of blood pressure was achieved in both treatment arms (91.4% in nifedipine and 85.7% in hydralazine). Data analysis indicates fewer drug administrations in nifedipine arm but the difference is not significant statistically (mean SD 2.3 & 2.7 in hydralazine) of the study. The number of hypertension crises was more in nifedipine arm but the control was significantly for longer duration. There were more tachycardia and hypertension in hydralazine arm, whereas headaches were more common in nifedipine arm but the difference is not significant statistically (P value 0.94). In addition, in neither group there were any serious side effect.

Conclusions: Nifedipine is safe and more effective than hydralazine in controlling blood pressure in severe pre-eclampsia. It has the added advantage of being cheaper and more widely available than latter and is easily administered.

FC571.8
PREDICTING USE OF INSULIN IN NEW DIAGNOSES OF GESTATIONAL DIABETES

Objectives: Up to 5% of women in England and Wales are diagnosed with gestational diabetes (GDM) during pregnancy, and this rate has been rising due to increases in maternal age and body mass index at conception. Diabetes is associated with risk to both the woman and developing fetus, and these risks are greater with poorly controlled disease. We hoped to stratify the risks in those women most likely to require insulin to control their blood sugars, and therefore aid in counselling women regarding likely treatment.

Method: We designed a small, retrospective cohort study examining the risk factors associated with gestational diabetes at diagnosis, and whether these could be used to predict which women would progress to requiring insulin. Patient details were taken from our hospital gestational diabetes database for diagnoses between August 2012 – January 2014. The notes were requested and examined for ethnicity, body mass index, family history, history of previous gestational diabetes, macrosomia or unexplained stillbirth. We also compared glucose tolerance test results, HbA1C and fetal scan characteristics at diagnosis.

Results: The initial arm of the study studied the notes of 112 women who developed GDM. 38 of these required insulin treatment, 54 required metformin and 20 were controlled with diet alone. There were significant differences in body mass index (~0.0208), previous history of GDM (~0.0008), family history (~0.0491), HbA1C at diagnosis (~0.0257) and both fasting and 2-hour results on glucose tolerance testing (~0.0257 and 0.0019) between insulin & metformin-controlled diabetics. Insulin-controlled gestational diabetics were also more likely to have a fetus with abdominal circumference less than 50th centile at diagnosis (~0.0233).

Conclusions: There are numerous factors which can be used to predict later requirement of insulin in gestational diabetes. Identification of these factors can be used to both produce a risk scoring system, and appropriately counsel women regarding likely management of their diabetes during pregnancy, from diagnosis.

FC572. Medical Disorders in Pregnancy/Mixed Bag

FC572.1
VERTEBRAL ARTERY DISSECTION COMPLICATING PREGNANCY AND PUERPERIUM: CASE REPORT AND REVIEW OF THE LITERATURE
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Background: Vertebral artery dissection can occur spontaneously or following a traumatic event with unclear pathogenesis. Hypertension is a predisposing factor as well as physiological changes of pregnancy. Isolated cases of VAD in pregnancy and puerperium have been reported in the literature. One case was found to have posterior circulation stroke as a result of bilateral VAD and labour was induced at 37 weeks gestation for preeclampsia. Another patient had severe neck pain that persisted after induction for elevated blood pressure and arteriography showed right VAD. A single case of lethal VAD in pregnancy with subsequent massive SAH has been reported.

Case presentation: We report 2 cases of vertebral artery dissection in pregnancy.

Case 1: A 32-year-old primigravida presented at 38th week of pregnancy in early labour. After 2 hours, the patient developed severe headache with blurry vision and BP was 238/120. Despite treatment with an intravenous antihypertensive, she had eclamptic fit. MS04 was started and Emergency CS was performed under GA. On the second day post-op, she developed left-sided neck pain. MRI angiography confirmed a short segment left vertebral artery dissection at the level of C3. The patient was treated with Aspirin and remained stable without any neurological deficit.

Case 2: A 33-year-old primigravida was admitted to the hospital at 36 weeks gestation with BP of 155/105, constant headache and visual disturbances. She was medicated with an oral antihyperten-
sive agent. On day 4, she complained of right-sided neck pain. MRI angiogram revealed a short segment dissection of the right vertebral artery at the C2–3 level. Pregnancy was terminated on the same day with emergency CS and anticoagulation was started subsequently. Post-operative recovery was complicated by rectus sheath haematoma requiring evacuation. She was discharged home on Aspirin without any neurological sequelae.

**Discussion:** Because of collateral circulation, unilateral vertebral artery dissections may go unrecognized and may be more common than suspected. The outcome for most patients is benign, reflecting the adequacy of the collateral circulation in young patients. We had 2 cases of VAD in the context of hypertensive disorders of pregnancy with an acceptable outcome. A high level of vigilance is required particularly with preecclamptic patients presenting with head/neck pain to allow an early diagnosis. This is as we hypothesize, early and aggressive management of vertebral artery dissection may potentially prevent further complications.

**FCS72.2**

**NON-INVASIVE POSITIVE PRESSURE VENTILATION (NIPPV) DURING PREGNANCY. A REPORT FROM THE MULTINATIONAL CONSORTIUM OF RESEARCH IN CRITICAL CARE OBSTETRICS (MCRCCOB)**

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**Objectives:** Non-invasive positive pressure ventilation (NIPPV) is an advanced modality of respiratory support that prevents the invasion of the airway and has been associated with decreased rates of ventilator-associated pneumonias (VAP) and shortened ICU and hospital stays. Pregnancy has been considered a relative contraindication because of the possibility of stomach filling with gas and subsequent aspiration. The experience during pregnancy is limited with the largest case series reporting on 4 patients (Al Ansari et al; Ann Thorac Med. 2007). Our goal was to collect the multinational experience of NIPPV during pregnancy amongst members of the MCRCCOB.

**Method:** The MCRCCOB is a multidisciplinary group of healthcare professionals with an interest in severe maternal morbidities and their treatments. Using a common protocol/timeline and standardized definitions for morbidities and complications we collected the retrospective experience of our members in NIPPV and pregnancy for the previous 5 years. Verification of data was made by review of random aspects of each case requested to the contributors. Data are presented as mean ± SD or median (ranges) as appropriate. Two tailed Student t test was used to compare the groups of success and failure for variables of interest. A p < 0.05 was considered significant.

**Results:** 29 cases of NIPPV/pregnancy were identified. Their average age was 28.4±6 years; median parity was 2 (1–5) and median GA 32 weeks (15–38). The most common diagnoses were respiratory distress, UTI and sepsis. All patients were admitted to an ICU. Mean pAO2 was 60 mmHg (58–74). 93% met criteria for ALI and 34% required pressors. Average duration of NIPPV was 50.5±17.1 hours. 3/29 failed NIPPV at an average of 6.3 hours. These patients showed a significantly worse pAO2/FiO2 ratios before, 2 and 6 hours after NIPPV (p<0.05).

8/29 of these women delivered during the admission.

**Conclusions:**
- The failure rate of NIPPV during pregnancy is relatively low (10.3%). Failure of NIPPV can be identified within 2 hours of initiation of support.
- None of the pregnant women treated with NIPPV aspirated.
- The 3 patients converted from NIPPV to MV developed ventilator-associated pneumonia.
- Non Invasive Positive Pressure Ventilation is a viable option of advanced respiratory support during pregnancy.
- Web-based multinational research is a realistic and practical methodology to gather and report the collective experience on infrequent conditions and treatments.

**FCS72.3**

**OCULAR CHANGES IN HIGH RISK PREGNANT WOMEN**

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**Objectives:** To demonstrate the ocular symptoms and signs in high risk pregnant women – Ophthalmic Examination should be a part of well mother clinics.

**Method:** 1000 pregnant women with eye complaints are included in the study. Average age 30 years. 348 patients of 1st trimester, 210 of 2nd trimester, 430 of 3rd trimester and 12 in postpartum. All patients had eye checkup and antenatal evaluation. 155 women had systemic diseases. The common complaint was loss of vision, foreign body sensation in eye and redness of eyes. Ocular signs reduction in vision 648 cases, conjunctivitis 23 cases, contact lens intolerance 11 cases, chalazon 7 cases, thyroid eye disease 2 cases, xerophthalmia 3 cases, iritis 7 cases, retinal vein occlusion 8 cases, cataract 2 cases, diabetic retinopathy 3 cases, hypertensive changes 23 cases, toxic changes 7 cases, Cor 5 cases, Optic atrophy 3 cases, uveitis 7 cases.

**Results:** Pregnant mothers with high blood pressure, diabetes mellitus, hypothyroidism, heart disease, renal disease, chronic infections have associated eye problems which maybe overlooked in pregnancy. Pregnant patients with systemic disease stand a risk of their opthalmic condition aggravating. Regular eye checkup can result in early detection of patients predisposed to eclampsia.

**Conclusions:** Baseline Ophthalmic Examination should be a part of antenatal checkup to ensure wellness of mother and child.

**FCS72.4**

**CEREBRAL VEIN THROMBOSIS COMPPLICATING HYPEREMESIS IN PREGNANCY**

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**Objectives:** To raise awareness of Cerebral vein thrombosis (CVT) in pregnancy, which is an uncommon potentially life threatening condition characterized by its clinical polymorphism and pathogenic variability requiring rapid diagnosis and urgent treatment. It is 10 to 13 times more common during peurperium than during pregnancy and very rare in the first trimester. Headache is the most frequent symptom, present in 80% of cases. Other symptoms are seizures, cranial nerve syndromes, psychiatric disturbances. The postulated mechanism in pregnancy is hypercoagulable state further aggravated by dehydration and anaemia. Mortality usually ranges from 6–15% with recurrence rates of 2.8%.

**Method:** Literature search and case review since 1993 till 2014. Annual incidence is 12 per million deliveries. This was the first case in our unit in the last 10 years complicating hyperemesis in pregnancy.

**Results:** A 32 year old gravida 3 para 1 was admitted at 15 weeks of pregnancy with severe persistent headache, blurred vision, photophobia and vomiting without other neurological deficits or any sign of infection. Past history included treated hyperprolactinemia and vi-
ral meningitis. Magnetic resonance imaging (MRI) showed the right sigmoid, right transverse and the lower superior sagittal sinus thrombosis. She was treated with low molecular weight heparin in pregnancy and 6 weeks postpartum. She had spontaneous vaginal delivery at 38+6 weeks with good neonatal outcome. A repeat MRI postpartum confirmed resolution of the thrombus with negative thrombophilia screen.

Conclusions: CVTs should be considered in any pregnant women with neurological symptoms. Although it is associated with a good outcome in the majority of the cases, it may be complicated by unique and rare complications including death. When associated with pregnancy and puerperium, it has a more acute onset and a better prognosis than thrombosis due to other causes. Risk factors for poorer prognosis include female, infection, hydrocephalus, intracranial haemorrhage and motor deficits. Magnetic resonance imaging is the study of choice, it spares the fetus exposure to ionizing radiation. Treatment includes antithrombotic therapy, etiological, symptomatic and treatment of intracranial hypertension.

FCS72.5
TRANSBRACHIAL TREATMENT OF PELVIC CONGESTION SYNDROME

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Objectives: Pelvic congestion syndrome and chronic pelvic pain are enigmatic clinical conditions that may have considerable impact on the social and relational life of women. Traditional treatment has included both medical and surgical approach. Recently percutaneous transcatheter embolization has also been proposed. We report our experience with the transbrachial management of pelvic congestion syndrome alone, with sclerosis.

Method: Between 1996 and 2013 98 women underwent percutaneous treatment for pelvic congestion syndrome. All the patients had chronic pelvic pain, continuous in 70%, 43 patients had dyspareunia, whereas 14 had urinary urgency; 79% took analgesics on a regular basis. Diagnosis was made with ultrasonography and/or RM. Sclerosis was performed with sodiotetradecilsolfato 3%. Follow-up consisted on ultrasound examinations, gynecological visit and/or questionnaire at 3, 6 and 12 months.

Results: The pre-procedural examinations revealed a mean diameter of 5.2 mm (range 4.4–8.9 mm) for the right ovarian vein, and 6.7 mm (range 5.2–9.7 mm) for the left. We found only 7 congestion syndrome on the right, 28 on the left and 58 bilaterally. At three months follow-up chronic pelvic pain was present only in 23 patients (24.7%); pain was continuous in 7, intermittent in 16 patients. At the follow-up after 6/12 months the symptoms were substantially unchanged. Better results are in women with pelvic varicosities measuring less than 4.5 mm at ultrasound or MR examinations.

Conclusions: Symptomatic pelvic congestion syndrome that do not respond to medical therapy can be resolved by percutaneous treatment. Less expensive and invasive than surgery, is safe, effective and capable of restoring patients to normal functions. We propose the transbrachial approach as the first choice and ambulatorial treatment for bilateral pelvic congestion syndrome.

FCS72.6
BABU’S MODIFICATION OF SIMS SPECULUM

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Objectives: Modify the Sims Speculum so that the disadvantages can be eliminated to make it a more useful and comfortable Instrument.

Method: Modified the Sims Speculum in the relation of the Blades. Used in over 3000 vaginal examinations and 200 plus surgical procedures by 5 different Gynaecologists.

Results: All Gynaecologists found it more useful, more convenient and eliminated the disadvantages of original Sims Speculum.

Conclusions: A simple modification of the Sims Speculum eliminated the disadvantages of Sims Speculum and made it more comfortable, more useful.

FCS72.7
FALLING IN SERUM B Hum Chorionic Gonadotropin Levels BETWEEN DAYS 1 AND 7 AS A NEW PROTOCOL TO PREDICT SUCCESSFUL SINGLE-DOSE OF METHOTREXATE THERAPY FOR ECTOPIC PREGNANCY

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Objectives: To study the patterns of serum bhCG levels on days 1–4 and days 1–7 after single-dose metotrexate injection (MTX) for ectopic pregnancy (EP) and to determine the sensitivity, specificity, positive (PPV) and negative predictive values (NPV) of the best cut-off points for the “percentage of fall” in serum bhCG levels for predicting a successful outcome.

Method: This is a retrospective cohort study including forty-nine consecutive patients treated with single-dose MTX (50 mg/m²). We analyzed patterns of falling in bhCG levels on D1, D4 and D7 of follow up. Our main outcome measures included the over all success rate, the “percentage of fall” variable of serum bhCG levels on D4 and D7 and the best cut-off point for the “percentage of fall” that predicts a successful outcome.

Results: The success rate of single-dose MTX treatment in EP was 77.5%. A cut-off “percentage of fall” in bhCG serum levels on D1–D7 of ≥33% has the best sensitivity (96%) and PPV (85%) for predicting a successful outcome. This is out performing any cut-off on days 1–4 and comparable to the standard D4-D7 protocol.

Conclusions: After single-dose MTX injection for EP, the use of D1 to D7 follow up protocol outperforms that of D1 to D4; with possible elimination of D4 routine bhCG blood draw. A cut-off “percentage of fall” in bhCG serum levels on D1–D7 of ≥33% has the best sensitivity and PPV.

FCS72.8
KENYAEMR ON-SITE MENTORSHIP IN NYANDARUA COUNTY ENHANCES MORE OWNERSHIP AND SUSTAINABILITY OF THE SYSTEM


Objectives: Mentoring is a sustained, collaborative relationship in which highly experienced healthcareworker guides improvement in a particular set of knowledge and skills among other healthcare workers. On-site mentoring for KenyAMR Users focuses on transferring specific KenyAMR system-related skills and knowledge from one KenyAMR user to new KenyAMR users at their site, once KenyAMR is installed. I-TECH Kenya in collaboration with MOH, APHIAPLUS initiated onsite capacity building program for KenyAMR on May 2014 and conducted training at 4 health care facilities in county. On-site mentorship on KenyAMR goal was build the capacity of healthworkers to competently use the EMR-system to improve quality of health care provision at facility level.

Method: In conjunction with MOH and implementing partners, I-TECH Kenya conducted Facility readiness assessment to pre-quality facilities for EMR implementation. Upon the pre-qualifications, i) health managers were oriented to KenyAMR; ii) EMR champion to be mentored were selected; iii) The training schedule was prepared; iv) networking at the site was done; v) installation of the comput-
ing hardware and software was done on the first day of the on-site training; vi) Champion Mentor participated in a ¾ days on-site mentorship. The Pioneer champion mentors in the county spearheaded the on-site mentorship.

Results: After mentoring the Healthcare workers at Silibwet Health Centre, Wanjohi Health Centre, Kahembe Health Centre and Shamata Health Centre for 3 days, they were quick to grasp how KenyaEMR can be applied to their daily work. The fears and concerns of health workers were addressed at the site, practical and use of real data are done unlike off site where dummy data is used, system ownership is enhanced when mentorship is done on-site.

Conclusions: Collaboration between the county, partners and health care workers increases the effectiveness of on-site mentorship. On-site mentorship reaches out to more health workers, enhances system ownership and is more sustainable as opposed to offsite trainings.

FCS73. Mixed Bag

FCS73.1 MANAGING PRE-ECLAMPSIA/ECLAMPSIA IN DAR ES SALAAM PUBLIC HEALTH FACILITIES: FOCUS ON EQUIPMENT, SUPPLIES, DRUGS AND KNOWLEDGE OF HEALTHCARE WORKERS

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Objectives: 1. To assess the availability of screening instruments for preeclampsia/eclampsia. 2. To assess the availability of drugs for management of preeclampsia/eclampsia. 3. To assess the knowledge of healthcare workers in managing preeclampsia/eclampsia.

Method: A descriptive cross-sectional study was conducted in selected public health facilities in Dar-es-Salaam city that offer reproductive and child services. The health facilities included four hospitals, three health centres and 23 dispensaries. A checklist was used to assess availability of equipments, supplies and drugs, and a structured questionnaire administered by the interviewer was used to assess healthcare workers' knowledge on risks, symptoms, and drugs used to manage PE/E. The results are presented as proportions.

Results: Functioning blood pressure machines and stethoscopes were available in all facilities but urine test strips for detecting protein in the urine were available in only one hospital and 39% dispensaries. Anticonvulsant drugs were available in all health facilities. Magnesium sulphate, nifedipine or methyldopa were available in only a quarter of the dispensaries, while the availability was 75% and 100% for both drugs in the hospitals and health centres respectively. Calcium gluconate was available in one hospital and one health centre only. Healthcare workers were knowledgeable of most risk factors, symptoms and drugs for treatment of hypertension and convulsions in PE/E.

Conclusions: There is insufficient screening and management of PE/E due to lack of some of the equipments, supplies and drugs. Healthcare workers are relatively knowledgeable of risk factors, symptoms and drugs for managing PE/E. This calls for an increase in availability of equipments, supplies and drugs for managing women with PE/E. Healthcare workers need to receive continuing education to sustain good care for women with PE/E.

FCS73.2 IDENTIFICATION OF COMMUNITY PERCEPTIONS, DECISION MAKERS AND MEDIA FOR REPRODUCTIVE HEALTH ISSUES IN THE POOREST UPPER EGYPT GOVERNORATES


Objectives: The study aimed at first identifying and segmenting the decision makers so as to target them through the appropriate channels of communication and identifying the cultural practices of women and its relation to safe motherhood. Secondly: to assess the suitable media that can be effective in changing the behavior of the target population and contribute to reproductive health.

Method: A total number of 63 qualitative focus group discussions which targeted married women and community based health workers were conducted in two of the poorest governorates of upper Egypt; Al Fayoum and Benisuef governorates to determine the decision makers. Quantitative data was also obtained from 1000 wives and 1000 husbands through a questionnaire that was constructed to determine channels for communication. Decisions concerning choice of these channels are based on: Reach; Frequency; Managerial feasibility and Effectiveness; the most credible information sources; the best suited communication channels methods and means to reach target group.

Results: The group discussion revealed that decision makers were mainly the husbands. The majority of women are following the beliefs of their husbands for health related issues. Inadequate knowledge of the groups regarding obstetric practices with their heavy reliance on traditional customs and remedies was reported. The most appropriate channels for receiving health education messages by husbands and wives were interpersonal communication through health promoters. TV was the second source. However, the majority of wives (65.3%) and husbands (58%) favored receiving any message through talking with doctors. No messages were received regarding the danger signs during pregnancy, labor or peripartum.

Conclusions: It seems vital during implementation of the Egyptian strategy for reproductive health during 2015–2020 to articulate appropriate and culture sensitive key messages (directed mainly for housewives, illiterate women and the influential role of the husbands) for changing risky behaviors that depends on the use information rather than pure educational messages.

FCS73.3 CESAREAN SCAR PREGNANCY – A RISING NIGHTMARE

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Objectives: 1. To study the prevalence of cesarean scar pregnancy in Government Medical College Hospital, Kottayam. 2. To evaluate our experience with the diagnosis and treatment of Cesarean scar pregnancy.

Method: Study design – Descriptive study.


Study setting – Department of Obstetrics & Gynaecology, Government Medical College, Kottayam.

Study subjects – all cases of Cesarean scar pregnancy who got treated in our hospital during this period (2014).

Results: The prevalence of CSP in our hospital is 1 per 270 CD, which is much higher than the literature (1/1800–1/2500). They presented mainly around 9 weeks of gestation and diagnosis could be made by clinical suspicion and USG except in one case (2nd). The treatment offered was mainly laparotomy, excision and repair following methotrexate and mifepristone.

Conclusions: With rising CS rates, more number of CS related complications like Cesarean Scar Pregnancies- upcoming nightmare.In all cases of previous CS pregnancies, it will be better to look for site of implantation by USG in early weeks itself, especially if it is low implantation. Medical/conservative surgical management is possible for CSP (and thus fertility is preserved) vs hysterectomy for placenta increta and percreta. Early diagnosis in first trimester and prompt management can reduce morbidity. Laparotomy and excision of scar ectopic and repair after giving methotrexate or mifepristone can be taken as one of the effective, definite and conservative treatment modality.
PREVALENCE OF EXPERIENCED ABUSE IN HEALTHCARE AND ASSOCIATED OBSTETRIC CHARACTERISTICS IN SIX EUROPEAN COUNTRIES

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Objectives: To assess the prevalence and current suffering of experienced abuse in healthcare (AHC), associated socio-demographic factors and obstetric characteristics among 6923 women attending routine antenatal care.

Method: Cross-sectional study of data collected by questionnaire using a validated questionnaire for assessing a history of abuse. Cross-tabulation and Pearson’s χ² and logistic regression analyses.

Results: One in five pregnant women reported any lifetime AHC. Characteristics for women reporting AHC included a significantly higher prevalence of other forms of abuse, economic hardship, lack of social support, symptoms of post-traumatic stress and depression. Among nulliparous women, AHC was associated with fear of childbirth, aOR 2.25 (95% CI: 1.23–4.12) for severe AHC. For multiparous women only severe current suffering from AHC was associated with fear of childbirth, aOR 4.04 (95% CI: 2.08–7.83). Current severe suffering from AHC was significantly associated with the wish for CS, and counselling for fear of childbirth for both nulli- and multiparous women.

Conclusions: AHC among women attending routine antenatal care is common and for women with severe current suffering from AHC, this is associated with fear of childbirth and a wish for caesarean section.

RESULTS OF SURVEYS ON HEALTH CARE KNOWLEDGE ABOUT FEMALE GENITAL MUTILATION (FGM/C) IN WESTERN COUNTRIES

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Background: Due to poverty, conflicts and war in several world regions practising FGM/C, countries in the West has experienced a great influx of migrant women having undergone the procedure. The growing population of women with FGM/C in the receiving countries constitutes a new patient group. This situation calls for establishing knowledge within the health care system about how to deliver high-quality, evidence-based care for women with FGM/C. The aim of the current abstract was to estimate the degree of knowledge about FGM/C within the health care systems in Western countries.

Method: A literature review based on a Pub Med search during 2005–2015 identified 20 studies performed in Europe, the USA, Canada and Australia about healthcare knowledge of FGM/C. The majority were questionnaire studies (N=10). The following aspects of FGM/C were investigated: awareness of classification of FGM-types and legislation; clinical management of FGM/C (Awareness of complications and treatment option, existence of clinical guidelines and adherence to such) and training programs about FGM/C (Included in basic training programs of health care personnel and Postgraduate training). Clinical management was the most commonly addressed theme.

Results: The percent with an adequate, general knowledge of FGM/C among health care personnel varied from 30–100%, depending on the type of personnel asked. Gynaecologists and midwives had the greatest knowledge; 80–100% of them had an adequate knowledge about clinical management decreasing to 7% among social and health care assistants. Clinical guidelines were in place in several countries, but practice was inconsistent both within and across countries, and management was based on expert opinions rather than evidence. Adherence to clinical guidelines was low, around 50% or below. Training in the area of FGM/C seemed limited.

Conclusions: Implementation of clinical guidelines about FGM/C seems insufficient. Information about FGM/C should be part of the basic education for all health workers. Further research is needed to establish evidence of complications associated with FGM/C. We also need evidence with regard to the timing of defibualtion and association to birth complications as well as the effect of defibulation outside pregnancy on dysmenorrhoea, dyspareunia and urinary complications.
A HOLISTIC APPROACH TO ADDRESSING OBSTETRIC FISTULA: EXPERIENCE FROM PATHFINDER INTERNATIONAL’S INTEGRATED FAMILY HEALTH PROGRAM IN ETHIOPIA


Objectives: An estimated 26,000–40,000 Ethiopian women are living with obstetric fistula (OF). To address OF, Pathfinder International’s Integrated Family Health Program implemented a three-pronged holistic continuum of care approach comprised of fistula prevention, treatment, and rehabilitation/reintegration of survivors.

Method: The project was implemented in Oromia, Amhara, Tigray, and Southern Nations, Nationalities and People’s Regions of Ethiopia, and a number of effective innovations were developed and implemented under this three-pronged approach. Data were collected from October 2012-September 2014 from performance reports, service statistics, and interviews with OF survivors. The data are summarized using descriptive statistics.

Results: For OF primary prevention, 3,000 religious and community leaders were trained on community-level OF prevention and consequences of harmful traditional practices. Following the trainings, 13,631 arranged early marriages were cancelled. For OF secondary prevention, 13,300,000 women received family planning services, and about 7,000,000 received antenatal care.

The project trained 564 mid-level health workers on OF diagnosis. Consequently, 1,510 suspected OF cases were referred from communities, with 919 (61%) successfully repaired and rehabilitated.

Reintegration support included provision of sanitary materials, life-skills training, linkages with women associations and income-generating activities, and training treated women to support fistula identification and referral.

Conclusions: The program results demonstrate that the burden of OF can be mitigated through building the capacity of the community, as well as frontline and midlevel health professionals in this holistic approach.

OBSTETRIC FISTULA IN CROSS RIVER STATE – A REVIEW OF DATA FROM OGOJA GENERAL HOSPITAL, SOUTH SOUTH NIGERIA

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Objectives: Obstetric fistula was predominantly thought to be a problem of the northern part of Nigeria only, but findings from the 2008 Nigeria Demographic and Health survey (NDHS) showed estimated prevalence of fistula symptoms in southern zones to be 0.3% compared to 0.5% in the north. The objective of this study therefore is to determine the prevalence, sociodemographic profile and outcome of surgical repair of obstetric fistula patients in Cross River State.

Method: This was a retrospective descriptive study. All the case files of genital tract fistula patients who presented at the fistula centre of ogoja general hospital were retrieved. There were 245 cases, 27 of these were not obstetric related and were excluded from the study. The remaining 218 case files were analyzed using SPSS 20.

Results: The prevalence of obstetric fistula was 0.3/1000 women of reproductive age; majority 80.7% were from the northern senatorial district. Fifty six percent were born to 40 years old, 9.2% being < 20 years. Majority were farmers with 37.7% having no formal education. Thirty three percent were married, 19% were divorced and amenorrhoea was a complication in 16%. Prolonged obstructed labour was the commonest aetiological factor and the baby was dead in 76% of cases. Midvaginal and juxtaurethral fistulae were the commonest types and surgical repair was successful in 83% of cases but 4.6% of cases were not operable.

Conclusions: Majority of obstetric fistula occurred in women of low socioeconomic status, prolonged obstructed labour was the major aetiological factor. However over 80% of cases were successfully repaired. Improvement in socioeconomic status of women, education and provision of affordable and accessible obstetric care services are key to prevention of obstetric fistula.

THE POSITIONN STUDY – A NOVEL WAY OF ANALYZING THE TRIALS AND TRIBULATIONS OF FAILED INSTRUMENTAL DELIVERIES

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Objectives: Failed instrumental deliveries are usually analyzed at the point of the failure. There is not much appreciation of preventable factors that could either prevent intervention or make it more likely to succeed.

A novel mnemonic called POSITIONN developed by the key author was used to analyse the labours of failed instrumental deliveries from 2 London hospitals. POSITIONN is a tool designed to provide an accurate assessment in labour and also details the level of difficulty of any instrumental delivery.

Method: The notes of 79 randomly selected cases who had a failed instrumental delivery were examined using POSITIONN. A novel tool designed to improve assessment in labour. All cases were divided into 3 levels (simple), (2) (difficult) or (3) (complex) depending on POSITIONN findings and analysed to see if there were preventable obstacles identified.

Results: All were incompletely assessed with < 10% concordance between findings at instrumental and previous findings in labour. 64 involved malposition with 32 at spines, 23 had inadequate contractions while 27 were encouraged to push immediately or had immediate attempt at instrumental for CTG concerns. 90% were attempted at level 3 with a vacuum (34), forceps (11) or a combination of instruments. In > 50%, attempt at delivery was by more than one person. Maternal PPH (> 1 litre) and neonatal morbidity (pH < 7.1) etc was seen in 12 cases. At Caesarean there was head impaction (11) and angle extension (9).

Conclusions: This ongoing study shows that failed instrumental deliveries have potentially modifiable factors that should be corrected in the 1st and 2nd stages of labour. Also that improvement is needed in accurate assessment in labour to avoid double instrumentation and double operators. An algorithm such as POSITIONN is invaluable in practice.

INTEGRATED COMMUNITY-LEVEL APPROACH FOR PREVENTION OF POSTPARTUM HEMORRHAGE AND NEWBORN INFECTION IN MADAGASCAR

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Objectives: To determine acceptability and feasibility in home births of administration of a uterotonic (misoprostol) for prevention of postpartum hemorrhage and chlorhexidine (CHX) gel 7.1% to newborn cord stumps to prevent infection through a community-based and health-facility-supported distribution scheme.

Method: An introductory community-level program was conducted in Vohefarana district, Sava region, in 2014.

Integrated curriculum was used to train 350 community health workers (CHW). During home visit, CHW distributed misoprostol to 1937 women and CHX to 1872 women. CHWs educated about dan-
The role of perinatal pathology in the investigation of second trimester miscarriage

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Objectives: Second trimester miscarriage is estimated to affect 0.5–1% of pregnancies, and the cause is reportedly identified in around 50% of cases. However, these pregnancy losses are often not afforded the same detailed investigation protocols as for perinatal death. The aim of this study was to determine the value of post-mortem examination, placental pathology and cytogenetic analysis in a cohort of fetuses delivered in the second trimester.

Method: This was a retrospective cohort study. All cases of second trimester miscarriage were identified from 2012 to 2014 in a large tertiary-referral university-teaching hospital. Where parental consent was obtained, a perinatal pathologist examined placenta and carried out post-mortem examinations on a cohort of fetuses delivered after the 13th and before the 24th week of gestation. Specimen samples were also sent for molecular genetic analysis by PCR and MLPA.

Results: Sixty cases of second trimester miscarriage were studied; mean gestation was 20 weeks (range, 14–24). Mean maternal age was 33 years (range 18–42), and 75% were multiparous. Half of infant weighed less than expected for their gestation. Placental examination was carried out on 59 fetuses. Specific placental conditions were diagnosed in 29% of cases (n=16/59). Infection was the primary cause of death in 25% of cases (n=14/59). Cytogenetic analysis was performed in 54 cases, and chromosomal anomalies were the primary cause of death in 18.2% (n=10/54). A definite cause of death was not determined in 16.4% of cases (n=10/60).

Conclusions: When investigated, a cause for these second trimester miscarriages can be found in the majority of cases. In addition, this study did not focus on any maternal or medical causes among the cohort. The similar spread in causes of death amongst second-trimester miscarriages and stillbirths, coupled with the high recurrence risk of poor obstetric outcomes in subsequent pregnancies of these women, provides a basis for the justification of specialist post-mortem and placental examinations in second-trimester pregnancy losses.

FCS74.5
HOW THE PUBLIC REACT TO PERINATAL DEATH: A QUALITATIVE ANALYSIS OF TWITTER STATUS UPDATES
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Objectives: Participation in social networking is commonplace and the micro-blogging site Twitter can be considered a platform for the rapid broadcasting of news stories. A recent study has shown that 95% of pregnant women in Ireland use the internet for pregnancy information, with 67% of women using social media such as twitter. Our study aimed to explore the general public’s reaction, on Twitter, to a cluster of perinatal deaths which occurred in a maternity unit in the Republic of Ireland.

Method: A qualitative content analysis method was utilised. A systematic analysis of Twitter status updates, over a three month period from January to March 2014, was undertaken to identify key themes arising in relation to the perinatal deaths. The comprehensive search for relevant tweets was carried out independently by two researchers using terms including the location of the hospital, the name of the current affairs television programme “fatalfailures” and “rtept” where the story originated, “stillbirth”, “death of a baby”, “perinatal death”, and “maternity”. Individual twitter profiles were reviewed to collect any available demographic information.

Results: The search identified 2,945 tweets including 1,438 (49%) original tweets, 1,208 (41%) retweets and 299 (10%) replies. Two thirds of status updates were from women. Of those who tweeted, 25% worked in media and 23% within politics. Findings revealed that new events were portrayed as an addition to the original story. Updates generated scepticism in relation to the management of not only the unit in question, which was branded as unsafe, but the governance of the entire maternity service. Themes of concern and uncertainty arose whereby the professional motives of the obstetric community and staffing levels were called into question.

Conclusions: Twitter activity provides a useful insight into the public’s attitudes to health related events. The role of the media in influencing public opinion is well documented and this study underscores the challenges that clinicians face in light of an obstetric media scandal. Further studies to identify how the obstetric community could develop tools to utilise Twitter to disseminate valid health information could be beneficial.

FCS74.6
COMMUNITY-BASED SCREENING FOR OBSTETRIC FISTULA IN NIGERIA: A NOVEL APPROACH TO MEASUREMENT AND ESTIMATION
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Objectives: Obstetric fistula continues to have devastating effects on the physical, social, and economic lives of thousands of women in low-resource settings. Governments require accurate measurement estimates of the backlog of existing cases of fistulae to effectively plan for their care, but these tend to be resource intensive. The objective of this study was to quantify the backlog of obstetric fistula cases within two states via a novel approach – community-based screenings and to verify the predictive values posed in the Nigeria National Demographic & Health Survey (DHS) 2008 fistula module.

Method: The screening sites, (2 General Hospitals and 2 Primary Health Centers), were selected based on their geographic coverage, prior relationships with the communities and availability of fistula surgery facilities in the state. This cross-sectional study included women who presented for fistula screenings following radio announcements at study facilities based on their perceived fistula-like symptoms. Fistula Care project undertook to provide repair surgery to those diagnosed with fistula. Research assistants administered the pre-screening questionnaire. Nurse-midwives then conducted a medical exam. Univariate and bivariate analyses are presented.

Results: A total of 268 women attended the screenings. Based on the pre-screening interview, the backlog of fistula cases reported was 75 (28% of women screened). The backlog identified after the medical exam was 26 fistula cases (29.5% of women screened). The DHS questionnaire showed 92% sensitivity, 83% specificity with 47% positive predictive value and 98% negative predictive value for identifying women living with fistula amongst those who came for the screenings.

Conclusions: This methodology is challenging in its organization and reaching out to women with fistula. It requires effective, locally appropriate messaging and community outreach followed up with medical examination by nurse-midwives at lower level facilities. However, it represents a promising approach to identify the backlog of women needing surgery and to link them with surgical facilities.

FCS74.8

JOINT PERSPECTIVE, JOINT DECISION MAKING; IMPROVING MATERNITY BEREAVEMENT CARE FOR STILLBIRTH. A MIXED METHODS MULTICENTRE STUDY IN THE UK

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Objectives: The Lancet stillbirth series identified better maternity bereavement care as a global priority. Key to improvement is whether healthcare staff provide sensitive and engaged care to meet the emotional and physical needs of parents. However, large surveys have shown that healthcare professionals are not optimally trained to provide such care, which takes a toll not just on parents but also on staff. The aim was to conduct an in-depth investigation of bereaved parents’ perspectives and of the main challenges and deficiencies in training for staff who care for them. What is already done well? How might problems be addressed?

Method: Semi-structured interviews with bereaved parents from three maternity hospitals in England, using a unique staged-recruitment process beginning immediately after their stillbirth – prioritising four main areas: diagnosis and breaking bad news; birth; post-mortem consent process; follow-up and support. Mixed-method approach involving thematic analysis of qualitative findings alongside detailed investigation of local statistics and service provision data, to provide an in-depth understanding of current maternity bereavement care and how it impacts on parents. We interviewed 21 women, 14 with their parents (35 total, 64% recruitment rate); we reached saturation.

Results: Data: misconceptions, varied care; postmortem did not delay follow-up.

Presentation: Women “did not feel right”; care was akin to “snakes and ladders”.

Diagnosis: Stillbirth is an emergency; communication should not be cold and calculated; well-designed bereavement space critical.

Birth: Staff shift priorities to mother and future – for parents their dead baby is still their baby; parents do not understand why staff recommend vaginal birth as the norm; clear communication, friendly normality, and coping strategies are critical.

Post-mortem: “Sow seeds”; clear purpose; accurate timescale; clarify respectful nature.

Follow-up: not standardised; parents want to see their multiprofessional team.

Conclusions: Care for bereaved parents is always urgent. Stillbirth is unexpected yet the reactions are expected; training for healthcare staff should include modules developed by psychologists. A dead baby is still a baby – staff should not automatically shift priorities to the mother alone, or future pregnancies, as this disconnect gives rise to tension and makes difficult shared decision making; for example with regards to mode of birth.

There is urgent need to standardise care; without ritualising protocols instead of delivering appropriate one-to-one care. Instead, we need multiprofessional protocols, pathways, systems, and tools, with training in how to use them appropriately.

FCS75. Mixed Bag

FCS75.1

A SAFE-ANESTHESIA INNOVATION FOR EMERGENCY LIFE-IMPROVING SURGERIES WHEN NO ANESTHETIST IS AVAILABLE: A DESCRIPTIVE REVIEW OF 167 CONSECUTIVE SURGICAL PROCEDURES

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Objectives: The worldwide human resource gap in anesthesia services often presents a barrier to accessing life-saving and life-improving surgeries. We assessed the impact of a ketamine anesthesia package, Every Second Matters™ – Ketamine, for use in emergency and life-improving surgeries by non-anesthetist clinicians in a resource-limited setting when no anesthetist is available.

Method: We analyzed prospectively collected data from 167 emergency or life-improving surgeries by non-anesthetist clinicians in a resource-limited setting when no anesthetist is available.

Objectives: To investigate the effect of HIV infection on the incidence and severity of PPH.

Method: Retrospective cross-sectional analytic study of all cases of postpartum haemorrhage occurring at Mowbray Maternity and Groote Schuur Hospitals from 1 January 2009 to 31 December 2009. All women who had PPH were identified through a manual search of labour ward and operating room records. They were categorized according to their HIV status as HIV positive, negative and untested. Blood loss, cause of PPH and management provided, severity of and morbidity from PPH was analysed by comparing the HIV positive with the HIV negative group. Severity was assessed in terms of blood loss. Morbidity was a composite assessment of four parameters.

Results: There were 15384 deliveries in 2009. 2738 (17.8%) were HIV positive, 12151 (79.0%) HIV negative and 495 (3.2%) HIV untested. 1230 (8.0%) women had recorded blood loss of at least 500ml fulfilling the criteria for PPH. 270 (22%) were HIV positive, 915 (74.4%) were HIV negative and 45 (3.6%) were HIV untested. The rate of PPH in the HIV positive group was 9.9% and 7.5% in the HIV negative group, a statistically significant difference (p<0.001). HIV infection, regardless of severity as determined by the level of CD4 count, did not affect the severity of PPH. More HIV positive women suffered morbidity (p=0.008) from PPH.

Conclusions: The results of the study show that postpartum haemorrhage was more common and was associated with increased morbidity in HIV positive compared to HIV negative women. However, due to the limitations in the study design and the impact of other biases, the study cannot conclude that HIV infection is an independent risk factor for postpartum haemorrhage. Future research needs to explore the impact of CD4 count and antiretroviral treatment regimens on the incidence and severity of PPH.

FCS74.9

THE EFFECT OF HIV INFECTION ON THE INCIDENCE AND SEVERITY OF POST-PARTUM HAEMORRHAGE

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Objectives: To investigate the effect of HIV infection on the incidence and severity of PPH.

Method: Retrospective cross-sectional analytic study of all cases of postpartum haemorrhage occurring at Mowbray Maternity and Groote Schuur Hospitals from 1 January 2009 to 31 December 2009. All women who had PPH were identified through a manual search of labour ward and operating room records. They were categorized according to their HIV status as HIV positive, negative and untested. Blood loss, cause of PPH and management provided, severity of and morbidity from PPH was analysed by comparing the HIV positive with the HIV negative group. Severity was assessed in terms of blood loss. Morbidity was a composite assessment of four parameters.

Results: There were 15384 deliveries in 2009. 2738 (17.8%) were HIV positive, 12151 (79.0%) HIV negative and 495 (3.2%) HIV untested. 1230 (8.0%) women had recorded blood loss of at least 500ml fulfilling the criteria for PPH. 270 (22%) were HIV positive, 915 (74.4%) were HIV negative and 45 (3.6%) were HIV untested. The rate of PPH in the HIV positive group was 9.9% and 7.5% in the HIV negative group, a statistically significant difference (p<0.001). HIV infection, regardless of severity as determined by the level of CD4 count, did not affect the severity of PPH. More HIV positive women suffered morbidity (p=0.008) from PPH.

Conclusions: The results of the study show that postpartum haemorrhage was more common and was associated with increased morbidity in HIV positive compared to HIV negative women. However, due to the limitations in the study design and the impact of other biases, the study cannot conclude that HIV infection is an independent risk factor for postpartum haemorrhage. Future research needs to explore the impact of CD4 count and antiretroviral treatment regimens on the incidence and severity of PPH.
package by five ESM-Ketamine trained providers. Brief (less than 30 seconds) patient desaturation below 92% and hallucinations were observed in 16 patients (9.6%) and 19 patients (11.4%), respectively. There were no reported major adverse events such as death, prolonged desaturations (over 30 seconds), or injury resulting from ketamine use.

Conclusions: This study provides promising initial evidence that the ESM-Ketamine package can support emergency and life-improving surgeries in resource-limited settings when no anesthetist is available.

**FCS75.2 WHEN THE NEED FOR CHANGE IS EVIDENT: A REVIEW OF CANADIAN OB/GYN CLINICAL PRACTICE GUIDELINES**

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Objectives: To improve the quality of clinical practice guidelines (CPG) by analyzing and appraising existing Society of Obstetricians and Gynaecologists of Canada (SOGC) guidelines, thereby informing the Guideline Management and Oversight Committee’s (GMOC) decisions regarding improvements to CPG policies, procedures and quality assessment tools.


Results: Members indicated a need for concise guidelines (word count increased by 40% from 2009–2013). 61% of recommendations were based on trials (22% randomized) and cohort/control studies, with 39% from “opinions of experts” (weak). 87% of recommendations were graded as being from good-fair evidence, with 13% from “conflicting/insufficient evidence”. AGREE-II tool revealed an overall quality score of 78% with strengths in scope and clarity, largely due to current guideline template, and weaknesses in rigour, stakeholder involvement, applicability and transparency, which can be improved by updating policies/procedures/templates.

Conclusions: The SOGC produces 12–17 guidelines per year and has recently established the GMOC to review CPG policies, quality standards and development processes. Analysis/appraisal of guidelines published between 2009–2013 has highlighted strengths and weaknesses in current policies, procedures and assessment tools, and will inform quality improvement efforts to increase consistency, applicability and transparency.

**FCS75.3 USE OF UTERINE BALLOON TAMPONADE FOR UNCONTROLLED POSTPARTUM HEMORRHAGE: A QUALITATIVE STUDY OF PROVIDER EXPERIENCES AND PERCEPTIONS IN KENYA**

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Objectives: Condom-catheter uterine balloon tamponade (UBT) represents a very low cost, readily available second line treatment for uncontrolled PPH. Although several case series have documented the use of UBT by doctors in the hospital setting, little is known about the use of UBT in the community setting. The purpose of this study is to explore provider perceptions and experiences after introduction of a condom-catheter uterine balloon tamponade (UBT) as a second line treatment for uncontrolled postpartum hemorrhage (PPH) in predominantly lower level health facilities in Kenya.

Method: Between February and April 2014, approximately 6–12 months following a comprehensive PPH-UBT training, we conducted in-depth qualitative interviews among providers who had managed PPH from health facilities in 6 different counties in Kenya. Twenty-nine facilities were purposively sampled to represent a range of experience with UBT, facility size, and geography. Facilities were sampled until theoretical saturation was achieved. Sixty-eight providers were interviewed. Interview transcripts were analyzed using NVivo10 (QSR International).

Results: Among thirty-one providers who reported experience with UBT, the majority were nurse-midwives (n=25), followed by medical doctors (n=4) and clinical doctors (n=2). Qualitative analysis revealed several major themes: 1) providers utilized UBT appropriately within the PPH algorithm, although timing of insertion and clinical severity of patients varied, 2) UBT was most commonly used when bleeding was unresponsive to uterotonics, hysterecogy was unavailable, and referral times distant, 3) providers reported that bleeding was arrested following UBT use in all except 1 patient with a suspected coagulopathy, 4) most providers described UBT as technically easy to use, though 3 described initial displacement.

Conclusions: In Kenya, UBT has been readily accepted by providers at all levels of training and is being incorporated into the existing PPH management algorithm. Non-physician providers can easily place the balloon following a focused didactic and practical training on PPH and UBT. In facilities that lack life saving treatment modalities for PPH uncontrolled by uterotonics, UBT represents a useful and promising second line treatment.

**FCS75.4 SCALING UP SAFE ABORTION SERVICES UNDER GLOBAL COMPREHENSIVE ABORTION CARE INITIATIVE IN TEN DISTRICTS OF NEPAL – IMPACT AND EFFECT OF INNOVATIVE APPROACHES ON THE UPTAKE OF SAFE ABORTION SERVICES & POST ABORTION CONTRACEPTION**

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Objectives: In Nepal, more than 50 percent of maternal deaths are attributed to unsafe abortion. Although safe abortion was legalized in Nepal in 2002, access to safe abortion remains a significant challenge. The Global Comprehensive Abortion Care Initiative (GCACI) Project attempts to scale up and improve access to quality SRH with a special focus on Safe Abortion Services (SAS) in ten rural districts of Nepal. The current study was conducted to assess the impact of the approaches used for the scaling up of safe abortion services and on service delivery trends.

Method: The study was conducted in ten rural districts of Nepal, where Global Comprehensive Abortion Care Initiative (GCACI) Project was implanted by Family planning association of Nepal (FPAN) in their service delivery points. The service delivery data was used from the clinics (from January 2008 to December, 2014) to find the impact of the innovative approaches used to scale up the safe abortion services and change in trends of service uptake by the community members. Clinics records and ongoing services statistics was analyzed to compare the data with the baseline to find any significant variations in the trends of service uptake.

Results: The service statistic data clearly indicates that there has been an increase in the number of clients mostly for safe abortion services (SAS). Over 28,620 clients have accessed the Comprehensive Abortion Care (CAC) services during seven year period (Jan 2008 - December, 2014). The proportionate ratio of surgical abortion was 62% whereas medical abortion was 38%. Post abortion contraceptive uptake has tremendously increased by 81%. However, long term permanent method has increased from 3% to 18%. Community based ap-
proaches were instrumental under this project to reach considerable numbers of under served and marginalized people to access the safe abortion services.

Conclusions: The study has shown that focused quality of care, innovations and scalability of the safe abortion services contributed to a significant increase in the number of clients assessing safe abortion and family planning services. Community engagement, targeted services, quality counseling services and client management information system are the approaches significantly contributed an increase uptake of safe abortion and post abortion service uptake.

**FC575.5**

**FETAL AND MATERNAL OUTCOMES OF HISTOLOGICAL CHORIOAMNIONITIS**


Objectives: To determine the maternofetal outcomes of histological chorioamnionitis amongst pregnant women and their babies.

Method: Parturients were interview, examined and had their placenta examined histologically for chorioamnionitis. They and their babies were followed up for 6 weeks after delivery.

Results: 148 parturients were enrolled from the labour ward and 60% had histologic chorioamnionitis (HCA). The demographic and clinical characteristics of the two groups of women were similar. As regards outcome, 5% and 3.45% of those with HCA and without HCA had premature delivery respectively. Low birth weight occurred in 13.33% and 10.34% of those with HCA and without HCA respectively. Only 1.11% and 1.72% of women with HCA and without HCA correspondingly had neonatal sepsis. Puerperal sepsis occurred in 2.22% of those with HCA and 3.45% of those without HCA.

Conclusions: HCA is not associated with any immediate or short term adverse maternal and fetal outcome.

**FC575.6**

**MOBILE WACH: DEVELOPING AND EVALUATING A HUMAN-COMPUTER HYBRID MOBILE MESSAGING SYSTEM FOR WOMEN’S AND CHILDREN’S HEALTH IN KENYA**

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Objectives: Mobile health (mHealth) applications may improve outcomes in regions with high maternal and infant mortality. We used formative research to develop a culturally appropriate theoretically driven set of SMS messages designed to improve utilization of proven MNCH strategies. Tailored, time-sensitive and semi-automated messaging was designed for pregnancy and postpartum. In an ongoing randomized clinical trial (RCT), 1-way “push” SMS messaging will be compared to interactive 2-way SMS and control arms. Formative research, engagement and messaging characteristics are presented.

Method: Mobile WACH is an ongoing RCT among 300 women attending an MCH clinic in Nairobi. Participants randomized to the 1-way group receive weekly tailored and outcome-directed messages, the 2-way group receives similar messages with a prompt to reply and option to text the nurse spontaneously, and the standard care arm receives no messages. Four focus group discussions (FGDs) were conducted with women (n=22) and providers (n=10) prior to RCT initiation. The FGDs, based in principles of social cognitive theory, explored influencers of service uptake and mechanisms by which SMS could increase usage. Modified grounded theory approaches were used for analysis.
period of years resulting in elevated clinical capacity and ability to serve as an ongoing physiotherapy training site. Focused education and mentoring of hospital staff with regard to POHPT will favor improved quality of patient care, minimize disability, increase functional outcomes and expedite return to the community for the numerous women seeking assistance at partner institutions.

FCS75.8 SEROPREVALENCE OF TOXOPLASMA GONDII AMONG PREGNANT WOMEN IN WESTERN ROMANIA

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Objectives: Serological screening and toxoplasmosis exposure factors were determined among pregnant women in Western Romania.

Method: The seroprevalence of Toxoplasma gondii was determined by detection of serum T. gondii IgM and IgG antibodies. We investigated sera of 208 consecutive pregnant women with Vitros anti-Toxoplasma immunoglobulin G (IgG) and IgM assays, designed for the Vitros ECiQ immunodiagnostic system (Ortho-Clinical Diagnostics, NJ). A short questionnaire interview for pregnant women was performed to investigate risk factors associated with T. gondii infection, including consumption of meat or unwashed vegetables, gardening or contact with soil, and keeping pets (cats and dogs).

Results: T. gondii antibodies were demonstrated in 116 (55.8%) of 208 pregnant women and their presence tended to increase with age: 51.8% in those aged 12–20 years, 52.8% in those aged 21–30 years and 64.3% in those aged 31–41 years. No significant difference in the seroprevalence of T. gondii infection was found between the pregnant women with and without exposure to the risk factors studied.

Conclusions: Our results suggest a high prevalence of T. gondii antibodies in pregnant women, in Western Romania.

FCS75.9 MATERNAL MORTALITY FACTORS: A CROSS SECTIONAL STUDY IN 8 LEADING TERTIARY CARE HOSPITALS OF LAHORE, PAKISTAN

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Objectives: To analyse the factors associated with maternal deaths and the strategies to address the lacunae in the obstetric care fabric in Lahore, Pakistan.

Method: A quantitative cum qualitative study was conducted. The maternal mortality data of 320 deaths was obtained from 16 Obstetrics units of 8 tertiary care hospitals of Lahore from 2008 to 2010. An unstructured interviews of 6 Obstetricians working in the same hospitals were also carried out to get insight into maternal deaths.

Results: Out of total 169587 live births, 77% childbirth cases were recorded in public hospitals. The analysis of the data indicated, 97% mothers had no antenatal check-up and reached hospitals at the time of delivery. Haemorrhage was a main cause (46%) of death followed by 20% deaths due to puerperal sepsis. The poor social, economic and educational status was related positively to the high death rate. The majority (55%) dead mothers were in the age group of 25 to 33 years while 58% had 1–5 children.

Conclusions: Poverty, repeated pregnancy with poor nutritional status, lack of quality health care services remain leading factors to maternal deaths at the time of childbirth.

FCS76. Neonatal Care/Pediatric and Adolescent Gynecology

FCS76.1 ENHANCING PROVIDER COMPETENCIES FROM TRAINING TO WORKING ENVIRONMENT: 11,000+ HEALTH CARE WORKERS TRAINED AND COMPETENT TO SUPPORT THE NEWBORN RESUSCITATION PROGRAM IN 14 REGIONS OF TANZANIA

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Objectives: 1. To compare competency in performing newborn resuscitation before and after implementing an on the job training (OJT) strategy to train providers using the Helping Babies Breathe (HBB) training package, and 2. To describe the OJT strategy and other program approaches associated with skills retention following HBB training for providers.

Method: Jhpiego with support from the Children’s Investment Fund Foundation (CIFF) is supporting the Ministry of Health and Social Welfare (MoHSW) to scale up the national newborn resuscitation program, which included training of health workers on helping babies breath (HBB). One of the main challenges of the program however was the drop in skills among trained health workers, when assessed few weeks after training. To improve skills retention the program implemented several initiatives including introduction of on job training (OJT) strategy. This involved guiding health care providers on how to conduct HBB skills practices in the work place.

Results: A total of 7,351 health care providers in 3069 health care facilities were trained using the OJT strategy. During assessment using the OSCE tool, 88% of providers correctly demonstrated HBB skills immediately after completion of the training activity and 83% were able to do so correctly when assessed during follow up visits 4–6 weeks after completion of the training activity. This is equivalent to an increase in skills retention of 16% when compared with the implementation strategy used during the first year of the program.

Conclusions: Introduction of and training in new best practices, retention of newly acquired clinical skills, and translation of training into quality of care at the newly trained providers’ work sites require the presence of a country-level CPD policy that includes sustainable capacity building strategies. One strategy to improve clinical skills retention at the facility level is implementation of initiatives to build and strengthen capacity of providers at the point of care. The design of point of care initiatives to improve quality of care could be informed by lessons learned from the programme in Tanzania, that successfully increased clinical skills retention.

FCS76.2 HEART RATE DETECTION IN “FRESH STILLBIRTHS” AND EARLY NEONATAL DEATHS DURING RESUSCITATION – WHAT IS THE TRUE FRESH STILLBIRTH RATE?

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Objectives: Intrapartum hypoxia/ischemia leads to complications during and immediately following labor, increasing the likelihood of FSB or early neonatal deaths (END). Resuscitation with positive pressure ventilation (PPV) aims to reverse the hypoxic process and increase the chance of survival. Indeed, following Helping Babies Breathe (HBB) implementation in Tanzania, END were reduced by 47% and FSB by 26%. The true FSB rate, i.e. no heart rate (HR) at birth, is not known.

To assess if the clinical diagnoses of FSB and END at birth correlate with heart activity at birth and immediate HR changes.
Method: Determination of the FSB was made possible by strong Moldovan technical leadership. The Moldovans succeeded coherently and under a common strategy over time. Evidence-based health system and clinical interventions were strategically supported and implemented coherently and under a common strategy over time. Government, donors, and providers maintained a unified vision and implemented it deliberately together during the period. The Moldovan success is a development success where evidence-based medicine and intervention strategies superseded institutional interests and grandstanding made possible by strong Moldovan technical leadership.

CONCLUSIONS: The recent Lancet series estimates that greatest effect on neonatal survival would come from a focus on the care of small and ill neonates. In Moldova, over 10 years of government effort with high neonatal survival would come from a focus on the care of small and ill neonates, but not only. Evidence-based health system and clinical interventions were strategically supported and implemented coherently and under a common strategy over time. Government, donors, and providers maintained a unified vision and implemented it deliberately together during the period. The Moldovan success is a development success where evidence-based medicine and intervention strategies superseded institutional interests and grandstanding made possible by strong Moldovan technical leadership.

FCS76.4 HELPING BABIES BREATHE AT BIRTH: AN INITIATIVE TO MAKE AVAILABLE A SKILLED PERSONNEL IN NEWBORN RESUSCITATION & BASIC NEWBORN CARE IN EACH DELIVERY IN MANIPUR
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Objectives: A mission to develop manpower to have a skilled health personnel in newborn resuscitation & basic newborn care in each delivery.

Method: Hands-on training of doctors, nursing tutors, nurses and other paramedical workers by nine regional trainers and three district trainers.

Results: More than 4000 health care providers are trained on BNCRP and advance NRP in 160 batches during September 2011 to October 2014.

Conclusions: Concluded that cases of birth asphyxia will be managed more effectively by the trained personnel which in turn will help in reducing Neonatal Mortality Rate of the state.

FCS76.5 KNOWLEDGE, ATTITUDE AND PRACTICE OF FEMALE GENITAL MUTILATION AMONG HEALTH CARE WORKERS IN THE NIGER DELTA
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Objectives: The study aimed to determine the knowledge, attitude and practice of FGM among doctors and nurses/midwives practising in public secondary and tertiary hospitals in the Niger Delta State of Bayelsa.

Method: This was a cross-sectional study conducted amongst doctors and nurses practising in the public and private hospitals of the Niger Delta State of Bayelsa. One hundred and ninety seven nurses and midwives were trained to do self-administered questionnaires were done by trained doctors and nurses in the study hospitals.

Results: The respondents were aware of FGC. The most common type seen in their practice was Type 1 while 29/24.6% (14 nurses/midwives, 15 doctors) had ever treated patients with complications of FGM. The most common complications associated with FGC mentioned by respondents was haemorrhage (82.2%) and the most important reason for performing FGC as stated by (96.6%) respondents was cultural. Only one a nurse/midwife admitted to performing FGM in the past and was still performing it. Significantly more doctors said they performed FGC than nurses/midwives in the study hospitals.

Conclusions: Doctors and nurses/midwives practising in the study hospitals were well aware of FGM and were favourably disposed to-
wards its elimination. Efforts should be made to reinforce this position.

**FCS76.6**
**DIAGNOSTIC ACCURACY OF SALIVARY CORTISOL AS A MARKER OF PREMENSTRUAL SYNDROME DEGREES IN ADOLESCENTS**

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**Objectives:** Determining a salivary cortisol cut off value that could be used as a significant marker of premenstrual syndrome (PMS) degrees in adolescent women. This study was also conducted to determine sensitivity, specificity, positive and negative predictive values of salivary cortisol in determining PMS degrees.

**Method:** This was a cross-sectional and diagnostic test study that included 77 female adolescent midwifery academy aged 17–21 years old with PMS and 77 control subjects. Samples were recruited after initially filling a Lie-Minnesota Multiphasic Personality Inventory (L-MMPI) questionnaire followed by a 2 subsequent month observational period (2 cycles) for PMS. Adrenal stress questionnaires were filled in 7 days prior to the next cycle after which salivary cortisol were measured using ELISA (Enzyme Linked Immunoassay) test. Severity degrees were assessed using the Premenstrual Symptoms Screening Tool (PSST) as a referance standard. Data were collected, tabulated and analyzed using computer software.

**Results:** Salivary cortisol levels significantly differed between PMS and non PMS patients and significantly associated with PMS degrees (P<0.022). A P value=0.000 was obtained on the association between salivary cortisol in adolescents and PMS degrees. Using a cut off value of 0.116 ug/dl, moderate-severe and mild cases of PMS had sensitivity, specificity, positive and negative predictive values of 95.35%, 91.17%, 93.18%, and 93.94%, and 8.86%, 4.65%, 6.82%, and 6.06%, respectively.

**Conclusions:** Salivary cortisol was significantly associated with psychosocial stressors and premenstrual syndrome degrees. Using a cut off value of 0.116 ug/dl, salivary cortisol testing is an accurate diagnostic tool for cases of moderate-severe PMS.

**FCS76.7**
**ANALYSIS OF THE PVUII AND XBAI GENE POLYMORPHISMS OF THE ESTROGEN RECEPTOR ALPHA IN GIRLS WITH CENTRAL PREOCIOUS PUBERTY**

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**Objectives:** To investigate the relationship between the Reu gene polymorphisms and the occurrence of central precocious puberty.

**Method:** It is a prospective experimental research and performed at Disciplina de Ginecologia do Departamento de Obstetricia e Ginecologia da Faculdade de Medicina da Universidade de Sao Paulo, Brazil. We included 73 girls with central PP (GI) and 104 girls with normal pubertal maturation (GI). The collected blood was used for extraction of genetic material and gene typing. We analyzed the Xbal and Pvull allelic variants on our patients. The main outcome measure was the association of polymorphism with precocious puberty.

**Results:** The frequency distribution of the Xbal (p=0.302) and of the Pvull (p=0.283) genotypes did not differ significantly between the groups, nor did that of the Xbal and of the Pvull allelic variants (p=0.492 and p=0.731, respectively). The C allele of Pvull seems to be associated with a greater risk for PP (OR: 1.10 [95% CI: 0.70; 1.73]), but not significantly so (p=0.667).

**Conclusions:** Our results suggested that the mutant genotypes of Xbal polymorphisms may not have connection with precocious puberty, while the mutant C allele of Pvull appears to be associated with this affection.

**FCS76.8**
**EFFECTS OF FETAL LOSS ON ADOLESCENT GIRLS**

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**Objectives:** Review of the rate and gestational age of fetal loss occurring in adolescent gravidias compared with older mothers. This included miscarriages, neonatal mortality and perinatal mortality.

**Method:** Review of fetal loss including miscarriages neonatal mortality and perinatal mortality in adolescents mothers.

**Findings:** Between 2001 and 2010 there were 180 stillbirths, 34 late neonatal deaths and 142 early neonatal deaths out of 39,755 births. Mothers under the age of 19 years comprised 6.2% of the total number of maternities. Induction of labour was higher at 37% in adolescents compared to 35% in older mothers, but the section rate was lower at 21% compared to 30% respectively. Fetal loss rate was similar in adolescents as in adult pregnancies.

**Conclusions:** Fetal loss whether early or late in pregnancy can be devastating whatever the age of the mother. While it may seem like a solution to an unplanned gestation, adolescents who have accepted their new role would still need counselling to cope with a stillbirth as well as a miscarriage.

**FCS76.9**
**MÜLLERIAN DUCT ANOMALIES (MDA); CLASSIFICATION, CLINICAL PRESENTATION AND MANAGEMENT**

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**Objectives:**
- To discuss the epidemiology and classification of MDA.
- Evaluate the role of available diagnostic modalities.
- To discuss Surgical and non-surgical Management of MDA especially Transverse Vaginal septum and Mayer-Rokitansky-Küster-Hauser Syndrome.

**Method:** MDA are embryological maldevelopment of Müllerian or paramesonephric ducts. They are common benign condition with prevalence of 4–7%. Depending on the type and the degree of anatomical distortion, they are associated with health and reproductive problems. Case reports continue to provide information on novel approaches to improve operative techniques and on the long-term sexual and reproductive function of women with vaginal and uterine anomalies. The ESHRE/ESGE classification system is based on anatomy, anomalies are classified into 6 main classes expressing uterine anatomic deviations deriving from the same embryological origin.

**Results:** Müllerian ducts differentiate to form the fallopian tubes, uterus, the uterine cervix, and the superior aspect of the vagina. Anomalies range from uterus and vaginal agenesis (MRKH syndrome) to duplication of the uterus and vagina and minor uterine cavity abnormalities. Diagnostic modalities vary in their sensitivity and specificity and range from Hysterosalphingogram, Sonosalpingogram™, MRI, by combined™ hysteroscopy/laporoscopy™ or inci-
dently at cesareaen section. Management of MDA ranges from simple cruciate incision for imperforat hymen to creation of neovagina for cases of utero-vaginal agenesis by surgical procedures e.g McIndoe procedure, William's Vaginoplasty or by non surgical techniques of vaginal dilators after adequate counselling and appropriate psychological input.
Conclusions:
- Management of MDA depends largely on multi-disciplinary team approach.
- Multidisciplinary team may consists of gynaecologist, clinical Nurse Specialist, psychologist, psychosexual counsellor, group therapy, and Specialist Radiologist.
- Regardless of the treatment option selected, patients should be thoroughly counselled and prepared psychologically before the initiation of any treatment.
- Evaluation for associated congenital renal anomalies or skeletal anomalies is also important.

FCS77. Pediatric and Adolescent Gynecology

FCS77.1
ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH – A PRIORITY
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Objectives: Young people globally constitute a significant proportion of population reaching 1.7 million. Estimated 86% live in low & middle resource countries. Worldwide 1 in 5 girls give birth by the age of 18, in poorest regions high 1 in 3.

Early unsafe sexual activity, sexual abuse, unwanted and adverse outcomes of pregnancies are more in terms of socioeconomic adverse outcomes rather than biological adverse effects, genital tract infections including sexually transmissible infections (STIs), emotional instability, psychological upsets, depression are the adverse risks.

Method: Present study in Rajendra Institute of Medical Sciences, on 850 pregnant (13–19 years), 1020 non-pregnant girls, between Jan ’12 and Jan ‘14.

Results: 680 (80%) pregnant anaemic Hb. <10gm%, high percentage unmarried pregnancies (237) 28%, abortions 206 (24.23%) - 52 (25%) criminal & septic abortions, 44 (21.3%) used abortifacients. Term pregnancy: majority 302 (47%) no antenatal checkup, pregnancy complications in form of obstructed labour, premature preterm rupture of membrane in high percentage, lower genital tract injury, post-partum haemorrhage, sepsis major complications. 174 (27%) post-partum pyrexia, depression & psychosis. Caesarean section rate was high. Vaginal discharge 275 (27%) main gynaecological problem, 123 partum pyrexia, depression & psychosis. Caesarean section rate was high. Vaginal discharge 275 (27%) main gynaecological problem, 123 partum pyrexia, depression & psychosis. Caesarean section rate was high. Vaginal discharge 275 (27%) main gynaecological problem, 123 partum pyrexia, depression & psychosis. Caesarean section rate was high. Vaginal discharge 275 (27%) main gynaecological problem, 123 partum pyrexia, depression & psychosis. Caesarean section rate was high. Vaginal discharge 275 (27%) main gynaecological problem, 123 partum pyrexia, depression & psychosis. Caesarean section rate was high. Vaginal discharge 275 (27%) main gynaecological problem, 123 partum pyrexia, depression & psychosis.

Fortunately in present study no HIV/AIDS was found.

Conclusions: Various adolescent problems are faced in our practice because of lack of education and services to promote health positively, resulting in highly neglected portion of population which has implication for future socio-economic development.

Early unsafe sexual activity, sexual abuse, unwanted and adverse outcomes of pregnancies are more in terms of socioeconomic adverse outcomes rather than biological adverse effects, genital tract infections including sexually transmissible infections (STIs), emotional instability, psychological upsets, depression are the adverse risks.

FCS77.2
THE ROLE OF IMBALANCE CYTOKINES AND CHEMOKINES AT INFRINGEMENT MENSES CYCLE AT GIRLS-TEENAGERS WITH ADIPOSIT
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Objectives: Currently, an increasing number of obese patients, with more frequent menstrual function and primary infertility. Clinical studies have shown that obesity leads to inflammation of the adipose tissue. Important role in the development of inflammation belongs immune cells. The ability of monocyte-macrophage release proinflammatory mediators is one of the pathogenic factors in the development of local and systemic inflammatory response in this disease.

Given the important role of immune system in the development of the metabolic syndrome, the aim of the study was to study the content of IL-1β, TNF-α, MCP-1 in adolescents with obesity and the menstrual cycle.

Method: The study included 22 patients with obesity and menstrual irregularities (group 1) and 17 healthy adolescents with a normal body mass index and regular menstrual cycles (control group). The analysis of eating disorders, the study of the clinical characteristics of the disease: the definition of body mass index, a gynecological consultation to confirm the diagnosis of amenorrhea, oligoamenorei. Determination of IL-1β, TNF-α, MCP-1 (monocyte chemokoeactornt) was measured by ELISA using the kit with test systems “Bender Medsisms”.

Results: It was found that in patients with obesity and menstrual irregularities compared with the control group there were marked changes in the form of the immune statistically significant increase in the production IL-1β, TNF-α, MCP-1. Produced by macrophages, TNF-α and IL-1β stimulate leptin secretion in adipocytes, inhibits the expression of adiponectin, inhibits adipocyte differentiation, as a key molecule in the metabolic disorders associated with obesity. Increased MCP-1 supports the inflammation of adipose tissue. The severity of the inflammation is correlated with the degree of obesity.

Conclusions: Therefore, obesity products adipocytes increase the secretion of proinflammatory cytokines and chemokines by macrophages, which may change the metabolic and secretory activity of adipocytes, which eventually leads to a further increase in the inflammatory response and the development of insulin resistance and ovarian dysfunction.

Thus, the study of the immunopathogenesis of reproductive disorders in adolescent girls with obesity will predict the formation of early reproductive pathology, evident at puberty menstrual dysfunction.

FCS77.3
THE ROLE OF AUTOIMMUNE MECHANISMS OF NORMOGONADOTROPIC OVARIAN INSUFFICIENCY FORMATION IN ADOLESCENT GIRLS
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Objectives: Normogonadotropic ovarian insufficiency is the most typical cause of oligomenorrhea. Autoimmune oophoritis is the cause of normogonadotropic ovarian insufficiency in 31% of cases. It's revealed the damaging effect of anti-ovarian antibodies (AOAs) on all functional elements of the ovary imitating an atretic process. In spite of performed studies of autoimmune oophoritis as a cause of infertility, the autoimmune mechanisms of normogonadotropic ovarian insufficiency in adolescents, remain unexplored.

The objective of our research was the optimization of the policy of treating adolescents with oligomenorrhea on the basis of studying the role of autoimmune mechanisms of normogonadotropic ovarian insufficiency formation.

Method: The serum levels of anti-Mullerian hormone (AMH), AOAs, antinuclear As (ANAs), neopterin, rheumatoid factor (RF), interferon-γ (IFN-γ) and tumor necrosis factor-α (TNF-α) in 2 groups of adolescent girls with secondary normogonadotropic oligomenorrhea were investigated. Group I included 39 girls with elevated levels of circulating AOAs (≥11 IU/ml). Group II – 49 girls with normal levels of AOAs (<11 IU/ml). The control group included 20 healthy girls with...
regular menstrual cycles. Statistical treatment of the received results was performed with the use of Statistica 6.0 application program package.

Results: A reduction of AMH level in group I is 2.5 times compared to the control group. AMH level in group II exceeded the control data. Increased levels of RF and decreased of IFN-γ were found in both groups. In group II a low level of IFN-γ combined with the increase of neopterin level, that was an early manifestation of the autoimmune pathology. Due to this fact we offer to determine the serum level of neopterin in order to enable early detection of autoimmune oophoritis in girls with oligomenorrhea, seronegative ones by AOAs. We determined a diagnostic threshold of neopterin.

Conclusions: The increase of the levels of neopterin, TNF-α and AMH in the patients of group II was natural and confirmed the participation of the given factors in the pathogenesis of ovarian insufficiency and oligomenorrhea.

Autoimmunity rates are characterized by increased serum RF, neopterin, titers of AOAs, and decreased levels of AMH and IFN-γ, that demonstrates the diagnostic value of these parameters as markers of autoimmune origin of normogonadotropic secondary oligomenorrhea.

FC577.4

ADOLESCENT DYSMENORRHEA: FINDINGS AND MANAGEMENT IN A TERTIARY PAEDIATRIC HOSPITAL WITH 10–15 YEAR LONG-TERM FOLLOW UP

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Objectives: To describe a cohort of adolescents who presented to The Royal Children’s Hospital with dysmenorrhea, and report the frequency of associated symptoms, the findings at operative procedures, management offered and symptom control. Followup of these young women 10–15 years later was undertaken to explore the long-term dysmenorrhea outcome as there are no previous reports in the literature describing outcomes for an adolescent population.

Method: A retrospective cohort of 154 adolescents with dysmenorrhea who had attended a tertiary paediatric gynaecology service between 1997–2004 were identified. Their records were reviewed and data extracted regarding their menarche, menstrual pattern, pain, associated features and any surgical interventions. A subsequent followup study using this cohort explored the 10–15 year outcomes of these young women, aged 25–30 years. 50% of the young women could be traced and there was a 95% participation rate of these women. Questionnaires regarding current pain symptoms, fertility, and any surgery undertaken in the intervening years were utilised. Operating notes of any procedures undertaken were examined.

Results: Adolescents dysmenorrhea patterns significantly differed between those with progestaglandin-symptoms and heavy menses. Laparoscopy rate was 8%, 2/3 were normal. Five had unilateral obstructive anomalies. Mainstay of management was hormonal [90% on COC, and 50% using COC continuously]. Dysmenorrhea control occurred in 92%.

On followup, 50% were traced: no difference between those lost and those located. Of these (mean age 26yo), 95% participated. With regard to menses, 25% reported no/minimal pain, 57% some dysmenorrhea and 15% had significant pain -although not necessarily impacting on activity. 26 had a laparoscopy under adult gynaecology care with mild/minimal endometriosis diagnosed in 13. Fertility rates matched state data.

Conclusions: For a group of young women with significant dysmenorrhea first presenting in adolescence, there was a very low laparoscopy rate with a very low rate of abnormal findings compared to previous reports and high resolution of symptoms. On long-term followup, 25% had no/minimal pain. There were no cases of moderate or severe endometriosis diagnosed on 10–15yr followup despite 75% of women experiencing some ongoing dysmenorrhea. A conservative non-operative approach in adolescent was effective with no evidence of a negative long-term impact.

FC577.5

MENSTRUAL CYCLE PATTERNS DURING ADOLESCENCE AND THEIR RELATIONSHIP TO INSULIN RESISTANCE, METABOLIC SYNDROME AND POLYCYSTIC OVARY SYNDROME PARAMETERS

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Objectives: Although adolescence is a healthy time of life, insulin resistance (IR) and its consequences may appear during this period, generally discovered at a later stage when obesity, metabolic syndrome (MS) and/or polycystic ovary syndrome (PCOS) are already established. During the past few years, some studies have shown that menstrual irregularity is an easy-to-observe parameter that may reflect endocriological and metabolic alterations. In order to assess the importance of menstrual irregularity as a risk indicator for IR, MS and PCOS, in addition to identifying possible associated clinical and laboratory markers.

Method: Observational, comparative, and transversal-cut study with 80 female adolescents between 10 and 19 years of age and gynecological age (GA) of 0–1 year. All the adolescents underwent a clinical evaluation, with gathering of anthropometric data, blood pressure, presence of “Acanthosis Nigricans”, and/or hyperandrogenism skin manifestations, evaluation of pubertal development, and laboratory evaluation composed of Lipidogram, evaluation of glycose and hormonal metabolism. Two groups were created according to the menstrual cycle pattern. G-1 adolescents with irregular, and G-2 with regular menstrual.

Results: G-1 (52.5% of the sample) presented significantly higher levels for BMI, blood pressure, waist circumference, fasting insulin, insulin after overload (insulin 120), triglycerides (TG), HOMA-IR, G/I and androgens, associated with significant reductions in SHBG, HDL-C and QUICKI, compared to G-2. MS was diagnosed in 38.1% of girls with menstrual irregularity versus 0% with regular cycles, with confirmed diagnoses of PCOS in 83.3% of adolescents with menstrual alterations.

A logistic regression analysis showed that SHBG was the independent variable that best explained menstrual irregularity in the general population of the study and the subgroup of adolescents with GA <20 years.

Conclusions: Observation of menstrual cycle patterns during the first few years after the menarche, together with androgens, SHBG and insulin sensitivity measurements (especially insulin 120), may contribute to early detection of endocriological and metabolic disorders, thus paving the way for preventive steps minimizing cardiovascular risks.

FC577.6

MCINDOE VAGINOPLASTY IN VAGINAL AGENESIS

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Objectives: The aim of this study is to determine the effectiveness of McIndoe vaginoplasty in the creation of a neovagina for patients with vaginal agenesis.

Materials and methods: The study is a retrospective study of 50 cases of vaginal agenesis, who underwent McIndoe vaginoplasty over a period of 8 yrs (2004–2012) by using skin graft in 25 cases & amnion as graft in the remaining.

Results: McIndoe vaginoplasty was performed successfully in all 50 pts and post surgical result was acceptable to the patients psychologically, sexually and aesthetically.

Conclusions: McIndoe vaginoplasty is a safe and effective procedure for providing a satisfactory and functional vagina in patients with MRKH syndrome.
FCS77.7
EDUCATION FOR EMPOWERMENT – IMPARTING FAMILY LIFE EDUCATION TO SCHOOL GIRLS
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Aim: Analysis of perceptions of adolescent girls regarding Family Life Education Program and their knowledge about menstrual and reproductive health.

Objectives: 1. To assess their knowledge and perceptions about menstrual cycle. 2. To assess their knowledge and perceptions about reproductive health. 3. To analyze their perceptions about the School Health (FLE) program.

Method: The ARRC at Gandhi Medical College, Bhopal along with The Obstetrics and Gynecological Society of Bhopal, conducts sessions on Family Life Education at aganawadis and schools. The sessions impart age appropriate advice on Nutrition and prevention of anemia, Menstrual and personal hygiene, Problems of growing years, and Life Skills education.

A structured questionnaire was provided to school girls, studying in Class 9 and 10. The study included schools where, we had Family Life Education sessions, however it is not necessary that the individual girl had attended every or any session in that particular year.

Data collected was analysed using descriptive statistics.

Results: Completed questionnaires received from 537 girls. Average age of girls was 16.2 years. Average age of menarche 13.3 years, menarche not attained in 3 girls.

76.28% received information about menstruation from their mothers, 89.07% had accurate knowledge about age at menarche, 79.53 about cycle duration, 70.7% about average cycle length. Perceptions about menstruation, 87.9% reported it was normal process, while 7.67% considered it unclean state. 41.63% girls declared Puja be avoided during menses. Practice of bathing on 5th or 7th day was reported by 8.14% and 11.86% girls. 13.02% school girls use old clothes, while 71.16% girls use disposable pads.

Conclusions: 1. Imparting Family life skills to school girls provides a welcome platform for school girls to interact with doctors and counselors, increasing their knowledge on health issues like menstruation, hygiene and nutrition. 2. They are more confident, ask and answer queries. 3. School education as such is increasing age at marriage and first child. 4. Some of the practices/myths regarding menstruation have a strong cultural base. 5. Mother is the first teacher and source of information. Educate a GIRL, empower her and her future FAMILY.

FCS78. Prenatal Diagnosis

FCS78.1
IDENTIFICATION OF BIOMARKERS FOR PRETERM DELIVERY IN MID-TRIMESTER AMNIOTIC FLUID
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Objectives: We investigated whether the level of vascular endothelial growth factor (VEGF) and the presence of inflammatory markers in mid-trimester amniotic fluid have predictive value for preterm delivery.

Method: Our subjects were 72 pregnant women who were undergone amniocentesis from 16 to 19 weeks of gestation. 36 cases were women with preterm delivery, and other 36 cases were matched women with full-term delivery. Stored amniotic fluid was investigated after the delivery. The levels of matrix metalloproteinases-8 (MMP-8), interleukin-6 (IL-6), C-reactive protein (CRP), and vascular endothelial growth factor (VEGF) were measured by enzyme-linked immunosorbent assay (ELISA) and Western blot.

Results: The levels of MMP-8 and IL-6 in preterm group were significantly higher than control group (5.76±1.53 ng/ml vs 4.89±1.77 ng/ml and 170.54±55.69 pg/ml vs 141.92±57.21 pg/ml, respectively) (p < 0.05). In terms of VEGF, the levels were elevated in preterm group (30.76±4.06 pg/ml vs 22.36±7.03 pg/ml) (p < 0.05).

Conclusions: This study suggests that elevated levels of inflammatory markers at mid-trimester are predictive of preterm delivery, and that VEGF which is representative of angiogenesis can be a new and useful predictor of preterm delivery.

FCS78.2
ANALYSIS OF TWIN-TWIN TRANSFUSION SYNDROME COMPlicated BY SELECTIVE INTRAUTERINE GROWTH RESTRICTION
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Objectives: To investigate the underlying pathophysiology between TTTS and SIUGR, and to discuss the surgical procedure selection of patients with TTTS III+SIUGR.

Method: Retrospective analysis was made on 116 pregnant women who had TTTS in the Peking University Third Hospital, from 2008.9 to 2014.9, the median gestational was 23.4, (17.3, 31.4) weeks. TTTS was diagnosis by twin oligopolyhydramnios sequence, staging of TTTS is using the percentile Quintero staging system. The TTTS+SIUGR was defined as TTTS patients with donor twin weight <10th percentile. The morbidity of SIUGR was compared among different staging of TTTS.

Results: Of 116 patients, 54.31% (63/116) TTTS had SIUGR. The morbidity of SIUGR in staging TTTS I, II, III, IV was respectively 40.0%, 47.8%, 77.8%, 45.5%, the morbidity of SIUGR in staging TTTS III was significantly higher than other three groups (P<0.05).

Conclusions: SIUGR present in above one-seCONDS of TTTS patients. The higher morbidity of SIUGR may contribute to the lower fetal survival of TTTS III after FLOC; We suggest an overall evaluation before operation in the treatment with patients complicated with TTTS III+SIUGR.

FCS78.3
PLACENTAL CHARACTERISTICS IN SPONTANEOUS TWIN ANEMIA-POLYCYTHEMIA SEQUENCE
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Objectives: By analyzing placental superficial vascular anastomosis, placental territory discordance (PTD), and umbilical cord insertion of monochorionic (MC) twins, to investigate the placental characteristics in spontaneous twin anemia-polycthenia sequence (TAPS).

Method: 151 MC placentas were studied in Peking University Third Hospital between June 2013 and December 2014. Among these MC placentas, 25 placentas with fetoscopic laser ablation and 40 placentas with selective intrauterine growth restriction were excluded. The control group included 38 placentas diagnosed as twin to twin transfusion syndrome (TTTS) without fetoscopic laser ablation and 42 uncomplicated MC placentas. Compared with control group, the placental characteristics of 6 TAPS cases were studied.

Results: (1) TAPS has less number of superficial vascular anastomoses than TTTS (2 vs 4, P=0.013) and uncomplicated group (2 vs 4, P=0.059), the number of A-A anastomoses in TAPS was less than that in uncomplicated group (0 vs 3, P=0.004). (2) TAPS group had shorter overall diameter of vascular anastomoses than that in TTTS and uncomplicated group (0.7 vs 4.2 vs 6.1 mm, P=0.001/0.009), shorter overall diameter of A-A anastomoses than that in uncomplicated group (0.0 vs 2.3 mm, P=0.003), and shorter overall diameter
of A-V vascular anastomoses than that in TTTS and uncomplicated group (0.7 vs 3.4 vs 3.3 mm, P=0.003/0.039). (3) Compared with TTTS and uncomplicated group, TAPS had longer umbilical cord insertion (0.92 vs 0.64 vs 0.57, P=0.040/0.040).

Conclusions: In cases with spontaneous twin anemia-polycthemia sequence, the placental superficial vascular anastomoses are little and thin, which may result from the longer umbilical cord insertion.

FCS78.4 PREVALENCE OF STREPTOCOCCUS AGALACTIAE IN A SAMPLE OF BRAZILIAN FEDERAL DISTRICT PREGNANT WOMEN

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Objectives: To estimate the occurrence of GBS colonization during pregnancy in a healthcare district located in the Brazilian Federal District.

Method: This cross-sectional study included women at 32–37 weeks of pregnancy, who attended the Regional Hospital of Taguatinga and its affiliated basic healthcare units. Vaginal and rectal swabs were collected and processed for the identification of microorganisms and antimicrobial susceptibility testing (AST), according to the recommendations of CDC (2010). The patients that were colonized intrapartum with GBS were referred for prophyllactic treatment. The antibiotics of choice were Penicillin G Crystalline, Cefazolin, Clindamycin or Vancomycin.

Results: Samples from 411 women were investigated. Mean gestational age at the time of collection was 34.6 weeks, while mean patient age was 28.7 years and BMI was 30.3 kg/m². During pregnancy, 38.6% of the subjects showed some kind of infection, with infection of the urinary tract accounting for 82.6% of the cases. The prevalence of GBS colonization was 14%. AST revealed clindamycin-resistance and erythromycin-resistance in 3.7% and 25.9% of the cases, respectively. No beta lactam- or vancomycin-resistant GBS was found.

Conclusions: GBS prevalence in the study area is similar to that found in other regions previously investigated. This finding underscores the need for screening all pregnant women in order to prevent neonatal infection. As expected, the bacterial resistance encountered varies according to the region studied. Considering the rate of resistance to some antibiotics it is recommended to carry out the AST for all the patients with positive results.

FCS78.5 PREVALENCE OF SUBCLINICAL HYPOTHYROIDISM IN PREGNANT WOMEN

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Objectives: Maternal subclinical hypothyroidism during pregnancy is associated with various adverse outcomes. Recent consensus guidelines advocate universal thyroid function screening during pregnancy. There are no data from Iran about the prevalence of thyroid hypofunction in pregnancy. This study aims to find the prevalence of thyroid dysfunction.

Method: In the first prenatal laboratory workup thyrotropin (TSH) was measured in 3158 pregnant women irrespective of gestational age from Oct. 2008-March 2012. If TSH was more than 2.5 miU/L in the first trimester or more than 3 miU/L in the second or third trimester, free T4 was measured to diagnose subclinical/ overt hypothyroidism. If serum free T4 was in the normal range (0.7–1.8 ng/dl) the sediagnosis was subclinical hypothyroidism and if it was below the normal range, overt hypothyroidism was diagno.

Results: Thyroid function screening was done in 3158 pregnant women, of them 147 were diagnosed as hypothyroidism. Subclinical hypothyroidism in 131 (89.1%) and overt hypothyroidism in 16 (10.9%) women. Prevalence of subclinical hypothyroidism was 4.15%. Most of the subclinical and overt hypothyroidism was diagnosed in first trimester.

Conclusions: It appears logical to check TSH during pregnancy. Subclinical hypothyroidism is common.

FCS78.6 TWIN ANAEMIA POLYCHAEMIA SEQUENCE (TAPS): POSTNATAL CORRECTION OF SEVERE ANAEMIA IN THE DONOR TWIN BY TRANSFUSION OF BLOOD EVACUATED FROM THE RECIPIENT POLYCHAEMIC TWIN

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Objectives: To correct anaemia by postnatal blood transfusion in the (intrauterine) donor twin neonate with blood obtained from the (intrauterine) recipient polycystic twin neonate.

Method: The monochorionic twins displayed features of TAPS; concordant intrauterine normal amniotic sacs and fluid volumes, concordant birthweights (2.4kg and 2.2kg) but discordant neonatal haemoglobinobs (28.3g/dl 7.3g/dl). Following resuscitation and admission to Neonatal Intensive Care Unit, clinical assessment revealed severe polycythemia and severe anemia in the first and second twin respectively. By partial exchange blood transfusion, blood obtained from the first twin was transfused to the second twin.

Results: Both babies responded well to neonatal care and anaemia was effectively corrected (Hb 18.0g/dl and 11.3g/dl for twin 1 and 2 respectively). One year after birth the children are doing well with appropriate developmental milestones.

Conclusions: Homologous transfusion of blood from a sister twin is an uncommon but welcome practice especially in a setting where donated blood is hardly readily available. This practice is strongly recommended in the management of neonatal anemia encountered in cases of TAPS and prenatal successfully managed Twin to Twin Transfusion Syndrome (TTTS).

FCS78.7 DRIED BLOOD SPOT MEASUREMENT OF PREGNANCY-ASSOCIATED PLASMA PROTEIN A (PAPP-A) AND FREE β-SUBUNIT OF HUMAN CHORIONIC GONADOTROPIN (β-hCG) FROM A LOW-RESOURCE SETTING

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Objectives: Biomarkers are increasingly used to screen for maternal or fetal disorders in pregnancy. Screening programs in low- and middle income countries have not been widely implemented. Dried blood spot (DBS) sampling provides an alternative minimally invasive sampling method, with advantages in sampling technique, stability, logistics, and potential application in low-resource settings. We aim to compare pregnancy-associated plasma protein A (PAPP-A) and free β-subunit of human chorionic gonadotropin (β-hCG) concentrations in dried blood spots (DBSs) with serum of samples obtained from a public hospital in a low-resource setting and to evaluate their stability.

Method: From 50 pregnant participants in a cohort study in a public hospital in Accra, Ghana serum and DBS samples were obtained
by venipuncture and finger prick. PAPP-A and β-hCG concentrations were measured with an AutoDELFIA® automatic immunoassay analyzer. Marker levels between serum and DBS samples were compared through correlation and Passing-Bablok regression analyses.

**Results:** For various sampling techniques, a high correlation (>0.9) was observed for PAPP-A and β-hCG levels. β-hCG concentrations in serum and DBS were comparable. PAPP-A concentrations were consistently lower in DBS compared to serum.

**Conclusions:** These findings suggest that β-hCG can be collected reliably using DBS in low-resource tropical settings. For reliable PAPP-A measurement, the exact conditions of the clinical workflow necessary in these settings need to be further developed. Our findings indicate that analysis of biomarkers for prenatal screening programs is feasible in low-income and middle-income countries.

**FCS78.8**

**APPROACH TO MANAGEMENT SKELETAL DYSPLASIA IN RESOURCE POOR SETTING**

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**Objectives:** To develop an algorithmic approach for prognostication and diagnosis of fetal skeletal dysplasia with available limited resources.

**Method:** An algorithmic approach was used on ultrasound. Assessment for lethality was the first step, next evaluation for fractures was done, in cases without evidence of fracture, presence of severe constriction of thorax or associated polydactyly was noted. In cases without severe thoracic constriction or polydactyly severity of micromelia was noted. Those with mild micromelia were evaluated for presence of Doppler changes and femur/foot ratio. After delivery fetal examination, infantogram was done to ascertain the cause, subsequent counselling was done.

**Results:** The study period of six years 41 cases with shortened long bones were fully evaluated. Mean gestation at presentation was 30 weeks. On antenatal ultrasound lethality was suspected in 29 cases. Fracture and beading was present in 8, severe thoracic constriction with polydactyly in 7 cases. Mild micromelia was seen in 19, severe micromelia in 7 cases. Examination after delivery showed additional finding in almost all cases, cause could be determined in 38/41 cases. Among lethal disorders thanatophoric dysplasia was most common (6 cases) osteogenesis imperfecta in 5 cases. Among non lethal SD, Achondroplasia was seen 8 cases.

**Conclusions:** SD is not as uncommon as once thought. The fetal medicine specialist is likely to encounter such cases, an algorithmic approach helps in determining prognosis and in finding out probable diagnosis. Prediction of lethality on ultrasound is almost 100% accurate. Postnatal examination of cases is necessary to reach a diagnosis which is important for parental counselling and decision-making regarding continuation of the current pregnancy and possible options for prenatal diagnosis of future pregnancies.

**FCS79.2**

**ACCURACY AND RESPONSE TIME OF AMNIOQUICK DUO PLUS (+) VERSUS PLACENTAL ALPHA-MICROGLOBULIN-1 TEST IN THE DIAGNOSIS OF PREMATURAL RUPTURE OF FETAL MEMBRANES: A PRELIMINARY STUDY**

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**Objectives:** To determine the accuracy and response time of AmnioQuick duo plus (+) (duo of insulin-like growth factor-binding protein-1 and alpha-fetoprotein) compared to placental α-microglobulin-1 (PAMG-1) test for diagnosing rupture of fetal membranes (ROM).

**Method:** A multicenter double-blind study of consecutive women with symptoms and signs of ROM in four tertiary hospitals in southeast Nigeria using AmnioQuick duo plus (+) and the PAMG-1 tests was done. ROM was confirmed post-delivery based on presence of any two of these clinical criteria: delivery in 48 hours to 7 days, evidence of chorioamnionitis, membranes overtly ruptured at delivery and adverse perinatal outcomes strongly correlated with prolonged ROM. The response time for positive results was also determined. The outcome measures included sensitivity, specificity, accuracy and response time for the two tests.

**Results:** Forty six women were analysed. Sensitivity and accuracy for the AmnioQuick duo plus (+) test were 97.6% and 98.7%, higher than for PAMG-1 test which were 90.2% and 95.1%, respectively (P<0.05). The specificity of AmnioQuick duo plus (+) test and PAMG-1 test was the same, which was 100.0%. Analysis showed that the average response time for AmnioQuick duo plus (+) test was 2.6±1.0 minutes.
(range = 35 seconds–9 minutes) versus 2.1±0.7 minutes (range = 30 seconds–6 minutes) for PAMG-1 test (P = 0.05).

Conclusions: This study reveals that AmnioQuick duo plus (+) test appears to be superior to PAMG-1 test in diagnosing ROM. The response time of PAMG-1 test is not significantly different from AmnioQuick duo plus (+) test. This is a pilot study; therefore larger sample size data is warranted.

FCS79.3
AN AUTOMATED, NON-INVASIVE PRENATAL SCREENING ASSAY (NIPS) FOR TRISOMY 21,18,13 IN SINGLETON AND TWIN GESTATIONS
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Objectives: To create automated processes for NIPS; to increase consistency and accuracy; to refine statistical analysis and bioinformatics processes leading to improved sensitivity and specificity; and to incorporate recent technological advancements in NGS to optimize performance and decrease costs.

Method: Plasma from a series from 1288 unaffected pregnancies was used for assay development. GC correction was performed using a published R-script. Proprietary statistical analysis and bioinformatics processing were also performed to further refine the analysis and to determine fetal fraction. Verification was performed using performed using samples from pregnant women consisting of 2,085 singletons including Trisomy 21 (N=1), Trisomy 18, (N=2), and Trisomy 13 (N=17). Because of the relatively low numbers of Trisomy 13 and 18 samples, artificial constructs at varying fetal fractions were used in the verification study. A validation series consisted of 552 singleton samples that included Trisomy 21 (N=21), Trisomy 18 (N=10), and Trisomy 13 (N=11). XO (N=1) and 115 twin samples that included Trisomy 21 (N=10), Trisomy 18, (N=4), Trisomy 13 (N=1).

Results: A validation series consisted of 552 singleton samples that included Trisomy 21 (N=21), Trisomy 18 (N=10), Trisomy 13 (N=1), XO (N=1) and 115 twin samples that included Trisomy 21 (N=10), Trisomy 18, (N=4), Trisomy 13 (N=1). All aneuploid samples were detected with Z scores ≥4 for both singleton and twin gestations. There were no false positives with Z scores ≥4.0. Therefore sensitivity and specificity was 100% in the validation study. The two-tailed Wilson Confidence Interval for sensitivity across all trisomies was 89.85% – 100% and specificity was 99.56% – 100%. The XO sample was also correctly identified.

Conclusions: By combining automation, GC correction, novel bioinformatics and statistics, determination of fetal fraction, improved workflow and advanced sequencing reagents, we were able to design and validate an NIPS assay with excellent performance characteristics.

FCS79.4
THE PLACENTAL CHARACTERISTICS OF SELECTIVE INTRAUTERINE GROWTH RESTRICTION
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Objectives: To estimate the prevalence, number and size of the anastomoses, the placenta sharing and the placental cord insertion in selective intrauterine growth restriction (sIUGR).

Method: Monochorionic placentas in Peking University Third Hospital from June 2013 to June 2014 were collected besides the placentas that were treated with fetoscopic laser surgery or selective feticide. Eventually 79 placentas were collected, after eliminating 24 placentas of twin to twin transfusion syndrome (TTTS), there were 23 placentas of sIUGR and 32 placentas of normal monochorionic twins (McT) without complex twin pregnancy. Placental sharing, the placental cord insertion, angioarchitecture and diameter of vascular anastomosis were assessed by placental injection with colored dye, and were compared between sIUGR and McT without complex twin pregnancy.

Results: (1) The incidence of non-central cord insertion in the lighter fetus of sIUGR group was significantly higher than that in the heavier fetus of sIUGR group and that in the normal McT (82.6% vs 13.0% vs 40.6%; P≤0.020/0.001/0.000). (2) The placental territory discordance (PTD) in the sIUGR group was significantly greater than that in the normal group (0.60 vs 0.22, P=0.000), the incidence of placental sharing discordancy was greater than that in the normal group (91.3% vs 50.0%; P=0.001). (3) The prevalence, number and size of the anastomoses have no difference between the two groups. df.

Conclusions: Placental sharing discordancy, non-central cord insertion may be the risk factors for MC pregnancies complicated by sIUGR. Placental sharing discordancy may be responsible for non-central cord insertion.

FCS79.5
FIRST TRimester DATING WITH ULTRASOUND IN OBSESE WOMEN. A COHORT STUDY
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Objectives: Obesity is known to affect ultrasound quality and thereby possibly dating. We evaluated the influence of anthropometrical characteristics of mother and child on different dating methods.

Method: In an unselected population of 14,591 pregnancies, 8,551 defined by a spontaneous delivery were included. The pregnancy length was calculated by five different methods: Last menstrual period (LMP), crown rump length (CRL), biparietal diameter (BPD) (1st trimester), BPD2 (2nd trimester), and head circumference (HC). The following characteristics were evaluated: maternal age, parity, height, body mass index (BMI), smoking habits, sex of newborn, and infants birth weight deviation. Data were analysed by using multiple regression analyses.

Results: There was a significant increase in pregnancy length with increasing maternal height and BMI. The BMI regression coefficients were 0.07–0.08 days per kg/m² for ultrasound dating compared to 0.12 days per kg/m² in LMP. This caused an increase in pregnancy length with 1.6 days using CRL and 2.4 days using LMP when BMI increased with 20 kg/m². An increase of 20 cm in maternal height caused an increase of pregnancy length with 1.8–2.6 days. We found a weight deviation difference of 75 g when GA was performed by CRL compared to LMP (p < 0.001) in severe obesity.

Conclusions: Maternal BMI and height influences first trimester dating. Foetuses developed in an obeseogenic environment might already be larger in early gestation leading to an incorrect estimation of GA. Ultrasound in 1st trimester is more accurate than LMP and reduces misclassification of post-term pregnancy. There are however also systematic biases in ultrasound dating and maternal anthropometrical characteristics are here proved to influence dating further. For more exact pregnancy dating, this may be considered and incorporated in existing methods.
FCS79.6
PRENATAL DIAGNOSIS OF TWO IDENTICAL DE NOVO 19P13.3 MICRODELETIONS IN SIBLINGS: PHENOTYPICAL CONTRIBUTION OF BALANCED RECIPROCAL TRANSLLOCATION

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Objectives: 19p13.3 microdeletion is a rare aberration with a few cases reported in the literature. Limited number of clinical descriptions and wide spectrum of phenotypical consequences make reproductive genetic counseling of families with affected children with interstitial microdeletions of 19p13.3 challenging. Here we report a case of prenatal diagnosis of two identical de novo 19p13.3 microdeletions in two subsequent pregnancies.

Method: A 28-year old woman presented at 12 weeks with an obstetric history of two previous spontaneous miscarriages and a delivery. Her 4-year old daughter had a mild psychomotor retardation, atrial septal defect, renal hypoplasia, macrocephaly and minor facial abnormalities.

Results: Karyotyping showed normal karyotype in both parents, and 46,XX,t(2;15)(p15;q26) reciprocal translocation in the affected daughter. CVS revealed normal female karyotype. Fetal ultrasound findings at 16 weeks were unremarkable.

Conclusions: Two identical de novo 19p13.3 microdeletions in siblings probably due to low level parental somatic mosaicism had been demonstrated. However father’s sperm DNA analysis found no evidence of daughter’s microdeletion.

The impact of balanced translocations on reproductive risks due to direct disruption of a gene, by dissociating genes from their regulatory elements as well as changes in gene expression is well recognized. Our data show that translocations could also contribute to the phenotype abnormalities in patients with pathogenic microdeletions. In prenatal workup of mothers of children with psychomotor retardation and dysmorphic features both high-resolution microarray analysis and karyotyping are recommended.

FCS79.7
SHOCK INDEX REFERENCES INTERVALS DURING PREGNANCY

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Objectives: To evaluate the shock index behavior in different gestational ages in patients without comorbidities. And to create shock index reference intervals during pregnancy.

Method: We conducted a retrospective study using data from the files of a basic health unit in a city in the interior of Brazil. Medical records were collected from pregnant women who received prenatal care from January 2012 to December 2013. Were excluded all patients with diagnosis of anemia, thyroid disease and hypertension. Sock index was calculated dividing the cardiac frequency by the systolic blood pressure in different gestational ages.

Results: The study included 191 patients. The mean age was 24 years. Shock index was calculated in 5 intervals of gestational age: until 12 weeks, 13–20 weeks, 21–27 weeks, 28–32 weeks, 33–36 weeks and over 37 weeks. The mean of shock index ranged from 0.75 (found in patients with up to 12 weeks), until 0.83 (found in 28–32 weeks). Percentiles were created: p5, p25, p50, p75 and p95 for each range of gestational age. The 50th percentile ranged from 0.75 (found in pregnant women with up to 12 weeks) to 0.81 (found in pregnant women between 21 and 32 weeks).

Conclusions: The mean of shock index of media in the pregnant population is higher than the mean in the general population. This is a result of physiological changes in the cardiovascular system of the pregnant woman. Knowing these changes, as it changes the shock index and know the different percentiles of the shock index in pregnancy, allows the shock index insertion in clinical practice of pregnant patients.

FCS79.8
EXTENDED FAMILY SCREENING FOR BETA THALASSAEMIA – NEED OF THE DAY

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Objectives: To assess the knowledge regarding the extended family screening for thalassaemia among the family members of beta thalassaemia major children and to determine the prevalence of beta thalassaemia carriers among these families.

Method: This was a community based survey organized by the Punjab Thalassaemia Prevention Programme (PTPP; a government-funded program). The families of beta thalassaemia affected children were interviewed for two years (Jan 2013–Dec 2014). The family members were interviewed about any knowledge regarding the screening for beta thalassaemia. The parents, siblings and the first degree relatives were screened for beta thalassaemia by their CBC and Hb-electrophoresis. The blood samples were collected by the team of PTPP at their doorsteps. All the records were kept for future reference and families were informed and counseled regarding family marriages and prenatal diagnosis.

Results: Fifty-six families were included in the screening program. Family members interviewed were 340. Only 140 people from 24 families had some knowledge about screening. A total of 1074 samples were collected. Two families (27 members) were excluded. Fifty-four families (1047 members) were screened with an average of 19.3 individuals per family. There were 455 (43.4%) males and 592 (56.5%) females, 314 (29.9%) married and 733 (70.0%) unmarried. Results for 41 families are available till date which show that 8/827 (0.96%) are suffering from beta thalassaemia major, 241/827 (29.1%) are having beta thalassaemia carriers among these families.

Conclusions: To decrease the burden of this crippling disease in a low-resource country, a broad-based screening program is helpful by identifying the carriers, discouraging the consanguineous marriages and offering prenatal diagnosis for the future pregnancies.

FCS80.1
Pre Natal Diagnosis/Preventive Oncology

FCS80.1
INFECTIONS IN THE PRENATAL PERIOD: STUDY IN MATERNAL AND CHILD HOSPITAL IN THE EXTREME NORTH OF THE BRAZILIAN AMAZON

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Objectives: The study was conducted to indicate the most commonly diagnosed during prenatal infections; assess the amount of...
patients undergoing tests that track infections and analyze the socio-demographic factors (age, marital status, education) of these patients to evaluate possible relationships between the results, evaluating the received prenatal care in capital in the Brazilian Amazon.

Method: The study was conducted at the Hospital Materno-Infantil Nossa Senhora de Nazaré, maternity located in Boa Vista, the capital of Roraima, northern Brazil. This is a descriptive, retrospective, cross-sectional study, which reviewed 3550 records of mothers who delivered their babies in the period from November 2012 to July 2013. Statistical analysis was performed using Epi Info 7, using the chi-square test for proportion of qualitative variables with $p<.05$. To analyze the sample means of the confidence interval was used Newcomb method with 95% confidence. The study was approved by the ethics committee.

Results: Among the 3550 records studied, the average age of patients was 23 years (12–47), 53.71% had 12 years of formal study, the average number of visits which they attended during prenatal care was 5 (0–27). 92.65% did in the public network (91.73–93.47%). About the diagnostic tests: VDRL – 74.34% did this test, 0.71% were reactive. ANTI-HIV – 74.6% did, 0.45% was positive. HBsAg – 47.38% did 0.41% positive. Toxoplasmosis – IGM – 41.2% did, 0.54% positive. Rubella IgM – 22.34% did, 0.88% positive. CMV IGM – 30.9% did, 0.54% positive.

Conclusions: Therefore, it is clear that the most diagnosed infections are rubella, syphilis, and toxoplasmosis. The ones that have been most searched are HIV, Syphilis, Hepatitis B. It is also clear that many patients do not do prenatal properly, not doing the appropriated exams, 2/3 did VDRL and HIV; less than half did the other tests, which can lead to complications for the baby that could have been prevented if the abovementioned infections were previously diagnosed. Thus, it is important that the health systems managers have information about the most frequent infections to offer examinations and treatments as accurately as possible.

FCS80.2
PLACENTAL ANGIOGENESIS IN ASTHMATIC PREGNANCIES – A PILOT STUDY

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Objectives: To evaluate the serum dosage of placental growth factor (PIGF) in pregnancy and its impact on asthma diagnosis, classification, control and treatment.

Method: Cross-sectional study developed in Federal University of Pernambuco, Brazil. Between November 2013 and December 2014 asthmatic and non asthmatic women from 20 to 24 weeks of pregnancy had a blood sample collected and stored at ~80°C. PIGF (DRG International®) dosage was performed according to capture ELISA technique. Asthma was classified in severe (moderate or severe persistent) or non severe (intermittent or mild persistent); controlled (≥16 points in Asthma Control Test score) or non controlled; users of inhaled corticosteroids (ICS) or non users. Two-tailed p-value <0.05 of Student’s t-test was used for assessing statistical significance.

Results: Thirty four asthmatic and 39 non asthmatic women were enrolled. Mean PIGF was 305.72 μg/ml (168–1034.64, ±241.31) for asthmatic and 282.69 μg/ml (68.1–1005.34, ±211.75) for non asthmatic (p=0.66). Asthmatic pregnant women did not differ each other according to asthma severity (p=0.20), control (p=0.98) or treatment (p=0.78). Subgroup analysis showed similar values between non asthmatic and severe (282.69 vs 260.44 μg/ml, p=0.69) or non severe asthmatic (282.69 vs 370.40 μg/ml, p=0.24), controlled (282.69 vs 306.51 μg/ml, p=0.71) or non controlled disease (282.69 × 304.58 μg/ml, p=0.74), or ICS users (282.69 × 297.51 μg/ml, p=0.81) or non ICS users (282.69 × 322.88 μg/ml, p=0.60).

Conclusions: Placental function serum biomarkers have been related to hypertensive disorders and appear to be modulated by local oxygen concentration. PIGF is probably associated to non branching angiogenesis in placenta, and in normal pregnancies, usually rises during second trimester, when placental oxygen supply increases. More severe asthma or lack of symptoms control did not change PIGF in this sample. We hypothesize that chronic (evaluated by classification or treatment) or acute (control) oxygen tension modifications caused by asthma do not interfere with placental angiogenesis at that time of pregnancy. Prospective studies could assess the predictive value of these dosages to gestational outcomes.

FCS80.3
PRENATAL DIAGNOSIS OF CONGENITAL MALFORMATIONS IN DOUALA GENERAL HOSPITAL

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Objectives: Our objective was to determine the rate of prenatal diagnosis of birth defects and to specify this rate according to the type of malformation and the sonographer qualification.

Method: This was a prospective, cross-sectional study carried-out in the obstetrics and the neonatology units of the Douala General Hospital over a period of 3 years 6 months. All malformed neonates received in the neonatal ward or transferred from delivery room were included. We obtained consent of all parents who were interviewed. Their antenatal medical records were complete. Complete clinical examination of the neonate was done at birth and if needed, some paraclinical test like echography, radiology or biology. The type of malformation and outcome after 48 hours of life were recorded. Statistical analysis was purely descriptive.

Results: During this period, 6048 neonates were admitted, 99 of whom had a malformation with an incidence of 1.64%. Musculoskeletal defects were the most common (36.4%), followed by digestive tract defects (22.2%). Ultrasound scans were carried-out mainly in the second term; the prenatal diagnosis rate of birth defects was low (16.2%). Higher rate was observed among obstetricians 37.9% versus 22% by radiologists. All urinary tract malformations were diagnosed prenatally (100%) followed by poly malformation (33.3%). The death rate within the first 48 hours of life was 33% and poly malformed babies were more concerned (66.7%).

Conclusions: The incidence of congenital birth defect was 1.64%. The rate of prenatal diagnosis remained low, while one third of the affected babies die after births. An early diagnosis would anticipate on medical care at birth and allow therapeutic abortions when indicated.

FCS80.4
THE FLOW CYTOMETRY BASED CELL ANALYSIS TECHNOLOGY AND APPLICATION TO CERVICAL CANCER TESTING

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Objectives: The study focuses on a novel automated system used for cervical cancer testing, which utilizes flow cytometry (henceforth referred to as “the system”). The feasibility of applying the system for cervical cancer testing was examined, through comparison of measurement results from the system with clinical data.

Method: The study was approved by the Ethics Committees of the Japanese Red Cross Musashino Hospital, and Sysmex Corporation. Samples were collected from patients who were treated at our department between September 2011 and February 2013. Informed
consent was obtained from the patients to participate in this study. The cells remaining after this process were washed out in cell preservation solution, in order to prepare liquid specimens. These were then measured using the system (n=875). The measurement results were verified against the obtained clinical information (histology results, cytology results), and the clinical performance of the system was evaluated.

**Results:** The system automatically performed the pre-treatment of specimens, DNA staining, and FCM measurements. It also analyzed measurement data of the amount of DNA in cell populations. The cell proliferation index (CPIx) based on the analysis was outputted. The CPIx for each specimen was compared with the severity of cervical intraepithelial neoplasia (CIN): 0.186 for CIN (-) (n=32), 0.238 for CIN1 (n=47), 0.351 for CIN2 (n=18), 0.534 for CIN3 (n=24), and 0.759 for squamous cell carcinoma (SCC) (n=15). This result CPIx values increased with increase in the severity of the histology results.

**Conclusions:** This result demonstrated that CPIx values increased with an increase in the severity of the histology results. To conduct the receiver operating characteristic (ROC) analysis using the system, a cut-off value was set to detect values for CIN2 or samples with higher severity as positive, and a determination algorithm was created using the CPIx values. The system showed a favorable clinical performance to detect patients exhibiting CIN2 or a condition of higher severity. This shows that it might be utilized to provide healthcare professionals with support information for the diagnosis of cervical cancer.

**FCS80.5**

**STEROL REGULATORY BINDING PROTEIN-1 (SREBP1) GENE IS UP-REGULATED IN POLYCYSTIC OVARIAN SYNDROME AND ENDOMETRIAL CANCER**

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**Objectives:** To test the hypothesis that endometrial SREBP1 gene expression levels are raised in women with PCOS and EC compared to controls, by measuring endometrial Sterol Regulatory Binding Protein-1 (SREBP1) gene expression in PCOS and EC compared with controls. Furthermore, the correlation between SREBP1 expression and lipid profiles in the three groups was investigated.

**Method:** A total of 102 women (PCOS, EC and controls-34 participants respectively) were recruited at a University teaching hospital in the United Kingdom. Demographic, clinical and biochemical data including blood pressure, body mass index (BMI) and waist-hip-circumference ratio, venepunctures (fasting blood sugar, insulin, lipid profile, hormones) and endometrial tissue biopsies were taken in all participants. Endometrial tissue RNA extraction was performed before real-time polymerase-chain-reaction for the genes of interest (IGF1, IGBP1 and PTEN) was performed. Age-and BMI-adjusted analysis was performed using SPSS programme. One-Way ANOVA or the t-test was used to determine the difference between groups. Correlation between variables were determined by Spearman test.

**Results:** IGF1, IGBP1 and PTEN gene expression were significantly up-regulated in the endometrium of PCOS and EC women compared to controls. However there was no significant difference in PCOS compared to EC. The BMI of PCOS women and controls were not significantly different (29.28 ± 2.91 vs 28.58 ± 2.62) kg/m² respectively. However, EC women had a higher mean BMI (32.22 ± 5.70) kg/m². PCOS women were younger (31.8 ± 5.97) than EC (63.44 ± 10.07) years) and controls (43.68 ± 13.12) in years. The gene expression was independent of BMI, waist-hip-ratio, estradiol and androgen levels. Protein validation test in the serum samples were consistent with the gene findings.

**Conclusions:** Women with PCOS and EC have an increased endometrial expression of genes (IGF1, IGBP1 and PTEN) involved in the insulin signaling pathway compared with control women. This may explain the increased risk of EC in women with PCOS. This study provides a firmer mechanistic basis for clinical trials aiming to prevent EC in women with PCOS by investigating drugs targeting the insulin signaling pathway. This panel of genes may also serve as clinically useful early biomarkers which predict which women with PCOS will go on to develop EC.

**FCS80.7**

**RISK OF CANCER AND COMBINED ORAL CONTRACEPTIVE AMONG IRANIAN WOMEN**

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**Objectives:** Oral contraceptive pill is the most common type of con-
tracement. More than 100 million women worldwide use contraceptive pills every day. However, there is a concern about the relationship between these pills and the incidence of cancer. This study aimed to investigate the relationship between the incidence of cervical and breast cancers and oral contraceptives use in Iranian women.

Method: This analytical retrospective study was conducted on 128 patients with cervical cancer, 235 subjects with breast cancer and equal number of controls. Data were collected through interviews with an organized set of questions. Details were also extracted from patient files. Data were analyzed using Student's t-test, chi-square and Fisher's exact tests, and Pearson's correlation analysis.

Results: There was a correlation between cervical and breast cancers and history of contraceptive pills use. While cervical cancer significantly correlated with duration of use of pills, breast cancer had significant correlations with the type of pills and age at first use of oral contraceptives. No significant relationships were found between the two types of cancer and age at discontinuation of pills, pattern of use, and interval from the last use.

Conclusions: The use of oral contraceptives triples the incidence of cervical cancer and doubles the incidence of breast cancer. Therefore, performing Pap smears every six months and breast cancer screening are warranted for long-term contraceptive pill users.

FCS80.8
CLINICAL SIGNIFICANCE OF ENDOMETRIAL CELLS IN PAP SMEARS OF WOMEN ATTENDING ORGANIZED CERVICAL CANCER SCREENING PROGRAM
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Objectives: To assess the clinical significance of endometrial cells (EMC) in Pap smears obtained from the women attending the organized cervical cancer screening program.

Method: The computerized database of our laboratory was searched for Pap smears with normal “out-of-phase” EMC in women aged 40 years or older (nEMC), Pap smears with atypical endometrial EMC (aEMC) regardless of age and smears with neoplastic EMC in the period from January 2008 to December 2013. The results were compared with histologic and/or cytologic follow up.

Results: 86 (0.04%) out of 245,428 smears were included. Histologic examination was performed in 46 patients, among them in 33.3% (12/36) of women with nEMC, 58% (22/38) of women with aEMC, 100% (6/6) of women with aEMC, favor neoplastic and 100% (6/6) of those with cytologic diagnosis of endometrial carcinoma. All patients without histologic examination had a negative cytologic follow up. Endometrial carcinoma was diagnosed in 2 (16.7%), 7 (31.8%), 5 (83.3%) and 5 (83.3%) cases with cytologic diagnosis of nEMC, aEMC, favor neoplastic and endometrial carcinoma, respectively. 14 (73.7%) adenocarcinoma cases were asymptomatic at the time of cytologic examination.

Conclusions: Women with EMC in Pap smears after 40 years are at greater risk of having clinically significant endometrial disease and endometrial sampling should be performed, especially in patients with atypical EMC.
ably well with Pap smear but had a poor specificity in the detection of CIN 2 or worse. HR-HPV testing had the greatest sensitivity but also the poorest specificity. These tradeoffs are important to consider in implementing a follow-up strategy in a See and Treat program in a low-resource setting. It is concerning that 29% had CIN2 or worse after cryotherapy.

**FC81.3**

TOWARDS THE BEST MODEL FOR CERVICAL CANCER SCREENING IN LOW AND MIDDLE INCOME COUNTRIES: RESULTS FROM A PILOT RANDOMIZED CONTROLLED TRIAL COMPARING SELF-COLLECTED HPV TESTING WITH VIA IN UGANDA

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**Objectives:** Implementation of optimal cervical cancer screening practices in low resource settings has the potential to significantly reduce the burden of cervical cancer, one of the leading causes of death among women in low and middle income countries. The standard of care in most resource constrained settings is visual inspection with acetic acid (VIA); however, the use of self collected samples for detection of high risk human papillomavirus (HR-HPV) DNA has emerged as a feasible alternative to improve access and uptake of screening. The purpose of this study was to compare uptake and clinical outcomes of these two screening methods.

**Method:** In this pilot randomized controlled trial, 500 women were recruited at their homes or place of work between April-June 2014 by community outreach workers. Women randomized to self-collection based HR-HPV testing provided a self collected cervico-vaginal swab for HPV, and those who tested negative were referred to VIA at the local health unit. Women randomized to VIA underwent screening at the local health unit. Women who tested positive with VIA were referred to LBC at the local health unit. Women who tested positive with VIA were referred to colposcopy at time of screening, or referred to colposcopy when indicated.

**Results:** Uptake in the HR-HPV arm was significantly higher; 99.2% (N=498) provided a self collected swab compared to 48.4% (N=121) who attended screening in the VIA arm. In the HR-HPV arm, 29.4% (N=73) tested positive for HR-HPV of whom 45.2% (N=33) attended VIA for follow up; 21.4% (N=7) of the 33 screened positive; 5 received treatment and 2 were missing clinical follow up records. Of those who attended screening in the VIA arm, 13.2% (N=16) screened positive; 7 received cryotherapy, 3 refused treatment, 5 were referred to colposcopy, and 1 woman was suspected of cervical cancer and received treatment after confirmatory testing.

**Conclusions:** Self collection-based high risk HPV testing had a high uptake rate and identified a greater proportion of women with abnormal screening results compared to VIA alone. This suggests that self-collection based screening can improve access and reach women at-risk for cervical cancer in low resource settings. Attendance to VIA was low in both arms, and women already engaged in health care were more likely to attend VIA screening. A large, fully powered trial will further examine differences in clinical outcomes and risk factors between groups.

**FC81.4**

HPV FOCAL TRIAL: HPV INFECTION RATES AT 48 MONTH EXIT FOR WOMEN HPV NEGATIVE AT BASELINE

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**Objectives:** HPV FOCAL is a North American population-based randomized trial evaluating primary high-risk HPV DNA (HPV) testing plus liquid-based cytology (LBC) triage for HPV positives, compared to LBC screening with HPV triage for ASC-US (>LSIL referred directly to colposcopy) in an organized screening program. Reported are 48-month incident HPV infection rates and factors associated with incident infection in women who were initially baseline HPV negative.

**Method:** In HPV FOCAL over 25,000 women, 25–65 years of age from the British Columbia organized Cervical Cancer Screening Program were randomly assigned to primary LBC (LBC arm) or HPV testing (Intervention arm (IA)). IA baseline HPV negative women exit the trial at 48 months with both LBC and HPV testing, and are referred to colposcopy if positive on either test. Logistic regression analysis was conducted to determine factors associated with incident HPV infection.

**Results:** 9540 of 9553 (99.9%) IA women had baseline HPV results: 770/9,540 (8.1%) were HPVpos [< 35 yrs: 334/1,862 (17.9%); 35–49 yrs: 318/4,457 (7.1%); 50+ yrs: 118/3,221 (3.7%)]; and 8,770/9,540 (91.9%) HPVneg. Of the 5114 baseline HPVneg women with a 48 month result, 206/5114 (4%) were HPVpos [< 35 yrs: 68/729 (9.3%); 35–49 yrs: 96/2,433 (3.9%); 50+ yrs: 42/1,951 (2.1%)]. Of the 206 HPVpos, histopathology results available for 159/206 (77.2%): 105 (66.1%) negative; 39 (24.5%) CIN1; 10 (6.3%) CIN2; and 5 (3.1%) had > CIN3 results. Logistic regression analysis found incident HPV infections were associated with age (p-value < 0.0001) and lifetime sexual partners (p-value < 0.0001) when adjusted for other variables.

**Conclusions:** In this cohort, the 48-month incident HPV rate in women initially HPV negative is 4.0%, compared to the baseline HPV prevalence rate of 8.1%. Women with incident HPV infections were more likely to be younger, and have more sexual partners. As more programs move towards planning for primary screening with HPV primary testing, awareness of the incident infection rate will help to better plan for health services demands (such as colposcopy referral) and subsequently allocate resources appropriately.

**FC81.5**

STRENGTHENING THE USE OF DATA FOR DECISION MAKING IN CERVICAL CANCER PREVENTION PROGRAMS IN LOW-RESOURCE SETTINGS

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**Objectives:** Less developed regions bear an increasingly large majority of the global cervical cancer burden. The inability of cervical prevention programs in less-developed countries to replicate the success seen in their more-developed counterparts is due, in part, to poor tracking and use of service delivery data in their programs. This study was conducted to assess the feasibility and results of strengthening the use of data for decision making at the facility level, district and program level, and for cross-country comparisons.

**Method:** Jhpiego developed a set of key indicators (number screened, visual inspection with acetic acid (VIA) positive rate, and treatment rate) and corresponding benchmarks were tracked by five country programs. In addition to standardized data collection and collation tools, Jhpiego developed and implemented data visualization tools to be used at the facility level (data use posters), as well as at district and program level (dashboards), and for cross-country comparisons. All health care workers providing cervical cancer preven-
tion services participated in monitoring and evaluation (M&E) data quality strengthening training and supportive supervision which included data cleaning and review.

Results: Following M&E strengthening activities, data visualization helped providers and programmers identify gaps in service and take corrective action. As a result, service delivery performance improved: increase in number of women screened; less VIA-positive rate deviations from expected range; increased cryotherapy rates for VIA-positive women. For example, in the five countries, of 8,354 VIA-positive women eligible for cryotherapy, 93% received cryotherapy treatment (84% on the same day as screening). In Burkina Faso, low same-day treatment rates (47%) were identified and corrective action taken, improving treatment rates (83%). Facility-level data was also more accurate and required less revision at the program level.

Conclusions: The use of data for decision making is an essential component of a high quality cervical cancer prevention program. Empowering service providers in collecting and analyzing data, augmented through the use of data visualization tools, improves ownership of the data and the program, motivation, and clinical governance. Monitoring and evaluation should be fully integrated into a program from the beginning, including the training of the service providers, to ensure high quality data management.

FCS81.6 IMPLEMENTING CERVICAL CANCER PREVENTION PROGRAMS AT NATIONAL SCALE IN DEVELOPING COUNTRIES: MOZAMBIQUE’S SUCCESSFUL EXPERIENCE

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Objectives: The burden of cervical cancer in Mozambique in 2008 was higher than average for developing countries. The incidence and mortality rates were 37.3 and 33.2 per 100,000 women, respectively, compared with 8.8 and 8.2 globally. In order to address this issue, in 2009, the government of Mozambique launched the National Cervical and Breast Cancer Prevention (CECAP) and Control program and has been working over the past four years to implement and consolidate this program at national scale. The objective of this presentation is to discuss the factors for success, challenges and lessons learned throughout this process.

Method: Mozambique adopted the “Single Visit Approach” (SVA) in its CECAP program providing screening with visual inspection of the cervix with acetic acid (VIA) and treatment of pre-cancerous lesions with cryotherapy at primary level; and colposcopy, biopsy and treatment with LEEP for management of advanced lesions at referral sites. The MoH and partners have developed a program with sustainability in the forefront of all efforts, including: creating an enabling environment by integrating the program into existing MoH Policies, Strategies and Health Information System; investing in equipping health services and training health professionals; and integrating CECAP into existing reproductive health services.

Results: Integrated RH Outpatient Services were created including FP, STI/HIV counseling and testing, cervical/breast cancer screening, gender-based violence, and other gynecological services; HIS instruments were revised to include CECAP indicators; and CECAP commodities were included in the national procurement plan. Currently, 129 facilities provide basic CECAP services and 5 facilities provide referral services with the support of 936 trained professionals. By 2014, 207,522 women were screened by VIA; 15,231 (7.3%) women were identified as VIA+; 8,629 (74%) were treated with cryotherapy in the same day of screening; and 3,568 (23.4%) were referred due to larger lesions or suspicion of cancer.

Conclusions: The experience of Mozambique has shown that implementing CECAP Programs at national scale in developing country is possible and is a worthwhile investment. Main lessons learned from this process include: integration optimizes resources and maximizes results in CECAP programs; political commitment is required for results at national scale; creation of partnerships is essential to ensure implementation at scale; open information-sharing results in transparent expansion of services; ensuring an enabling environment facilitates program implementation, including training people and providing the necessary supportive supervision; and having effective mechanisms to monitor and ensure quality result in required adjustments to program priorities and activities.

FCS81.7 END OF STUDY EFFICACY, IMMUNOGENICITY AND SAFETY OF A NOVEL 9-VALENT HPV L1 VIRUS-LIKE PARTICLE VACCINE IN 16–26 YEAR OLD WOMEN

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Objectives: A randomized clinical study of an investigational 9-valent HPV (6/11/16/18/31/33/45/52/58) (9vHPV) vaccine was conducted in women 16–26 years of age to demonstrate immunological non-inferiority of HPV 6/11/16/18 response and efficacy against HPV 31/33/45/52/58-related persistent infection and disease. The report presents efficacy and safety results through end-of-study (i.e. up to month 54).

Method: 14,204 healthy 16–26 year-old women were enrolled into an international, double-blind study of the 9vHPV vaccine. Subjects received 9vHPV vaccine or quadrivalent HPV vaccine (qHPV) as a series of injections at day 1/month 2/month 6. Primary analyses included subjects who were seronegative at day 1 and PCR negative from day 1 through month 7 for the HPV type being analyzed. Gynecological swabs (for HPV DNA testing) and Pap test were performed every 6 months. Subjects with abnormal Pap tests were referred to colposcopy. At each scheduled visit, assessment occurred for any new medical conditions, adverse experiences (AEs), and pregnancies.

Results: Anti-HPV 6/11/16/18 responses generated by 9vHPV vaccine were non-inferior to those generated by qHPV vaccine. Efficacy of 9vHPV vaccine against HPV 31/33/45/52/58-related high-grade cervical/vulvar/vaginal disease was 97.4% (95% CI: 85.0–99.0%). Efficacy against Pap test abnormality and cervical/external genital procedures related to HPV 31/33/45/52/58 was 92.9% (95% CI: 90.2–95.1) and 96.2% (95% CI: 92.9–98.1), respectively. The proportion of subjects reporting at least one injection-site AE was higher among those receiving 9vHPV vaccine (90.9%) compared qHPV vaccine (85.1%). The proportion of spontaneous fetal losses among pregnancies was 10.5% in the 9vHPV group and 12.5% in the qHPV group.

Conclusions: The 9vHPV vaccine was highly efficacious in preventing HPV 31/33/45/52/58-related diseases, abnormal Pap tests and cervical/external genital procedures through month 54. HPV 6/11/16/18 immune responses were non-inferior to that of qHPV vaccine. While injection-site AEs were higher in the 9vHPV group, data also demonstrate that administration of a 3-dose regimen of 9vHPV vaccine continues to be generally well-tolerated; no specific safety signals were identified.

FCS81.8 POST-LEEP HPV TESTING: THE BRITISH COLUMBIA CERVICAL CANCER SCREENING PROGRAM (BC CCSP) EXPERIENCE

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Objectives: The BC CCSP follows present women who have undergone a cer-
vical loop electrocautery excision procedure (LEEP) for a squamous intraepithelial lesion (SIL) with colposcopy +/- biopsy at 6 month intervals for 1–2 years before discharging to cytology follow-up with primary healthcare providers. The objective of this analysis is to determine if women can be stratified into high and low risk groups for persistent or recurrent disease based on Digene Hybrid Capture 2™ (HC2) HPV results in this setting, such that only high-risk women require the intensive and invasive colposcopic follow-up.

Method: Data was extracted from the BC CCSP and HPV testing databases for women who underwent LEEPs between 01 August 2008 and 30 June 2011. Women with valid post-LEEP HC2 HPV results were included in the study cohort. Women with glandular lesions or invasive carcinoma were excluded. Follow-up data including colposcopy visits, and biopsy results were obtained. For women with multiple LEEP procedures during the time period, only the first LEEP was included in the analysis. If a patient had more than 1 biopsy in the follow-up period (36 months from HPV test) the worst biopsy result recorded was used for analysis.

Results: 3375 women had at least one valid HPV result and of these 2799 (82.9%) tests occurred within 18 months of the LEEP. Of these 2799 women, 2703 (96.6%) underwent colposcopy and 2385 (85.2%) had colposcopic biopsies. Of the women who had valid HPV tests within 18 months of a LEEP and follow-up biopsies within 36 months of the HPV test, the risk of a CIN2 or greater lesion (CIN2+) in HPV negative women was 1.8% while the risk of CIN2+ in HPV positive women was 25%.

Conclusions: To our knowledge, this is the first evaluation of HPV status in post-LEEP women in a Canadian organized program. HPV testing by Digene HC2 within 18 months of LEEP is a reasonable test to stratify women into high risk and low risk cohorts. The risk of persistent or recurrent disease in HPV negative women post-LEEP is sufficiently low that they can be adequately followed by cytology in the primary care setting. This spares them the more invasive colposcopic follow-up and allows resources to be more appropriately allocated to women at greatest risk of further cervical disease.

FCS82. Preventive Oncology

FCS82.1 A SINGLE VISIT APPROACH TO CERVICAL CANCER PREVENTION BY REPRODUCTIVE HEALTH NETWORKS IN TANZANIA

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Objectives: Marie Stopes International, Population Services International and International Planned Parenthood Federation jointly implement the Cervical Cancer Screening and Preventive Therapy (CCS&PT) initiative to integrate cervical cancer prevention services into existing reproductive health networks (RHNs) in Kenya, Nigeria, Tanzania and Uganda. In Tanzania, the partnership implements a single visit approach to screening and treatment. This approach adheres to the Tanzanian Ministry of Health and Social Welfare’s Service Delivery Guidelines for Cervical Cancer Prevention and Control. The objective of the partnership in Tanzania is to provide cervical cancer screening services to women aged 30–49, and cryotherapy to all positive and eligible women.

Method: Tanzania RHNs train service providers to provide both screening and cryotherapy. Community awareness is created by a range of communications in print and media. Services are provided through static clinics, outreaches and private franchised facilities. Women who test positive for pre-cancerous lesions and are eligible, are offered treatment with cryotherapy the same day. Data on all women who present for screening are collected through routine management information systems, which include information on client demographics, service use, first time screening status, HIV status, and screening results, and treatment status (where applicable).

Results: Since 2013, 20 Master trainers have been trained. The RHN partnership has provided 28,365 screenings and 1,542 treatments with cryotherapy to Tanzanian women. 100% of women who were screened and eligible, received treatment for cryotherapy. Results indicate that the single visit approach is effective in eliminating loss to follow-up, which is often associated with other models of CCS&PT service delivery, such as hub and spoke models (where women who are positive and eligible are referred for cryotherapy).

Conclusions: As a partnership, we have been able to rapidly scale-up screening and treatment services and minimise the loss to follow-up in Tanzania. Significant progress has been made in the first 2 years of the project, to create capacity, establish protocols, develop training materials, conduct provider training and embed CCS&PT within RHNs. Service delivery and systems strengthening has been accompanied by strong messaging on the availability of treatment. We hope these lessons learnt will be relevant for other cervical cancer prevention efforts, in Tanzania and beyond.

FCS82.2 IMPLEMENTATION OF A “SCREEN AND TREAT” PROGRAMME FOR CERVICAL CANCER PREVENTION IN NORTH INDIA

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Objectives: One out of every 5 women in the world suffering from cervical cancer lives in India. In 2012 IARC estimated there were 123,000 new cases and 67,000 deaths due to cervical cancer in India. This number is expected to increase to 148,624 by 2020. In spite of this large burden, there is no publicly funded organized screening programme in India. PSI-India has initiated a programme for cervical cancer prevention; the goal is to reduce local cervical cancer incidence and contribute evidence for its scalability with the help of the private health care sector.

Method: PSI-India has a private sector program for cervical cancer prevention using “Screen and Treat” approach through a network of 181 private providers in 3 districts of Uttar Pradesh (UP). Over 30 months 350,000 women will be screened. PSI-India will be training about 100 providers in VIA and Cryotherapy through a competency-based training scheme and private providers will be providing services at a cost of 1–1.5 USD per patient. Service quality will be monitored by PSI. The project will build demand among women aged 30–59 through interpersonal communicators IPCs. Women requiring LEEP, suspicious of cancer/frank cancer will be referred appropriately.

Results:

- Increased access to quality assured, cervical cancer screening and treatment services in 3 program districts:
- Creation of a more enabling policy environment resulting in expanded availability of services through public and private sectors.
- Increased public awareness and demand for cervical cancer screening and treatment services among target audience.
- 76 providers have been trained for conducting VIA/Cryotherapy, 32 IPCs have been trained for basic awareness/communication/client mobilization. To date, 8574 women have been screened and VIA positivity was 8%, a rate consistent with many other similar programs.
- New partnerships with government will rapidly increase screening rates.

Conclusions: It is feasible to implement cervical cancer prevention program in the private sector. The program will create a model for a
cervical cancer screen and treat program by generating evidence and lessons learned to scale the intervention nationally and globally. This will also catalyze change in national guidelines and spur government to initiate and scale up of cervical cancer screening and detection in the public sector.

**FCS82.3**
**UPDATING NATIONAL SCREENING AND TREATMENT ALGORITHMS: CHALLENGES AND OPPORTUNITIES**
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**Objectives:** As the price of HPV tests becomes more affordable, some national cervical cancer screening programs in Latin America are making a transition to HPV testing as primary screening. However, this requires countries to change their algorithms for screening and treatment of women with positive test results. Recently the World Health Organization (WHO) released new recommendations for cervical cancer prevention that include several algorithm options for adoption based on the local context. Throughout its Scale-Up project, PATH is providing technical assistance to countries to determine which algorithm (or algorithms) best fits the local conditions and resources.

**Method:** PATH and local partner organizations collaborated with the ministries of health (MOH) in Guatemala, Honduras, and Nicaragua to review current screening and treatment algorithms and propose updated algorithms. The following strategies were used to help governments update their algorithms: WHO guidelines and associated supporting evidence presented in public and academic forums; meetings with key stakeholders in the MOH to discuss the perceived advantages and limitations of the WHO algorithms; and working alongside MOH technical staff and medical leaders to adapt WHO algorithms to the local context. Throughout this process we have observed common preferences and resistances in MOH algorithm definition.

**Results:** MOHs are open to adapting to the WHO guidelines since this organization is respected as a non-biased purveyor of scientific evidence. However, there is resistance to relinquish traditional practices or to make drastic changes to the algorithms. For example, there is interest in including cytology in their screening algorithms to continue using existing infrastructure. Staff express hesitance to adopt a “screen-and-treat” approach where all HPV-positive women are treated due to fear of over-treatment and cost concerns. They prefer the algorithm with HPV testing followed by visual inspection with acetic acid (VIA) and treatment of VIA-positive patients only.

**Conclusions:** Countries are willing to update their current screening and treatment algorithms using the WHO guidelines; however, significant attention to the education of decision makers and opinion leaders is required to make changes in national policies. It is important to consider the existing infrastructure and human resources in order to make the best use of that capacity.

**FCS82.4**
**HPV GENOTYPIC DISTRIBUTION IN PATIENTS WITH CERVICAL CANCER IN THAILAND**

**Objectives:** As Thailand’s considering integrating HPV–16/18 vaccine into the National Immunization Program, this study aimed to determine the require data on HPV prevalence and genotypic distribution in Thai invasive cervical cancer patients.

**Method:** The study was conducted during June 25, 2012 - February 28, 2015 at Chulabhorn Hospital, Bangkok, Thailand, 178 consecutively collected specimens of BD Surepath liquid-based cytology consecutively collected from pelvic examination for clinical staging and analyzed by linear array HPV genotyping tests (Roche, USA). Seventeen were excluded.

**Results:** Of 161 patients, mean age 54.7 years and range 25–91 years, HPV infection was detected in 153 (95.0%), including 134 (83.2%) single infections and 19 (11.8%) multiple infections. HPV16 and HPV18 were the most common subtypes in 73 (45.3%) and 29 (18.0%), respectively, with HPV58, HPV52, HPV53, HPV45, HPV59, HPV56 and HPV31 found in 14 (8.7%), 12 (7.5%), 7 (4.3%), 4 (2.5%), 4 (2.5%), 3 (1.9%) and 3 (1.9%) respectively.

**Conclusions:** Differing slightly from the worldwide data, this study revealed lower prevalence of HPV16/18 and higher frequencies of HPV58 and HPV52. Currently available HPV vaccines against HPV16/18 could potentially prevent 63.3% of cases. The next generation of 9-valent HPV vaccine (6/11/16/18/31/33/45/52/58) may be thus required for most Thai patients (88.2% protection).

**FCS82.5**
**HAS CRYOTHERAPY BECOME A MAJOR BOTTLENECK FOR CERVICAL SCREENING PROGRAMS?**
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**Objectives:** Despite the fact that cervical cancer is a highly preventable disease, it continues to kill more than 265,000 women each year–mostly in low and middle income countries (LMICs). Simplified screening methods like visual inspection with acetic acid have made it possible for many LMICs to initiate pilot screening programs, but few have been scaled up. The high cost of treatment is often cited by program managers as one of the reasons. We undertook an analysis of the cryotherapy market to determine the key drivers of demand and supply and to understand the complex ecosystem of cervical screening and treatment.

**Method:** We conducted interviews with key global and national stakeholders and equipment manufacturers, did a desk review of existing data and literature on screening, and developed a demand forecasting model to estimate demand under different scenarios. We carried out a root cause analysis of the factors driving the low availability of preventive treatment for cervical precancer.

**Results:** We identified a negative cycle whereby a low proportion of cryotherapy-eligible women have access to treatment, leading to underutilization of equipment and higher costs per treated woman. Low usage leads to a reluctance to invest in more equipment for treating more women, thus perpetuating the low levels of access. When treatment is perceived as unavailable, health workers are reluctant to screen women; together with the demands of competing priorities, lack of relevant training, and absence of appropriate counseling, low screening rates further contribute to the low demand for treatment. Given this cycle, one can identify several points for intervention.

**Conclusions:** The limited availability of cryotherapy is a significant bottleneck to cervical cancer control programs and can effectively constrain expansion of needed screening and preventive treatment services. A multifaceted strategy is needed to overcome the barriers to treatment, including reducing the cost of equipment, increasing the volume of screening, ensuring reliable supplies of gas, and tailoring delivery strategies to optimize the use of treatment resources.
associated gas supplies have constrained the ability of low and middle-income countries (LMICs) to scale up the growing number of pilot screening and treatment projects. Even if cryotherapy equipment becomes more affordable, strategies for deploying them more efficiently are critically needed. We developed a model to forecast equipment demand and utilization under various scenarios in order to optimize preventive treatment services.

Method: We developed an Excel-based model populated with data for 83 LMICs. The model includes country-specific data on the number of women aged 30–49, the number and type of health facilities, an index on the strength of the health infrastructure, and the rural/urban mix. Assumptions such as screening coverage, sensitivity rates, eligibility for cryotherapy, and women’s willingness to follow through on referrals were drawn from various available studies and the experience of the authors. Scenarios represented various combinations of single-visit and two-visit approaches, static and static-plus-mobile services, as well as gas-based cryotherapy alone or in combination with non-gas treatment technologies.

Results: Single-visit approaches that employed both gas and non-gas treatment technologies and both static and mobile-outreach services achieved the highest coverage of treatment for those who were likely to need treatment based on a screening test (73.4%). Two-visit approaches that used both gas and non-gas treatment technologies but used only static facilities had the next highest coverage (50.8%). However, the higher-coverage scenario also required twice as many non-gas units to be purchased, as well as the travel costs for a mobile team. In both scenarios, non-gas treatment options were critical to expanding coverage for women living in rural areas.

Conclusions: While these results are based on averages across the 83 countries, they demonstrate that a model populated with country-specific data can help decision makers weigh the trade-offs that occur when trying to balance patient convenience and access with efficient utilization of equipment and skilled personnel. Further investment in non-gas treatment options will be an important component to expanding access to cryotherapy treatment and reducing preventable mortality.

FCS82.7
THE "SEE, TEST AND TREAT" PROGRAM FOR CERVICAL AND BREAST CANCER SCREENING: THE HOUSTON (TEXAS) EXPERIENCE
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Objectives: In the United States a large proportion of the immigrant population lacks access to healthcare preventive services due to their immigration status and/or its costs. To describe the clinical performance of a cervical and breast cancer screening program in an underserved population aimed at making an immediate diagnosis and treatment.

Method: In the United States a large proportion of the immigrant population lacks access to healthcare preventive services due to their immigration status and/or its costs. To describe the clinical performance of a cervical and breast cancer screening program in an underserved population aimed at making an immediate diagnosis and treatment.

Results: • The age range was between 21 to 65 years old.
• None of the patients had health insurance at the time of the evaluation.
• 78.7% (114/145) of the women were Hispanic and 14.8% (24/145) were Asian.
• Abnormal PAP's were seen in 10.3% (4 ASC-US, 1 ASC-H, 5 LGSIL, 3 HGSIL and 2 atypical endometrial cells).
• 13 (of 15 abnormals) underwent colposcopy/cervical biopsies (6 LGSIL, 2 HGSIL and 1 endometrial adenocarcinoma; 4 negatives).
• 5 women got LEEP’s.
• 7/145 women underwent mammograms for palpable breast masses or high-risk factors (1 positive, 4 negative and two incomplete).

Conclusions: Using a well-organized screening program and multidisciplinary personnel a single medical appointment is able to deliver a rapid, efficient and high quality preventive care in women's health. A significant mobilization of community services, including physicians, cyto-technologists, nurses, mid-level providers and translators is required in order to see, test and treat large numbers of patients in a single session. The “See, Test and Treat” strategy is an efficient model of focused healthcare intervention to address the healthcare needs of “at risk” communities.

FCS82.8
KNOWLEDGE, ATTITUDE, PRACTICE AND BARRIERS REGARDING CERVICAL CANCER AND ITS SCREENING USING PAP SMEAR, IN RURAL WOMEN IN FIJI
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Objectives: To assess the knowledge, attitudes, practice and barriers to cervical cancer and it’s screening with Pap smears in rural women in Fiji.

Method: Structured questionnaires were administered to 1505 women presenting to a rural outreach Reproductive Health education sessions and clinics, by trained health educators to ascertain their Knowledge, Attitudes, Practice and Barriers (KAPB) to cervical cancer and its screening with Pap smears.

Results: Seventy two percent of rural women had no knowledge of cervical cancer. Lack of knowledge was significantly different for age groups (p=0.006), education levels (p<0.001) and ethnic-ity (p=0.022). Those groups with lowest knowledge were teenagers; those with less education; and iTaukei respondents. Of the respondents who had at least some knowledge of the Pap smear, 75% had had a Pap test. Of those who had no knowledge of the Pap smear, 45% had the test (p<0.001). Of those who did not have a Pap smear the commonest barrier was lack of knowledge at 46.3% and fear of procedure was 29.4%.

Conclusions: Fiji has one of the highest reported rates of cervical cancer. There is no cervical cancer screening program with less then 10% of women being screened opportunistically. The current Health promotion strategies are not working. More education is required to acquaint women about the high prevalence of cervical cancer, its association with unsafe sexual behaviour and the benefits of cervical cancer screening programs as well as its prevention strategies.

FCS83. Conventional Gynecological Surgery
FCS83.1
SIMPLIFYING VAGINAL RECONSTRUCTION
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Objectives: To study the outcome of a simplified technique of neo-vaginoplasty in cases of vaginal agenesis in MRKH, and in cervico-vaginal atresia with functioning uterus.

Method: A modified Sheares’ technique of making a space between the rectum and the bladder, and covering the vaginal mould with sheets of oxidised cellulose was performed in: a) 35 cases of Utero-vaginal anastomosis and neo-vaginoplasty in cases of cervical and vaginal atresia with functional uterus, b) 35 cases of vaginal atresia (MRKH). The intraoperative details and post-operative vaginal length and function were assessed.

Results: The modified procedure was very successful and had no ma-
FCS83.3
NON-DESCENT VAGINAL HYSТЕРЕТОМІЯ – AN EXPERIENCE IN PATIENTS WITH CONFOUNDING RISK FACTORS
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Objectives: To assess safety & feasibility of non-descent vaginal hysterectomy in patients with confounding factors.
Method: A hospital based retrospective study conducted in the OBG Department of Little Flower Hospital & Research Centre, Angamaly, Kerala, India from Jan 2013 to June 2014 during a period of 18 months. 59 patients who underwent Non-descent Vaginal Hysterectomy for benign conditions of uterus with uterine size ≥12 weeks, previous caesarean section & nulliparous women were included in the study. They were grouped into two groups based on a pre-op scoring system.
Results: 59 cases were included in the study of which one was converted to abdominal route & excluded from the analysis. Mean age in years was 43.81 years. Among the 58 cases, 4 cases were nulliparous. Most common indication was leiomyoma (55.1%). 41.4% had uterine size of 12–16 weeks. There were 14 cases of previous caesarean section. The most common debulking procedure employed was myomectomy in 59% cases. Mean duration of surgery was 1.4 hours & mean hospital stay was 4.38 days. The most common complication was febrile morbidity in 3.44% cases. The mean time of surgery between two groups was statistically significant (1.13 hours vs 2.13 hours). The complication rate was not significantly different between the two groups.

Conclusions: Non-descent Vaginal Hysterectomy is safe & feasible in women with large uteri, previous caesarean section & nulliparous women in experienced hands. The pre-op scoring system should be employed in the training program.

FCS83.4
ENDOMETRIAL ABLATION IN WOMEN WITH MENORRHAGIA: A SYSTEMATIC REVIEW
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Objectives: Heavy menstrual bleed is a common condition in women of reproductive age which can have an impact on their quality of life. Endometrial ablation offers a reasonable surgical option where medical treatment has failed and hysterectomy is not desired. However, the optimal choice of ablation technique remained controversial. We performed a systematic review comparing the efficacy and acceptability in terms of amenorrhoea, satisfaction, repeat ablation and hysterectomy rate in women treated with first and second generation of endometrial ablation.

Method: A literature search was performed using online database (Pubmed, Medline, Scopus, Cochrane library and Embase) with MeSH terms. To optimise the quality of findings, only RCTs studies with follow up data comparing different ablation techniques were included. Primary outcome included: Amenorrhoea, satisfaction, repeat ablation and hysterectomy rate. Other secondary clinical outcomes were recorded. 2 independent reviewers collected and evaluated the data and any differences were resolved by consensus.

Results: 28 RCTs involving 5016 patients were included in the final analysis. Using validated PBAC/Higham score, the amenorrhoea rate is lower in microwave and bipolar radiofrequency compared to balloon thermal ablation. Interestingly, 1st generation rollerball has a higher amenorrhoea rate than balloon thermal ablation. The repeat ablation rate remained consistently low in both generations at 2–4% and 1–2% for 1st and 2nd generation ablation techniques. There are considerable variations in hysterectomy rate between different centres, from 2.63–28.0% for 1st generation and 1.6–17.0% in the newer 2nd generation technique although it is generally lower in the latter. Both generations have achieved high satisfaction rates.

Conclusions: Endometrial ablation appears to be acceptable among women with menorrhagia. 2nd generation ablation techniques is developing fast and might replace 1st generation. There are encouraging findings on emerging techniques and long term prospective randomised-controlled studies are required to establish the optimum endometrial ablation therapy.

FCS83.5
CLINICAL STUDY OF VAGINAL HYSТЕРЕТОМІЯ FOR NON DESCENT UTERUS
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Objectives: The purpose of this study is to know the advantage of vaginal hysterectomy in non-prolapsed uterus (NDVH-Non descent vaginal hysterectomy).

Method: The present study was undertaken in Department of OBG KIMS, Hubli and a private hospital in Hubli from 2004 to October 2014. In this study 892 cases of vaginal hysterectomy were studied pre-operatively, intra-operatively and post operatively. These patients were followed up for 6 months. Cases with non-prolapsed benign pelvic conditions having uterine size ranging from normal to eighteen weeks gestational size were selected in this series.

Data was analyzed for indication for NDVH, Age/parity, uterine size, estimated blood loss, duration of operation, complications and hospital stay.
Results: Of the 892 cases 43.13% belong to age group of 40–45 yr, followed by 35–40 yr (25.3%). Most common indication being fibroid uterus 41.70%, followed by DUB 34.4%. There were 15 cases of pr. 2 caesarean and 5 cases of pr. 3 caesarean. Mean blood loss of 50–80 ml. Average duration 35 mins, with range of 15 min to 120 min. 3 cases (0.5%) developed vesico vaginal fistula.3 cases converted to abdominal hysterectomy. One patient developed DVT on post operative day 3. Other patients were comfortable post operatively.

Conclusions: For properly selected cases with confirmed indications, vaginal hysterectomy is the preferred route in the hands of experienced surgeons who are well-versed with vaginal surgery. The need of the hour is minimally invasive surgery, early discharge from the hospital, early resumption of work, avoidance of disfiguring scar on the abdomen and cost-effectiveness of the procedure are as important as cure of the disease. Vaginal hysterectomy fulfills these criteria to absolute satisfaction.

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Objectives: Uterine leiomyomas are the most common benign tumors among women. When becomes symptomatic, myomectomy is a favoured option where fertility is to be conserved as well as for many women even when they have completed their families. It carries a major risk of intra-operative bleeding. TXA is an antifibrinolytic agent which has been demonstrated to reduce blood loss in various surgeries. Misoprostol, a PGE1 analog, increases myometrial contractions and reduces blood flow. In this study we investigated the effectiveness and safety of a perioperative TA combined with misoprostol for the reduction of hemorrhage during myomectomy.

Method: Prospective controlled randomized study carried out at Misurata Hospitals over a period of two years. Forty-one patients enrolled and divided into 2 groups: group A: 22 & control, group B: 19. Group A received 600 µg misoprostol per rectum one hour before operation followed by 1g IV TXA 15 minutes before induction of anaesthesia. Group B patients received placebo. Operations performed by same team. Data recorded for both groups A & B and compared including: age, BMI, size & number of myomas, haemoglobin values, intra & postoperative blood loss, surgery duration, vital signs, blood transfusion requirements and duration of hospitalization. Statistical analysis using SPSS package. P-value significant if < 0.05.

Results: No significant differences was found between groups A & B when compared age, BMI, preoperative blood analysis, number and size of myomas removed. Statistically significant differences were found between groups A & B when compared for postoperative, total blood loss and duration of surgery (P < 0.021, P < 0.032 and P < 0.035, respectively). Need for blood transfusion was significantly lower in group A (P < 0.038). Three patients in group A developed febrile morbidity. No evidence of thromboembolic events. No statistically significant differences between groups A & B with regard to total duration of hospitalization.

Conclusions: A single preoperative dose of rectal misoprostol combined with intravenous tranexamic acid is a simple, safe and reliable method for significantly reducing intraoperative blood loss and need for postoperative blood transfusion after myomectomies, that can be recommended as standard prophylactic procedure in these type of operations.

FCS83.7 DEFINING THE PREVALENCE OF THIRD- AND FOURTH-DEGREE TEARS IN CONSECUTIVE WOMEN WHO UNDERWENT SURGICAL REPAIR OF "OBSTETRIC FISTULA" IN TWO KENYA FISTULA CAMPS

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Objectives: Obstetric fistula encompasses a myriad of conditions involving communication between the vagina and either the urinary tract or the rectum, usually resulting in incontinence of urine or stool. Unrepaired third- and fourth-degree perineal tears often manifest with symptoms identical to traditionally described obstetric fistulas. Through review of patient records we sought to define the prevalence of unrepaired third and fourth degree perineal tears, and any other distinguishing features, in women undergoing operative repair at two fistula camps in Kenya.

Method: Four obstetrician/gynecologists retrospectively reviewed the medical and operative records, and recorded the presenting symptoms and anatomical pathologies, of all "obstetric fistula" cases that underwent operative repair during the July and August, 2014, Kenyatta National Hospital and Embu Provincial General Hospital Fistula Camps.

Results: 180 women were operated on during the camps, all of whom had either fecal or urinary incontinence, or both, as presenting symptoms. Fifty-five of the overall 180 (31%) had a diagnosis confirmed by intraoperative findings of unrepaired third or fourth-degree perineal tears. 60 of the 180 (%) women had fecal incontinence as presenting symptom and 55 of these 60 (92%) were discovered to have either a third or fourth degree tear.

Conclusions: 31% of women from 2 obstetric fistula camps in Kenya were diagnosed with and surgically treated for either unrepaired third or fourth degree perineal tears. Additionally, fecal incontinence was most often a result of unrepaired third or fourth degree tears. These findings suggest that interventions that improve and sustain local birth attendant skills in prevention, early identification, and ensuring access to timely repair of third and fourth degree perineal tears could considerably reduce the overall burden of obstetric fistula.

FCS84. Gynecological Endoscopy

FCS84.1 PROFILE OF WOMEN WITH ENDOMETRIAL POLyps TREATED IN A TERTIARY HOSPITAL: A 5-YEAR RETROSPECTIVE DESCRIPTIVE CHART REVIEW DESIGN STUDY

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Objectives: To review the clinical presentation, risk factors, diagnostic investigations, associated gynecologic conditions and management of endometrial polyps.

Design: 5-year retrospective descriptive chart review design.

Subjects: Patient demographics included age, gravidity, BMI, pre-treatment symptoms, menopausal status, medical problems, infertility and use of hormonal medications.

Data collection: Patient information was retrieved from archived hospital database from January 2009 to July 2014 with consent from IERB of Perpetual Succour Hospital, Cebu City, Philippines. All categorical data were expressed in frequency and percentage distribution. Differences in the rates were tested using chi square test of goodness fit and z test of difference in proportion at 0.05α.
Intervention: Sonography was performed in all study participants who underwent curettage, polypectomy, hysteroscopy and hysterectomy.

Results: A total of 215 women with endometrial polyps were included. The average age was 51.56±12.14 years old (age range 23–81). 45.2% were menopausal (average age 56.81±8.91). The average BMI was 29.78±3.49. The most common pretreatment symptoms were vaginal spotting (30%), heavy menstrual bleeding (27%), inter-menstrual bleeding (9%), postcoital bleeding (7%), dysmenorrhea (7%) and irregular cycles (4%). Endometrial polyps were present in women with hypertension (62%), diabetes mellitus (23%), dyslipidemia (17%), thyroid disorder (11%), PCOS (2.8%), infertility (1.4%) and Tamoxifen therapy (1%). They were relatively common in women with leiomyoma (58%), endometriotic cysts (8%), adenomyosis (34%).

Conclusions: Endometrial polyps are among the most common causes of abnormal uterine bleeding. They can also remain asymptomatic. They appear in women with late menopause, hypertension, diabetes mellitus, dyslipidemia, obesity, hyperthyroidism, PCOS and Tamoxifen therapy. Hysteroscopy is the appropriate treatment for endometrial polyps.

FCS84.2
TOTAL LAPAROSCOPIC RADICAL TRACHELECTOMY IN THE TREATMENT OF EARLY SQUAMOUS CELL CERVICAL CANCER: A RETROSPECTIVE STUDY WITH 8-YEAR FOLLOW-UP
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Objectives: To evaluate the surgical, oncologic, and obstetrical outcomes of total laparoscopic radical trachelectomy (LRT) in patients with early-stage squamous cell cervical cancer who want to preserve their fertility.

Method: Twenty-five patients with early-stage cervical cancer were treated by total LRT from January 2005 to December 2012. Data regarding operational time, blood loss, intra-operative and post-operative complications, recurrence, and subsequent pregnancies were recorded. Other published reports on LRT were also reviewed.

Results: The median age of the patients was 29 years (range 22–34 years). The median surgical time was 232 min (range, 180–340 min). The median blood loss was 120 ml (range, 50–200 ml), and the median length of hospitalization was 3.3 days (range, 2–4 days). The median time to return to daily activities was 2 days (range, 1–3 days). No intra-operative complications occurred; three patients had post-operative complications. The median follow-up time was 66 months (range, 1–82 months), and no recurrences were observed. Twelve patients attempted to conceive during the follow-up, and nine succeeded.

Conclusions: In this retrospective analysis, total LRT was an effective and safe procedure for patients with early-stage cervical carcinoma who wished to preserve fertility. A larger prospective study with long-term pregnancy and survival analyses is warranted.

FCS84.3
REPRODUCTIVE OUTCOME RE-EVALUATION FOR WOMEN WITH PRIMARY OVARIAN INSUFFICIENCY USING OFFICE MICROLAPAROSCOPY
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Objectives: The objective of this study was to analyze the usefulness of office microlaparoscopy in the re-assessment of ovarian morphological picture, relevant clinical types and future fertility prognosis of primary ovarian insufficiency (POI) patients.

Method: Forty five patients with POI diagnosed in a private fertility care center between October 2009 and December 2014, who gave informed consent and underwent office microlaparoscopy were studied. Pelvic ultrasound had failed to visualize and morphologically assess both ovaries in the women included. The cases were divided into four groups based on the microlaparoscopic ovarian morphology: Group N (near to Normal), group G (Gyrus shaped), group A (Atrophied), and group S (Streak shaped). These groups were analyzed with respect to patient background, blood hormone levels, the level of antinuclear antibodies measured, and their individual fertility prognosis.

Results: No significant differences in patient background and serum hormone levels were observed between groups. There was complete absence of both ovaries in 5 patients included. Group N and G had shown some improvement, like regular spontaneous menstruation, and forthcoming pregnancy, which happened once in group N. Many other internal genital anomalies could be diagnosed during the same office procedure.

Conclusions: Office microlaparoscopy under augmented local anesthesia is a useful procedure in the definite demarcation, and differentiation between the types of POI, regarding their menstrual regularity and future fertility prognosis.

FCS84.4
LAPAROSCOPY-GUIDED HYSTEROSCOPIC TUBAL CANNULATION FOR INFERTILITY DUE TO CORNUAL OBSTRUCTION IN NNEWI SOUTH-EAST NIGERIA
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Objectives: This is to determine pregnancy outcomes after laparoscopy-guided hysteroscopic tubal cannulation and to report its role in this era of in-vitro fertilization (IVF).

Method: A cross-sectional longitudinal study in Life Institute for Endoscopy, Nnewi, south-east Nigeria from April 2013 to August 2014 was done. Women with unilateral or bilateral proximal tubal obstruction as the only cause of infertility and had laparoscopy-guided hysteroscopic tubal cannulation were included. The main outcome measures included successful tubal recanalization, complication and conception rates. Only the first spontaneous conception was considered.

Results: Twenty cases of infertile women met inclusion criteria. Of the 20 women, 7 were excluded from analysis. The mean age was 36.4±4.8 years. Three women had primary infertility while 10 were secondary. Of 13 women included, 92.3% had bilateral proximal obstruction and 7.7% had unilateral obstruction. Only 7.7% patient had failed cannulation. Successful recanalization rate was 92.0% per tube and 92.3% per patient. In the 12 patients in whom their fallopian tubes were successfully recanlalized, spontaneous pregnancies (16.7%) and intra-uterine inseminated-assisted pregnancy (8.3%) occurred within at least three months of follow-up. All the pregnancies were intrauterine. The overall conception rate was 23.1%.

Conclusions: Successful tubal recanalization rate among infertile women with cornual obstruction was high in our institution. This recorded success led to significant improvement in the conception rate of >20% which is equivalent to success recorded in IVF in some institution. Women with a proximal tubal blockage could be considered for laparoscopy-guided hysteroscopic cannulation, which at present is still a workable alternative to IVF and tubal surgery with reduced risks, costs and morbidity.
**FCS84.5**  
**FEASIBILITY OF LAPAROSCOPIC MYOMECTOMY IN HUGE SUBSEROUS MYOMAS**

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**Objectives:** To show our initial results of laparoscopic myomectomy in huge pedunculated subserous fibroids around 20 cm in diameter. The cut off level of the size of the fibroid to be removed laparoscopically is controversial but in most of the literature no more than 10 cm in diameter.

**Method:** Due to the huge size of the fibroid position of trocars were different from the usual procedures. Palmer’s point was used for insufflation and for the 10 mm laparoscope. Two 10 mm ports were used: right and left lateral one above the level of the umbilicus and the other below the umbilicus. Another 5 mm port may be needed in the midline suprapubically.

**Results:** Of the five cases performed till now four of them were completed laparoscopically. One case was converted into laparotomy due to respiratory embarrassement due to the long duration of the procedure. The average time for the operation was 200±20 minutes. Each patient needed one unit of blood. The postoperative course was uneventful.

**Conclusions:** Huge pedunculated subserous fibroid seems feasible to be removed laparoscopically. Despite the technical difficulty and the long time of the operation, laparoscopy saved the patient from performing midline incision from xiphisterum till symphysis pubis.

**FCS84.6**  
**LAPAROSCOPIC HYSTERECTOMY IN LARGE UTERUS: EXPERIENCE FROM A TERTIARY CARE HOSPITAL IN BANGLADESH**

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**Objectives:** The purpose of this study was to examine the safety and feasibility of laparoscopic assisted vaginal hysterectomy (LAVH) for uteri weighing more than 500 grams (gm) as compared to uteri weighing less than 500 gm in benign gynecological diseases.

**Method:** In this prospective comparative study 100 women with different benign gynecological diseases were included for LAVH during November 2008 to October 2012. These patients were admitted through outpatient department. They were divided into two groups, group 1 uterine weight <500 gm and group 2 uterine weight >500 gm. There were no exclusion criteria based on the size, number or location of leiomyoma. The following patient characteristics for two groups were studied comparatively in terms of demographic and socio-economic details, length of operating time, amount of blood loss, requirement of blood transfusion, need of analgesia and length of hospital stay.

**Results:** The patients’ characteristics by age, body mass index (BMI) were well balanced between the two study groups. Uterine weight in group 1 was 267.2±97.6 gm and in group 2 was 740.0±371.4 gm (p<0.0001). Length of operation and amount of blood loss were greater in group 2 than group 1 (p<0.0001). However, there was no significant difference in hospital stay and overall incidence of operative complications between the two groups. There was no incidence of switching of laparoscopy to laparotomy during the operation. Rate of blood transfusion was lower in group 1 than group 2 (4.9% vs 32.6%; p<0.0001).

**Conclusions:** This study demonstrated that despite the increased operating time and blood loss laparoscopy should be considered instead of laparotomy in cases of large uterus. LAVH can be performed safely for large uterus.
2014. Oopherectomy 5 (3.6%) from 2008 to 2013. Ovarian cystectomy 18 (12.8%) from 2008 to 2013 and 5 (10.2%) during 2014. Salpingectomy 7 (5%) 2008–2013 and 5 (10.2%) 2014. from 2008 to 2013 superficial wound infection occurred in 2 (1.4%), and shoulder tip pain in 3 (2.1%).

**Conclusions:** Availability of laparoscopic services in the district areas such as Elbied reduces referral to the capital city Khartoum with its expenses, and help training of the registrars.

**FCS85. Gynecological Endoscopy**

**FCS85.1 COMPARISON OF ROBOTIC SURGERY WITH LAPAROSCOPY FOR SURGICAL STAGING OF ENDOMETRIAL CANCER: A META-ANALYSIS**

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**Objectives:** Through the comparison of peri-operative outcome in robotic surgery and laparoscopic surgery, to evaluate the safety and effectiveness of robotic surgery in surgical staging of endometrial cancer.

**Method:** We searched foreign and Chinese databases, including Cochrane Library, PubMed, Embase, VIP, China info, Sino Med and relevant journals and magazines from January 2000 until October 2014. Studies of the contrasting the robotic surgery to laparoscopic surgery in surgical staging of endometrial cancer were included. Two independent investigators screened literatures in accordance with the inclusion criteria and extracted relevant data respectively. Finally, conducted the Meta-analysis with RevMan5.3 software.

**Results:** Meta-analysis showed: In surgical staging of endometrial cancer, robotic surgery had less estimated blood loss [MD=−66.13, 95% CI: −99.64, −32.62; p=0.0001] less need for blood transfusion [RR=0.55, 95% CI: 0.31, 0.98; p=0.04], less conversion to open surgery [RR=0.37, 95% CI: 0.22, 0.61; p=0.0001], and less intra-operative complications [RR=0.41, 95% CI: 0.23, 0.74; p=0.003]. There was no statistically significant difference in aspects of operative time [MD=11.21, 95% CI: −11.67, 34.09; p=0.34], hospital staying [MD=−0.20, 95% CI: −0.41, −0.00; p=0.05], postoperative complications [RR=0.84, 95% CI: 0.61, 1.15; p=0.28], the total number of lymph nodes removed [MD=0.37, 95% CI: −4.11, 3.37; p=0.85].

**Conclusions:** There are 14 cohort studies included in the meta-analysis, the results suggest that: When comparing the robotic surgery and laparoscopic surgery in surgical staging of endometrial cancer, robotic surgery had less estimated blood loss, less need for blood transfusion and conversion, and less intra-operative complications than open surgery. But there was no difference between the two surgical procedures in aspects of operative time, hospital staying, postoperative complications, the total number of lymph nodes removed. We believe that with the development of the surgeon’s techniques and continuous updating of the surgical equipment, the robotic surgical system will be more lightweight, precise.

**FCS85.2 LARGE OVARIAN ENDOMETRIOMA: EXCISIONAL SURGERY OR COMBINED EXCISION-ABLATION SURGERY?**

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**Objectives:** To evaluate the effect of laparoscopic treatment of large ovarian endometrioma ≥3 cm by two modalities, namely, cystectomy, and a combination of partial cystectomy with ultrasound powered ablation on the ovarian reserve and recurrence.

**Method:** A prospective randomized clinical study at Obstetrics & Gynecology Department at Tanta University Hospital, Egypt, included 40 women less than 35 years with large ovarian endometrioma ≥3 cm complaining of infertility and/or pelvic pain without previous history of medical or surgical treatment of endometriosis. These patients were randomized for either laparoscopic complete cystectomy (Cystectomy group; 20 patients) or partial cystectomy combined with ultrasound powered ablation (Combined group; 20 patients). Outcome Measures were changes in levels of AMH, basal serum levels of FSH & LH, and AFC before laparoscopy and six months later. Recurrence and spontaneous pregnancy rates were recorded. Main.

**Results:** Mean serum AMH was significantly decreased in cystectomy group from 3.1±0.28 to 1.8±0.5 ng/ml compared with the non-significant decrease in combined group from 3.9±0.27 to 3.1±0.4 ng/ml. Also, AFC was significantly decreased in cystectomy group from 4.1±0.4 to 2.7±1.1 compared with the non-significant change in combined group from 3.8±0.6 to 4.1±1.9. Basal serum levels of FSH & LH did not change in the two groups. Spontaneous pregnancy and recurrence were comparable in both groups.

**Conclusions:** Combination of partial cystectomy with ultrasound powered ablation yielded better results than complete cystectomy, with regard to the ovarian reserve.

**FCS85.3 SAFER & SIMPLER TECHNIQUE OF TOTAL LAPAROSCOPIC VAGINAL HYSSTERECTOMY OF LARGE UTERUS WITH VAGINAL MORCELLATION**

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**Objectives:** A retrospective study of 74 cases of Total Laparoscopic Vaginal Hysterectomy of large uterus performed by experienced Gynecologists with a modified approach is analyzed for its efficacy and safety.

**Method:** PT in relaxed lithotomy, catheterised and uterine manipulator introduced. Laparoscopy as usual with round ligaments, infundibulo–pelvic or tubo–ovarian ligaments coagulated with Bipolar forceps & cut. Uterine vessels skeletonized & coagulated & cut after bladder pushed down on vaginal tube. Anterior & posterior Vagina was incised on the tube with monopolar hook. Vaginal incision extended spectulums introduced. Rest of uterosacs & cardinals were isolated with Mixter forceps, clamped, cut & sutured. Large uterine body morcellated by cutting wedges centrally with scalpel and thus reducing the diameter of uterus. No lateral angle bleeding since angles were sutured, not cauterized. Vagina sutured & packed.

**Results:** A study of 74 cases of Total Laparoscopic Vaginal Hysterectomy consisted of patients with average age of 48.4, parity 2.3, BMI 28. Indications for hysterectomy were symptomatic Fibroids & Adenomyosis, Uterine size was average 14wks. Largest uterus in our series was 20wks. One case was converted to Laparotomy because of multiple intra-abdominal adhesions. 73 cases are considered in this study. The average operation time was 1hr 20mnt. Mean Hb change 0.75g/ml. Average post op hosp stay was 3 days. There was no urinary tract or bowel injury. Post op recovery of all patients was uneventful.

**Conclusions:** This technique of using vaginal tube & Mixter forceps makes the procedure safe and simple. Urinary bladder & ureter is kept away with help of vaginal tube. No cautery was used at utero- sacral & angles. The use of Mixter for isolating lower uterosacs & cardinals avoids tugging & pulling on to cervix thereby reducing the risk of tear & bleeding. This is a safe simple method in difficult cases and easily learned by most Surgeons.
Results:  Total 385 surgeries were performed over five year period. The data was analysed by SPSS 20. A prospective study was performed at a tertiary university medical center in Brazil between March 2013 and June 2014. A to- tal of 20 women indicated to undergo hysterectomy for benign uterine disease were included in the study after they had signed an informed consent. Outcome measures, including operating time, blood loss, rate of complications, febrile morbidity, visual analogical pain score and length of hospital stay were registered. The indications for surgery were infertility (79.7%), menorrhagia (41.6%), dysmenorrhoea (38.2%), abdominal mass (38.7%), and recurrent abortions (4.5%). The mean blood loss (147.3±79.8ml vs 306.1±264 ml) and operative time (1.5±0.7 hrs vs 2.0±0.8 hrs) was significantly more in group 2 (p=0.001; p=0.00). The uterine cavity was entered in 15.6% (27/173) women [13.5% vs 16.2%; p=0.69]. There were 24 women (13.8%) who were lost to follow up. Of the remaining 149 women, 95.3% had resolution of symptoms while 4.7% women had persistent dysmenorrhoea. Out of 124 infertile women, 61.2% conceived [59.3% (19/32) in group 1 vs 61.9% (57/92) in group 2].

Conclusions: Laparoscopy may be considered as an appropriate, safe and effective approach for myomectomy with good surgical and reproductive outcome. With expertise, size and number of myomas may no longer be considered a limitation in selecting laparoscopy as an approach for myomectomy.

FCS85.7
STUDY OF MÜLLERIAN ANOMALIES AND ENDOMETRIOSIS
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Objectives: This study was conducted to find the association of Endometriosis and Mullerian anomalies. Early correction of Mullerian anomaly prevents the progression of the endometriosis and infertility.

Method: This prospective study was under taken at Ramakrishna Hospital during the period of 2011 January to 2015 January. End point is either relief from pain or pregnancy. Patients having Müllerian anomalies including women infertile and those having pain were included in the study. 746 cases underwent Diagnostic Hysterosal- paroscopy during the study period and 74 cases were found to have Mullerian anomalies. The following parameters were analysed: age, marital status, symptoms, type of anomaly by USG or MRI, findings of laparoscopy and hysteroscopy, presence of endometriosis, treatment given and outcome of the treatment.

Results: Incidence of Mullerian anomaly was (74/746) 9.91%. Age group was between 13 and 31yrs. 6/74 cases were unmarried. Pre- senting symptom was amenorrhea in 2/74, dysmenorrhea in 40/74, infertility 65/74. All patients had USG and 5 patients had MRI. Diagnostic hysterolaparoscopy was done for all patients.

Findings: MRKH syndrome – 2/74, unicornuate uterus – 6/74, uteri didelphys with obstruction – 3/74, uteri didelphys without obstruction – 3/74, bicornuate uterus – 2/74, septate uterus – 58/74. There was no endometriosis in unicornuate and MRKH syndrome. Endometriosis was present in 100% of uteri didelphys with obstruction, 66% of uteri didelphys without obstruction and bicornuate uteri. 20.6% of septate uteri had endometriosis. Stage of the endometriosis was mild – 39%, moderate – 43%, severe – 21%. One case of HWW

FCS85.6
LAPAROSCOPIC MYOMECTOMY: DO SIZE AND NUMBER OF MYOMA AFFECT OPERATIVE AND CLINICAL OUTCOMES?
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Objectives: To evaluate and compare the operative and clinical outcomes after laparoscopic Myomectomy in gross uterine size less than and more than 12 weeks size.

Method: A retrospective review of 173 women who underwent laparoscopic myomectomy between 2009 to 2013 was done. The case records were reviewed and patients’ data was stratified into 2 groups according to the gross uterine size: group 1 included 21.3% (36/173) women with uterine size <12 weeks size while group 2 included 78.6% (136/173) women with uterine size ≥12 weeks. Perioperative outcomes including blood loss, operative time, need for blood transfusion, length of hospital stay and long term effects including symp- tomatic relief and reproductive outcomes were compared.

Results: The indications for surgery were infertility (79.7%), menorrhagia (41.6%), dysmenorrhoea (38.2%), abdominal mass (38.7%), and recurrent abortions (4.5%). The mean blood loss (147.3±79.8ml vs 306.1±264 ml) and operative time (1.5±0.7 hrs vs 2.0±0.8 hrs) was significantly more in group 2 (p=0.001; p=0.00). The uterine cavity was entered in 15.6% (27/173) women [13.5% vs 16.2%; p=0.69]. There were 24 women (13.8%) who were lost to follow up. Of the remaining 149 women, 95.3% had resolution of symptoms while 4.7% women had persistent dysmenorrhoea. Out of 124 infertile women, 61.2% conceived [59.3% (19/32) in group 1 vs 61.9% (57/92) in group 2].

Conclusions: Laparoscopy may be considered as an appropriate, safe and effective approach for myomectomy with good surgical and reproductive outcome. With expertise, size and number of myomas may no longer be considered a limitation in selecting laparoscopy as an approach for myomectomy.

FCS85.5
SINGLE-PORT LAPAROSCOPIC HYSSTERECTOMY: PRELIMINARY RESULTS
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Objectives: To describe the initial results of a laparoscopic single port access hysterectomy in Brazil, and also to evaluate the feasibility and safety of this access.

Method: A prospective study was performed at a tertiary university medical center in Brazil between March 2013 and June 2014. A total of 20 women indicated to undergo hysterectomy for benign uterine disease were included in the study after they had signed an informed consent. Outcome measures, including operating time, blood loss, rate of complications, febrile morbidity, visual analogical pain score and length of hospital stay were registered.

Results: All procedures but one were successfully performed via a single incision and no post-operative complications occurred. We experienced one conversion to multiport laparoscopic hysterectomy due to extensive pelvic adhesions. There was no conversion to “open” total abdominal hysterectomy. Blood loss was minimum, with no blood transfusion. No patient required narcotics or NSAD post-operatively.

Conclusions: Single-Port Hysterectomy is a feasible and safe technique, with no major complications.

FCS85.4
A JOURNEY FROM DIAGNOSTIC TO OPERATIVE LAPAROSCOPIC SURGERIES OVER FIVE YEAR PERIOD
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Objectives: Gynecologic laparoscopic surgery has gained worldwide acceptance due to its advantages over open surgery. In this era of Minimally invasive surgery our country has very few centres providing the facility. Our department took initiative five years back, starting from diagnostics and moved to operative ones. The aim is to present the data and share the experience and progress from the country where it is being performed scarcely, in front of the world.

Method: All the patients enrolled for laparoscopic surgery from January 2010 till December 2014 were prospectively entered in the pre-designed performa. The setting is postgraduate training Patel Hospi- tal, Karachi. The study was reviewed for frequency of surgery year- wise, nature of surgery (diagnostic or operative) and surgical outcome. The latter was assessed by intra operative hemorrhage leading to conversion, time duration of surgery, conversion rate, post op- erative hospital stay, postoperative complications and two weeks fol- low up. The data was analysed by SPSS 20. Total 385 surgeries were performed over five year period. The following results are yearwise from 2010 to 2014. The number of surgeries were 14, 32, 75, 123 and 141. Operative surgeries were 4, 15, 46, 54 and 101. Mean time duration for ovarian cysts and ectopic was 70 minutes, 50 minutes, 50 minutes, 75 minutes and 60 minutes. Mean duration for hysterecctomy 215 minutes in 2013 and 100 minutes in 2014. Conversion rate was 14%, 25%, 5%, 4% and 1%. Significant complications were 2 port site chronic sinus formation and one ureteric injury in 2013. Mean duration of stay 24 to 72 hours. Two weeks follow up was uneventful.

Conclusions: In conclusion, number of surgeries, specifically operative ones increased remarkably from 2010 to 2014. Advanced surgery of total laparoscopic hysterectomy has also been started. Over years the time duration of surgeries has improved and conversion rate decreased. Overall major complication is insignificant. This modality of surgery can be a common and popular type in low resource countries as well, with results comparable to ones quoted in the literature.
syndrome was diagnosed. After treatment dysmenorrhea resolved in unmarried girls. Overall conception rate around 37%.

Conclusions: Our study showed patients with Müllerian anomalies had 24.3% incidence of endometriosis. The incidence was higher in patients who had outlet obstruction. When diagnosed earlier and treated, there is excellent symptomatic relief and favourable fertility outcome.

FCS86. Gynecological Endoscopy

FCS86.1 LAPAROENDOSCOPIC SINGLE-SITE SURGERY (LESS) FOR HUGE OVARIAN CYSTS

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Objectives: The benefits of LESS when compared to conventional laparoscopy include better cosmetic results and possibly less pain and reducing the potential morbidity from using multiple ports. We present our experience with 10 Patients who had LESS for large ovarian cysts (ranging from 20 to 30 cm in diameter). The objective is to assess the feasibility, safety and operative outcome for the management of huge ovarian cysts by LESS.

Method: We performed a retrospective chart review of patients who underwent LESS for huge ovarian cysts. All patients had cysts more than 20 cm in diameter. We analyzed the patient’s age, body mass index (BMI), tumor maximum diameter as measured by ultrasound, operative time, estimated blood loss and the histopathology result. The procedures were done through a 2.5 cm umbilical incision using the open technique. Initially the cyst surface was evaluated, that was followed by drainage of the cyst fluid. The operation was then done similar to procedures performed using the conventional technique. The specimens were retrieved through the umbilical incision.

Results: All patients had normal tumor markers and the radiologic evaluations were in favor of a benign nature of the cysts. All patients had benign ovarian cysts. The median patient’s age was 25 years. The mean BMI was 26.96 (21.9–29.6). The mean tumor size was 22.3 cm (20–30). The mean mount of fluid aspirated from the cysts was 3644 ml (500–8500). The mean surgery time was 78.4 minutes (56–109) and the mean drop in hemoglobin was 0.5 gm/dl (0–1.3).

Conclusions: We believe that LESS may be a safe and feasible alternative to conventional laparoscopy for patients with huge ovarian cysts and provides a great cosmetic benefit. The short-term operative outcome evaluated by the operative time and blood loss was satisfactory. Proper patients selection and expertise are essential to perform these cases.

FCS86.2 CLINICAL CASE TWO CASES OF RECURRENT MULTIPLE DERMOID CYSTS, WITH RARE SYMPTOMS, PELVIC PAIN, ANTI NMDAR ANTIBODIES. TREATED WITH ROBOTIC ASSISTED LAPAROSCOPIC CYSTECTOMIES AT EASTERN VIRGINIA MEDICAL SCHOOL

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Objectives: Case one.

A 23 years old G1P1 with pelvic pain, abdominal tenderness. Ultrasound scan revealed single dermoid cyst in the right ovary and another two dermoids in the left ovary. The patient had previous history of surgical removal of 8.4×4.5 cm dermoid cyst on the right ovary measuring on 2008. Robotic assisted laparoscopic adhesiolysis with removal of these dermoid cysts was done on 2015.

Method: A 22 year old Afro-American lady who has showed significant change in behavior, psychosis, headach, forgetfulness treated by psychiatrist. CT scans done for her for another indication showed ovarian dermoid cyst. A rare case of dermoids secreting NMDA anti-
Objectives: Laparoscopic pelvic anatomic assessment and reporting of intraoperative findings are often performed in a nonstandardized fashion and is at the surgeon’s discretion. Omissions in the reporting of surgical findings represent a critical missed opportunity to communicate diagnostic information to other caregivers. Our group has previously proposed a novel method for systematic pelvic assessment based on 6 anatomical zones that has the potential to enhance intraoperative diagnostic accuracy and provide better communication of operative findings between care providers (Bedaiwy et al. 2013). In this study, we sought to validate the documentation of this method of gynecological laparoscopic assessment using intraoperative photography.

Method: Gynecological surgeons at UH participated in this study. Each took six photographs and used them to assist in documentation. The photos were of six zones of the pelvis: the anterior uterus, the posterior cul-de-sac, the left and right adnexa, and the left and right pelvic sidewall. Reports were scored in a blinded fashion by three surgeons using the SAFE-OR, a validated tool for scoring the level of detail in an operative report. Reports were collected from cases performed the year prior, matched to surgeon and surgery. Consistency of the SAFE-OR score was evaluated using intraclass correlation coefficient (ICC).

Results: 15 surgeons participated. 80 cases were scored. The average score per each scorer was 82%, 91.7%, and 85.6%. The global average was 92.8%, 95%, and 87.7%. 60 controls were identified, and the average score for the controls were 62.7%, 77.2%, and 70.6% for the three scorers. The controls were more often invalid per the SAFE-OR scores. The detail illustrated was qualitatively richer and the six zones were referenced more frequently using this technique than without. Scores of those using the photographs were significantly higher than those without and included details of the six pelvic zones. Intra-scorer variation was not significant.

Conclusions: The six zones method of laparoscopic assessment and reporting significantly improved the content of the operative reporting. The method of using six pelvic zones to standardize reporting has been validated. Compared to previous reports by the same surgeons, the reported data is more rich and includes more pertinent negative findings when incorporating the six pelvic zones. In addition, simply photographing the six zones greatly adds to the reported information.

FCS86.5

EFFECTIVENESS OF HYSTEROSCOPY IN THE MANAGEMENT OF ENDOMETRIAL POLYPS AMONG PREMENOPAUSAL LIBYAN PATIENTS WITH ABNORMAL UTERINE BLEEDING

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Objectives: Endometrial polyps (EP), are more common during reproductive years, causing abnormal uterine bleeding (AUB) in form of menorrhagia, metrorrhagia and intermenstrual bleeding, in addition to the risk of premalignant and malignant changes. Hysteroscopy provides direct visualization of the uterine cavity and being more effective in the diagnosis and treatment of such endometrial disease. Aim of this study is to evaluate effectiveness and outcomes of hysteroscopic transcervical resection (HR) of endometrial polyps in premenopausal patients with AUB.

Method: Total of 132 patients aged 35 to 50 years with AUB, undergone HR of EP over a period of five years, were studied prospectively. Patients had lab investigations, physical examination, ultrasonic, diagnostic hysteroscopy and biopsy, those with myometrium, septum resection, preoperatively hormonal treatment, or planned for IUD insertion following polyp removal were excluded. Outcomes: treatment success (flow reduction), degree of pain, need of second operation, patient satisfaction, complications. Treatment considered as a failure in patients with repeated attacks of AUB after resection necessitating medical therapy or surgical re-intervention. Statistical analysis using SPSS package. P-value significant if (<0.05).

Results: Mean follow-up period was 24 months. 34 patients were lost to follow up, only 98 (74.2%) completed evaluation. 85 (86.7%) patients showed menstrual improvement: amenorrhea 36 (36.7%), hypomenorrhea 49 (50%), no improvement (treatment failure) 13 (13.26%). Number of patients satisfied were 79 (80.6%), unsatisfied, because of heavy bleeding or cyclic pain were 19 (19.38%), this difference was statistically significant (P<0.05), also the success rate was significantly higher (P<0.05) in those >40 years of age. Seven recurrences were detected, (7.14%). No pathological findings indicating cancer or a precancerous lesion were found. No complications were encountered during diagnostic hysteroscopy.

Conclusions: Hysteroscopic polypectomy, a minimally invasive procedure, found to be safe, effective and with a favorable outcomes by reducing the monthly blood loss significantly and with a high satisfaction rate.
difficult in obese case, laparoscopic surgery is the candidate of surgical intervention that can minimize the affect of obesity.

**Method:** Among 178 cases of endometrial cancer staged surgically between January 2010 and December 2014, 157 cases (89 cases of laparotomy and 68 cases of laparoscopic surgery) of pT1–2 cases were divided into subgroups according to BMI (less than 30, between 30 and 40, more than 40) and analyzed retrospectively.

**Results:** Mean follow-up period was 28.8 months. Overall survival was not different between laparoscopic and laparotomy group. Prolonged operation-time and increased blood-loss among subgroups of BMI showed the increased surgical difficulty in obese cases. Post-operative hospital-stay and complication-rate increased among subgroups of increasing BMI (8.0±3.2, 13±12, 17±7.7 days and 9.6, 25, 25% according to BMI: ~30, 30–40, 40+) in laparotomy group, but this was not shown in laparoscopic group (5.4±3.0, 4.6±0.9, 4.0±0.0 days and 1.8, 0, 50%). Complication of morbid obese case in laparoscopic group was atelectasis that recovered soon. SSI and ileus was the complication of laparotomy group that require longer hospitalization.

**Conclusions:** Laparoscopic surgery was superior to laparotomy in shorter hospital stay, especially in morbid obese cases. Laparoscopic surgery can replace laparotomy in early stage of endometrial cancer in cases of normal sized uterus.

**FCS87.1 Gynecological Endoscopy/Operative Obstetrics**

**FCS87.1 PREVALENCE OF ENDOMETRIOSIS AMONG INFERTILE WOMEN IN RWANDA AS ASSESSED BY LAPAROSCOPY**

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**Objectives:** The objective of the study was to shed light on endometriosis prevalence and to highlight the tremendous role of laparoscopy everywhere including in poor settings.

**Method:** A hospital based retrospective case series study on women undergoing a diagnostic laparoscopy for infertility from 1st January 2010 to 31st December 2011 was reviewed in the Obstetrics and Gynecology Department of Kigali University Teaching Hospital in Kigali, Rwanda. Relevant data were collected from archived medical files and completed by laboratory and surgery reports. Laparoscopic findings and histopathological reports were the endpoints.

**Results:** Out of 234 patients who were operated by laparoscopy with primary complaint of infertility, the frequency of endometriosis was 20.9%. The mean age of patients with endometriosis was 32.9±5.62 years; the pick was observed in 26 years old patients. In 49 patients, endometriosis was at most 29 (59.25%), mild and moderate to severe 20 (40.8%) patients. Out of these 85 patients suspected to have endometriosis, which also shows good short-term results in China.

**Conclusions:** In Rwanda, the prevalence rate of endometriosis in infertility cases justifies its systematic assessment unless otherwise completely excluded. Laparoscopy procedure should be taught to gynecologists and should be offered to patients seeking for infertility. Further assessment is needed to evaluate the relative difference of sensitivity between laparoscopy and histology in endometriosis cases.
FCS87.4
INTRAPERITONEAL PRESSURE IMPACT ON BLOOD FLOW IN ABDOMINAL AORTA AND VENA CAVA INFERIOR DURING CO2-PNEUMOPERITONEUM IN A RABBIT MODEL
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Objectives: Side effects of CO2-pneumoperitoneum are dependent on intraperitoneal pressure rate, duration of surgery as well as capacities of respiratory and cardiovascular systems. Subsequently taking into account worldwide increased application of laparoscopic and robotic surgery, aim of this study was to monitor an impact of intraperitoneal pressure on blood flow (BF) in the abdominal aorta and the vena cava inferior in a rabbit model.

Method: Experiments were approved by University Ethical Committee. 20 female ventilated rabbits were used. After premedication and intubation, anesthesia was achieved by 2.5% halothane mixed with room air (0.7 FiO2), fixed tidal volume (11.3 ml/kg) and respiratory rate (18–21 per min). Then animals were randomly chosen either for the abdominal aorta or for the vena cava inferior BF registration. A transonic BF meter probe was placed under the vessel via extraperitoneal access by lateral site incision. CO2-pneumoperitoneum was created via umbilicus with 10-mm trocar connected with thermoflator, humidifier, heating device and water valve.

Results: Transonic BF was measured in 10 rabbits in the abdominal aorta and another 10 ones in the vena cava inferior. BF parameters were achieved from six time points, with 15 min intervals, during anesthesia (0a-0b), at different intraperitoneal pressure rates (5–10–15 mmHg), after desufflation and analyzed by repeated measures ANOVA with posttests. BF was remaining stable during baseline measurements (0a-0b), whereas BF was decelerated significantly in the abdominal aorta, dramatically slowdown in the vena cava inferior by increased intraperitoneal pressure rate (5–10–15 mmHg) in contrast desufflation was accompanied with BF restoration even over velocity in both magistral blood vessels.

Conclusions: We demonstrated that during CO2-pneumoperitoneum blood flow disturbances in both magistral blood vessels were dependent on intraperitoneal pressure rate. An extremely unfavorable CO2-pneumoperitoneum side effect was manifested in the vena cava inferior. Clinical implications of our findings can be related with proved hypothesis that the possibility of blood stagnation in lower extremities during laparoscopic surgery with high intraperitoneal pressure and longer surgery time, which might be triggering mechanism of a deep venous thrombosis, especially in individuals with high risk factors.

FCS87.5
TIME BETWEEN SKIN INCISION AND DELIVERY DURING CESAREAN
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Objectives: To investigate factors influencing skin incision-to-delivery time (including sub-divisions thereof) and the effect of these surgical intervals on immediate neonatal outcome.

Method: A prospective cohort analysis was conducted of all women undergoing cesarean delivery at Tygerberg Hospital, Cape Town, South Africa, from May 24 to November 2, 2010. Three surgical intervals were evaluated: skin incision to myometrium, myometrium to delivery, and skin incision to delivery. Neonatal outcome was assessed by the 5-minute Apgar score.

Results: Of 1120 cesarean deliveries recorded during the study period, 77.2% were emergency procedures, which were performed more quickly at all surgical planes (P < 0.01). Adhesions in the surgical field were present in 7.4% of all primary procedures versus 67.7% of all third procedures (P < 0.001). The skin incision-to-delivery time was significantly extended among repeat procedures (P < 0.001) and increased progressively with degree of obesity (P < 0.001). Although the 3 surgical intervals were calculated individually, none of the median values correlated with a 5-minute Apgar score below 7 for emergency deliveries.

Conclusions: Repeat procedures, adhesions, and obesity prolonged the time taken for cesarean delivery. Nevertheless, the effect of these factors on the 5-minute Apgar score was minimal.

FCS87.6
NEW TECHNIQUE OF UTERINE CLOSURE IN LSCS-MODIFIED MATTRESS SUTURE
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Objectives: To have a good scar without thinning at the scar site which can withstand the stress of labour in post LSCS pregnancy. This in turn make Post LSCS Pregnancy a Low risk or no risk Pregnancy.

Method: In first case in a repeat LSCS thinned out scar site was excised and was closed by modified mattress suture. After 6 months when she had to undergo Hysterectomy for uterine fibroid, the uterus was cut and the site of LSCS was inspected. Now the study in going on primary LSCS and the scar thickness is assessed by TVS. Un published results very encouraging.

Results: There was no thinning at the repeat scar site.

Conclusions: Modified mattress suture ensures layer by layer approximation – Decidua to decidua, myometrium to myometrium, and serosa to serosa. This leads to better healing and good scar. This has the potential to be the Technique of choice for uterine closure in LSCS.

FCS87.7
MANAGEMENT OF MAJOR DEGREE PLACENTA PREVIA DURING LSCS OPERATION – A NEW SURGICAL TECHNIQUE (DUTTA’S)
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Objectives: Evaluation of a new surgical technique (Dutta’s) to prevent postpartum hemorrhage due to major degree placenta previa during cesarean section.

Method: This study was done in 94 cases diagnosed to be having major degree placenta previa, undergoing LSCS operation. New surgical technique (Dutta’s) was adopted in a stepwise manner = delivery of baby > bilateral uterine artery ligation by chromic catgut no 1 suture > injection tranexamic acid (1000 mg) IM > injection oxytocin in intravenous infusion (10 units 30 drop/min in 500 ml of 5% dextrose) > delivery of placenta and membranes > checked properly if any tear or laceration in placental site > closure of uterine wound was done after securing bleeding from placental bed > closure of abdomen in layers by polyglycolic acid no 1 suture.

Results: It was observed from this study that good effectiveness to control bleeding and intra operative blood loss less than 300 cc were seen in 89 (94.68%) cases respectively. Six (6.3%) cases required underlying interrupted suture for bleeding from placental bed. Subtotal cesarean hysterectomy was advocated in 3 (3.28%) cases due to failure to control uterine atony. Immediate post operative bleeding less than 200 cc was found in 81 (86.16%) cases. Maternal morbidity was seen in 12 (12.76%) cases. Subsequent menstrual cycles were found to be normal in 80 (87.91%) cases and repeated pregnancy was observed in 26 (28.57%) cases indicating non effect on gonadal function.

Conclusions: Dutta’s new surgical technique during LSCS for major degree placenta previa was found to be simple, safe and quick procedure. It reduces perfusion pressure, permits time for further steps, thereby avoiding unnecessary ligation of bilateral internal iliac ar-
teries and cesarean hysterectomy. Maternal mortality and morbidity were also found to be reduced. This technique is suitable for rural based hospital in absence of adequate blood transfusion facility.

FCS88.7
THE CERVIX AS A NATURAL TAMPONED IN POSTPARTUM HAEMORRHAGE ASSOCIATED WITH PLACENTA PRAEVIA AND PLACENTA ACCRETA
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Objectives: To evaluate the efficacy and safety of the use of the cervix as a natural tamponed in controlling postpartum haemorrhage associated with placenta praevia and/or placenta accreta. Significant bleeding from the placental bed was managed by inverting the cervix into the uterine cavity and suturing the anterior and/or the posterior cervical lips into the anterior and/or posterior walls of the lower uterine segment to compress the bleeding points in the placental bed. Additional manoeuvres like Bakri Ballon insertion were needed in 10 patients.

Results: The main technique described above and the additional manoeuvres were successful in stopping the bleeding in 38 patients out of 40 patients giving success rate of 95%. We resorted to hysterectomy in 2 cases only (5%). The mean Intraoperative blood loss was 1272.5 mls and the mean number of blood units transfused was 2.1. The complications encountered were as follow: bladder injury in the 2 patients who underwent hysterectomy, wound infection in 3 patients and postoperative fever which was responsive to antibiotics was 2 patients. The mean duration of postoperative hospital stay was 2.5 days.

Conclusions: On the base of this study, we conclude that this technique is a safe, simple, time saving and very effective in controlling severe postpartum haemorrhage (PPHge) associated with cases of placenta praevia/placenta accreta. It deserves to be one of the decision making manoeuvres in the algorithm of consequent actions with ligation of main uterine vessels and internal iliac arteries; and innovative technologies for saves an organ, reduces volume of intraoperative blood loss, prevents the development of massive hemorrhage and creates secure hemostasis.

FCS88.2
PROPHYLACTIC AMPICILLIN VERSUS CEFAZOLIN FOR THE PREVENTION OF POST-CESAREAN INFECTIOUS MORBIDITY IN RWANDA
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Objectives: To evaluate the efficacy of ampicillin versus cefazolin as prophylactic antibiotics prior to cesarean delivery in Rwanda.

Method: In a prospective, randomized, open-label, single-site study conducted between March and May 2012, the effects of prophylactic ampicillin versus cefazolin were compared among women undergoing cesarean delivery at the Centre Hospitalier Universitaire de Kigali, Rwanda. Postoperatively, participants were evaluated daily for infectious morbidity while in the hospital. Follow-up was done by phone and by appointment at the hospital within 2 weeks of delivery.

Results: During the study period, there were 578 total deliveries and 234 cesarean deliveries (40.4%). Overall, 132 women were enrolled in the study and randomized to receive either ampicillin (n=66) or cefazolin (n=66). No women were lost to follow-up. The overall infection rate was 15.9% (21/132). The infection rate in the ampicillin group and the cefazolin group was 25.8% (17/66) and 6.1% (4/66), respectively.

Conclusions: Implementing a universal protocol in Rwanda of prophylactic cefazolin prior to cesarean delivery might reduce postoperative febrile morbidity, use of postoperative antibiotics, and number of postoperative days in hospital.

FCS88.3
EMERGENCY PERIPARTUM HYSTERECTOMY: A MULTICENTER STUDY OF INCIDENCE, INDICATIONS AND OUTCOMES IN SOUTHWESTERN NIGERIA
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Objectives: To determine the incidence, indications and outcomes of emergency peripartum hysterectomy (EPH) in three tertiary institutions in south-west Nigeria between January, 2010 and December, 2013.

Method: A retrospective review of all cases of emergency peripartum hysterectomy over a four year period was done. EPH was defined as hysterectomy performed at the time of delivery or within 24 hours
of delivery for uncontrollable postpartum bleeding not responsive to conservative measures. Relevant information was extracted from the hospital records and operation notes. Statistical analysis was done using SPSS software version 17.0. Statistical significance was set at p < 0.05.

Results: There were 102 EPHs performed among 39,738 deliveries, giving a rate of 2.6 per thousand deliveries. Indications were uterine rupture (44.1%), uterine atony (37.3%), morbidity adherent placenta (17.6%) and extension of caesarean section incision to involve the uterine arteries (1%). Subtotal hysterectomy was performed in most cases (67.6%). Maternal case fatality rate was 11.8% and perinatal mortality rate was 55.9%. Blood transfusion, severe postpartum anaemia, wound sepsis, febrile morbidity and acute kidney injury were common morbidities associated with the procedure. Following multivariate logistic regression, the unbooked status [(Odds ratio 95% CI = 12.80 (1.22–133.97) p = 0.03] was the only variable that significantly predicted maternal death.

Conclusions: The incidence of emergency peripartum hysterectomy from our study is high. Emergency peripartum hysterectomy is associated with high maternal and perinatal morbidity and mortality. The importance of quality obstetric care and the value of skilled birth attendants are emphasized by our study.

FCS88.4
CESAREAN SECTION ON MATERNAL REQUEST: THE VIEWPOINT OF EXPECTANT WOMEN
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Objectives: To determine the women’s perception and factors influencing willingness to have cesarean section on maternal request (CSMR) in the absence of medical or obstetric indication.

Method: A cross-sectional questionnaire-based survey of 752 antenatal clinic attendees at Ekiti State University Teaching Hospital (EKSUTh), Ado-Ekiti. Pre-tested questionnaires were used to elicit information on sociodemographic and obstetric variables, awareness and perspective of CSMR and the willingness to request CS without physician’s recommendation. Frequency tables were generated and univariate and multivariate logistic regression were used to determine factors that influenced CSMR using SPSS software version 16.0.

Results: Forty-eight (6.4%) of the respondents reported willingness to request CS. The most common motivations for the request were fear of losing the baby during labor, delay in conception and fear of labor pains. Analysis by simple logistic regression and multiple regression showed age, parity and educational status were not significantly related to the decision for CSMR.

Conclusions: CSMR is an evolving entity in obstetrics practice in the developing countries. Delay in conception, fear of labor pain and loss of baby during labor appear to be strong motivations.

FCS88.5
A COMPARATIVE STUDY OF OUTCOME OF CESAREAN DELIVERY IN RURAL OBSTETRIC REFERRALS WITH ELECTIVE CESAREAN DELIVERY
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Objectives: To study and compare the obstetric outcome of referrals who underwent emergency caesarean delivery versus elective caesarean delivery in a tertiary care hospital in rural scenario.

Method: This comparative study was conducted at Rural Medical Hospital in Karnataka, India over a period of 18 months. Among the total of 100 patients who fulfilled the inclusion criteria 50 patients referred to us, who underwent caesarean delivery are emergency group and 50 patients admitted in our hospital who were posted for elective caesarean delivery were the other group in the study period. The various parameters, maternal morbidity, neonatal outcome, mortality if any were compared in both groups using a semi structured proforma. The comparison was done by using Chi-square test and p-value < 0.05 was considered statistically significant.

Results: During our study period the referred cases constituted of 19.8%. Caesarean delivery rate among referred cases was 40.7%. Of the various factors analyzed in relation to the two types of Cae- sarean, statistically significant association (P < 0.001) was found between emergency Caesarean and younger patients, low parity, irregular attendance at antenatal clinics, intra operative complications, postoperative morbidity, low Apgar score, NICU admission, mortality than in elective caesarean delivery group. The commonest indication for caesarean delivery in emergency was obstructed labour (34%), previous cesarean delivery (36%) being the commonest in elective group. Perinatal mortality was 12%.

Conclusions: This study showed that Improper intranatal, an emergency care for a pregnant woman being responsible for most of the referral cases undergoing caesarean section on emergency, caused increased maternal morbidity and perinatal deaths. The health administration system in rural parts of India is inadequate with lack of skilled man power, equipment and other facilities to handle obstetric emergencies. Poor referral system, low socio economic status, illiteracy, inadequate antenatal care and inadequate transport facilities to apex hospital—all this leads to increased risk of maternal and perinatal complication. Labour monitoring with partogram, early recognition and referral of high risk women will reduce the incidence and various problems associated with emergency Caesarean.
FCS88.7
UTERINE ARTERY LIGATION PRIOR TO UTERINE INCISION TO
MINIMIZE INTRAOPERATIVE AND POSTOPERATIVE BLOOD LOSS
IN PATIENTS WITH CENTRAL PLACENTA PREVIA

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Objectives: To evaluate uterine artery ligation prior to uterine incision to minimize blood loss during and after CS in patients with central placenta previa.

Method: 52 patients with central placenta previa planned to have elective CS at Minia University Maternity hospital in the period between November 2013 and November 2014 were recruited. Patients were randomly allocated into two groups: group one (ligation group) included 24 patients in whom uterine artery ligation was performed prior to uterine incision and group two (control group) included 28 patients underwent conventional CS.

Results: The intraoperative blood loss was significantly lower in the ligation group as compared with the control group (569.3±202.1 vs. 805.1±224.5, P=0.0002). The postoperative hemoglobin levels were higher and the operative time was shorter in the ligation group as compared with the control group. However, these differences did not reach statistical significance (P=0.08 and 0.16 respectively). There was a significant increase in the requirement for blood transfusion in the control group as compared with the ligation group (786±83 vs. 333±56, P=0.03) Three cases in the control group required further surgical interventions to control intraoperative bleeding (P<0.01).

Conclusions: Uterine artery ligation is a helpful procedure to minimize intraoperative and postpartum blood loss in cases with central placenta previa.

FCS88.8
A NOVEL TECHNIQUE FOR UTERINE CLOSURE IN PATIENTS WITH
EXTREMELY THIN UTERINE SCAR OF PREVIOUS LSCS: “REVERSE
UTERINE CLOSURE TECHNIQUE”

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Objectives: To devise a simple and practical technique for uterine closure in post caesarean patients with extremely thin lower segment, which prevents cutting through, window formation, repeated suturing attempts, reduces operative time and minimises bladder injury, especially in low resource settings.

Method: The study was conducted at Gurgaon, India involving 200 patients over 3 years. A novel technique for closure of uterine incision in patients undergoing a repeat caesarean section with extremely thin lower uterine segment. In this technique, the suture goes from upper to the lower uterine edge. The tightening pull of the suture is exerted over the thicker, upper uterine edge of incision. The brace of the stitch sits over and supports the lower edge with no thread cutting through the thin lower segment. The surgeon may start from either left or right end of incision according to his preference.

Results: In all the patients, this simple, modified surgical technique led to lesser cutting through and window formation in lower uterine segment, a reduced operating time by avoiding repeated suturing and also better haemostasis and approximation. The incidence of urinary bladder injury was also reduced.

Conclusions: This technique is easy, requires no special expertise or resources and can be beneficial to all obstetricians dealing with post caesarean patients especially in low resource settings where best surgical expertise, assistance and resources may not be available always. It also leads to better post op recovery and reduced morbidity as unnecessary suturing & bladder injuries are avoided.

FCS89.1
THE EFFECT OF CESAREAN SECTION OPERATIVE TECHNIQUE ON THE OCCURRENCE OF LARGE HYSTEROTOMY SCAR DEFECTS: A RANDOMIZED TRIAL

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Objectives: To evaluate if the level of hysterotomy incision at Cesarean section can influence the occurrence of large scar defects.

Method: 123 women with no previous Cesarean section in active labor (cervix dilatation ≥5 cm) were randomized into two groups. In the high incision (HI) group the uterine incision was performed 2 cm above plica vesicouterina and in the low incision (LI) group 2 cm below plica vesicouterina. 6–9 months after delivery the women were examined with saline contrast sonohysterography (SCSH) to assess the appearance of the hysterotomy scar. The ultrasound examiner was blinded to the operative technique. A scar defect was defined as large if the remaining myometrial thickness over the defect (RMT) was ≤2.5 mm.

Results: 108 women were included in the analysis: 50 of 60 women assigned to the HI group and 58 of 63 women assigned to the LI group. 15 women were excluded due to being lost to follow up, uterine malformations, subsequent pregnancy or failed SCSH. Large scar defects were seen in 4 (8%) of women in the HI group and in 24 (41%) of women in the LI group (p<0.001).

Conclusions: The level of hysterotomy incision at Cesarean section in advanced labor seems to influence the occurrence of large scar defects detected by transvaginal ultrasound 6–9 months after delivery. The hysterotomy incision in advanced labor should be performed above plica vesicouterina and the surgeon must be aware of the changed anatomy of the lower uterine segment in late first stage and during second stage of labor.

FCS89.2
APPROPRIATENESS OF ELECTIVE CAESAREAN DELIVERIES IN A PERINATAL NETWORK: A CROSS-SECTIONAL STUDY

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Objectives: The overall cesarean rate in France has increased from 14.3% in 1994–1996 to 21.0% in 2010. This increased rate is a concern in all developed countries because delivery by caesarean leads to both short- and long-term maternal complications. Consequently, its use requires careful reflection. The principal objective of this work was to describe the global appropriateness of indications for caesareans in a selected sample of planned caesareans performed within the Auvergne perinatal health network. The secondary objective was to assess the impact of this medical assessment on the global cesarean rate in this network.

Method: This audit was conducted in 2011, 2013, and 2014, among all maternity units of the Auvergne perinatal network in France (n=10) and included nulliparous or primiparous women who had a singleton pregnancy in cephalic presentation or a twin pregnancy
with twin 1 in cephalic presentation and a planned cesarean at term. We used the French guidelines issued from 1998 through 2010 as our benchmark for appropriateness. A cesarean was defined as appropriate when it met at least one criterion for appropriateness as defined by national guidelines or if the experts conducting the review classified it as appropriate.

**Results:** The first audit took place from October 2011 through January 2012 (192 cases) and 34.4% of cesareans were considered inappropriate; 12.0% were maternal-preference cesareans. The second audit, in 2013 (99 cases), found 19.4% of cesareans to be inappropriate. The third audit took place in 2014 (140 cases through the end of 2013) and found a 20% inappropriate cesarean rate. The percentage of appropriate cesareans improved over time. Moreover, the percentage of cesareans decreased and then stabilized during that period (2011: 20.5%; 2012: 18.5%; 2013: 18.7%; 2014: 18.9%).

**Conclusions:** Our study revealed that the French healthcare providers do not always follow French guidelines about indications for cesareans. Such an appropriateness review of cesareans, conducted within a perinatal health network, is feasible and would, more than a feedback of quantitative indicators to obstetricians, make it possible to quantify the rate of inappropriate cesareans, regardless of their cause. This type of medical quality assessment appeared to have some effect on medical practices in the short run, as this rate decreased in our perinatal network from 2011 to 2014.

**FCS89.3 NOVEL USE OF SATINSKY’S CLAMP TO CONTROL PPH DURING CESAREAN SECTION**

**M. Gupta, FOCSI, Indiа, Indiа**

**Objectives:** In developing country like India, rate of cesarean operation is increasing to an alarming level eventually leading to increased rate of C-section. Repeat multiple cesarean section and ART techniques for elderly females leads to more chances of placenta adhesion pathology. Most of the time gynecologists are helpless during the case of placenta previa/acreta. This technique will give a sigh of relief for them. It is easier, more effective and speedier technique to control haemorrhage. It is reproducible. It doesn’t require special assistance. It can be a part of routine teaching curriculum in post graduate teaching.

**Method:** After uterus is being exteriorized, small window is to be made in an avascular area in broad ligament at the level of insertion of uterine artery on both the side. Now Satinskyatraumatic clamp should place as low as possible so as to occlude the uterine vessel and lower uterine segment. It will compress anterior as well as posterior wall. Same procedure is to be done on opposite side. Another clamp is to be applied on Infundibulopelvic ligament on either side to occlude both Ovarian vessel.

**Results:** Our motto is prevent severe Atonic haemorrhage or lower segment haemorrhage in Placenta previa and acreta. We can buy some time to arrange for Assistance, Blood, Suturing or experts to join.

**Conclusions:** It can prevent unnecessary, harmful and panic Obstetric Hysterectomy. It is cheap, effective and reproducible technique. It may be responsible for number of Blood Transfusion is important to less maternal morbidity.

**FCS89.4 INNOVATIVE SURGICAL TECHNIQUE FOR MANAGING POST PARTUM HAEMORRHAGE**

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**Objectives:** As maternal mortality is still a major concern in the world. As Millennium Development Goal is to reduce the MMR by one third of the present rate so we the gynecologist, have to adopt some innovative technique for the same. At present there are many surgical techniques to control the PPH and to conserve the uterus. The technique which I am presenting is easier, more effective and speedier technique to control haemorrhage. It is reproducible. It doesn’t require special assistance or sophisticated instruments. It can be a part of routine teaching curriculum in post graduate teaching.

**Method:** Uterus is to be exteriorized. No. 2 Chromic catgut with double strand is taken with 3.5 inch long straight needle. Needle is passed from 3 cm above and 3 cm medial to upper cut edge of the uterus in case of cesarean section or 3 cm medial from lateral edge of uterus in Isthmus, for full thickness of myometrium. From double strand, one strand will make a loop on the top of uterus as Heyman’s suture. Second strand of suture is to be taken in front from avascular area in the broad ligament just below the cut edge of uterus. Both strand tied firmly.

**Results:** Aim is vertical compression of the gravid uterus as well as occlusion of the ascending branch of the uterine artery which is going to anastomose with the branch of ovarian artery. So single puncture will suffice to compress as well as occlude.

**Conclusions:** It has an advantage of not only compression but occlusion of uterine vessel. It will not obstruct the uterine cavity as in B Lynch operation. So no intra-uterine collection will happen post operatively. If B-Lynch operation fails than only alternate is an Obstetric hysterectomy, but here as uterine cavity can be explored vaginaally hence Still Balloon Therapy has a scope. No chance of muscle necrosis. Training is very easy. No sophisticated extra instruments are required.

**FCS89.5 VACUUM EXTRACTION COMPARED TO CESAREAN SECTION DURING THE SECOND STAGE OF LABOUR: OUTCOMES AND MATERNAL PERCEPTION IN MULAGO HOSPITAL, UGANDA. PRELIMINARY RESULTS AFTER 50% OF INCLUSIONS**

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**Objectives:** Prolonged second stage of labour is a major cause of perinatal and maternal morbidity and mortality. Vacuum extraction is proven effective in high-resource settings, but hardly used in Africa. Can vacuum extraction prevent complications in a low-resource setting as well? And will mothers accept this -nowadays in their setting- relatively unknown intervention? This study is part of a project to re-implement vacuum extraction in Mulago Hospital, Uganda. Other results of this project have been presented before (ref: proceedings AFOG 1st regional congress, Nairobi 2015): vacuum extraction became a daily routine intervention and the intrapartum stillbirth rate decreased significantly by 24%.

**Method:** This prospective observational study started in November 2014 in Mulago Hospital, Uganda. The hospital has a busy maternity unit, with over 32,000 deliveries per year. We compared outcomes of vacuum extraction with outcomes of the alternative intervention: cesarean section during the second stage of labour (CS). Maternal perception of the intervention was investigated using a questionnaire.

**Results:** In three months 378 mothers were included: 169 had vacuum extraction and 209 had CS. Indications for intervention, duration of second stage and number of HIV infected mothers were comparable for both groups. Perinatal mortality was 13.0% in the CS group and 7.3% in the vacuum extraction group (p = 0.09). Average blood loss was 526ml for CS and 231ml for vacuum extraction (p < 0.001). Pain during the first 24 hours was 4.5/10 after CS and 2.8/10 after vacuum extraction (p < 0.001). If needed, 88% of mothers who had vacuum extraction and 52% who had CS would prefer vacuum extraction in a next pregnancy.

**Conclusions:** Vacuum extraction is well accepted by mothers in Mu-
Lago Hospital. Perinatal outcomes show a trend towards better outcomes in the vacuum extraction group. We expect a significant difference when reaching our intended number of inclusions (744). During the follow up period of six months neonatal and maternal outcomes will be further investigated. We expect that this study will demonstrate that there is an important role for vacuum extraction in the fight against perinatal and maternal morbidity and mortality in low-resource settings. Implementing vacuum extraction on a larger scale should be one of the priorities of policymakers and health investors.

**FCS89.6 LAPAROTOMY AFTER CHILDBIRTH: A TWO-YEAR NATIONWIDE COHORT STUDY IN THE NETHERLANDS**

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**Objectives:** Laparotomy following childbirth is one of the major interventions in pregnant women with severe complications. Complications leading to laparotomy include postpartum (intra-abdominal) hemorrhage, uterine rupture and sepsis. The incidence of laparotomy following childbirth has not been studied at country level before. We aimed to identify national incidence rates and associated risk factors of laparotomy after caesarean section (CS) and vaginal delivery (VD) in the Netherlands.

**Method:** We used data from a cohort study, conducted between 2004 and 2006, which included all women who sustained severe acute maternal morbidity in one of the 98 maternity units in the Netherlands. All women in the cohort who had a laparotomy after childbirth were analyzed. The total number of deliveries in the Netherlands in the same period was used as reference cohort. Main outcome measures were the incidence of laparotomy after childbirth during the periperal period and associated risk factors.

**Results:** The incidence of laparotomy was 4.9 per 10 000 deliveries (0.049%): 1.2 per 10 000 VD (0.012%) and 25.5 per 10 000 CS (0.26%). The RR for laparotomy was 22.5 (95% CI: 15.5–32.5) among inclusions (incidence: 0.2–0.9%) the risk for laparotomy is lower when the CS is planned. Comparisons leading to laparotomy include postpartum (intra-abdominal) hemorrhage, uterine rupture and sepsis. The incidence of laparotomy following childbirth has not been studied at country level before. We aimed to identify national incidence rates and associated risk factors of laparotomy after caesarean section (CS) and vaginal delivery (VD) in the Netherlands.

**Conclusions:** This study is the first to report a national incidence rate of laparotomy after birth. Compared to the literature, comprised of a limited number of case-control and facility-based studies with few inclusions (incidence: 0.2–0.9% in women who underwent CS) the laparotomy rate in the Netherlands was relatively low (0.26%). The risk of laparotomy was significantly higher in women who delivered by CS compared to those who delivered vaginally. If CS is performed, the risk for laparotomy is lower when the CS is planned.

**FCS89.7 TRENDS IN CAESAREAN SECTIONS: ARE THRESHOLDS FOR DELIVERY FALLING AND NEONATAL OUTCOMES IMPROVING?**

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**Objectives:** To explore potential determinants of increased unplanned caesarean section (CS) rates, including indicators of changes in clinical thresholds, and the relationship between CS rates and neonatal outcomes. This was achieved by performing a time trends analysis of all nulliparous deliveries at or beyond 37 completed weeks gestation at Aberdeen Maternity Hospital, UK, between 1982 and 2012 (n = 67,053).

**Method:** Univariate and multivariate linear regression analysis of log-transformed data to assess time trends in: unplanned CS rates; median duration of labour stages before CS for delayed progress; confirmed fetal acidemia before CS for suspected fetal distress; neonatal mortality; birth trauma; neonatal unit (NNU) admission and 5 minute Apgar score < 7. Logistic regression to calculate odds ratios (OR), indicating change in risk between sequential delivery years. Analyses were adjusted for changes in maternal age over 35 years, maternal body mass index greater than 25, induction of labour rates and maternal smoking rates.

**Results:** Unplanned CS increased significantly from 9.3% in 1982 to 20.8% in 2012. The risk of a nulliparous woman, at term, having an unplanned CS increased each year (OR, 1.041; 95% CI: 1.039–1.044), explained by older maternal age and higher induction of labour rates. Thresholds for CS have reduced over time with regard to failure of labour progression (p < 0.001) and fetal distress (p = 0.006). Neonatal mortality (OR, 0.971; 95% CI: 0.950, 0.991), birth trauma (OR, 1.105; 95% CI: 1.094, 1.115) and low Apgar scores (OR, 0.986; 95% CI: 0.979, 0.992) have reduced annually, while NNU admission rates have increased (OR, 1.026; 95% CI: 1.023–1.030).

**Conclusions:** Unplanned CS rates have more than doubled in three decades, mainly attributable to increases in maternal age and induction of labour rates, the latter being likely to reflect increasingly complicated pregnancies. There is a suggestion of a reduction in clinical thresholds for CS for delayed progress in labour and suspected fetal distress, but an improvement in neonatal outcomes during the study period (other than NNU admission) is clear, which may justify lower clinical thresholds. This study suggests increased CS rates may have net neonatal benefit.

**FCS90. Operative Obstetrics**

**FCS90.1 COMPARATIVE RISK OF OBSTETRIC AND IATROGENIC FISTULA FROM SHORT HEIGHT IN BANGLADESH**

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**Objectives:** To examine the risk of obstetric fistula compared to iatrogenic fistula from short height in Bangladesh.

**Method:** Secondary data were analyzed for 248 women diagnosed with genital fistula who had repair surgery performed at the National Fistula Center in Dhaka, Bangladesh during 2010–2014. Information recorded in the routine clinical history form were coded, cleaned and analyzed using SPSS 17. Out of 248 cases, height in centimeters, age at delivery, and types of fistula information were available for 183 cases including 97 (53%) obstetric fistula and 86 (47%) iatrogenic fistula cases. Hierarchical logistic regression was conducted to assess whether height, controlling for age at delivery predicted obstetric fistula from fistula patients.

**Results:** The mean height of obstetric fistula cases was 143 cm (95% CI: 141–144 cm), and iatrogenic fistula was 149 cm (95% CI: 147–150 cm). Mean age of first delivery of both the types of fistula was 18 years. Age at delivery did not predict obstetric fistula significantly. Height, when controlling for age at delivery, predicted obstetric fistula significantly. The odds ratio revealed that low height increased the likelihood of obstetric fistula among fistula patients by 1.2 (95% CI: 1.1–1.2). So, decrement of one centimeter of height resulted a 1.2 (95% CI: 1.1–1.2). So, decrement of one centimeter of height resulted a 1.2 times increase in the likelihood of obstetric fistula among fistula patients.

**Conclusions:** This analysis confirms low height as a significant risk factor for obstetric fistula among fistula patients. But age of delivery did not increase risk for obstetric fistula compared to iatrogenic fistula.
tula. Further research is suggested to set a cut off point for significant risk of obstetric labor for women in Bangladesh. Larger dataset may be analyzed to define the relationship of age of delivery with risk of obstetric fistula.

FCS90.2
LASER CESAREAN SECTION – 12 YEARS EXPERIENCE
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Objectives: Making an inevitable and necessary obstetric procedure, minimally invasive, by using laser technology. Therefore, reducing pain, risks of complications, recovery periods and costs for public health systems insurance companies and patients.

Method: In a period of 12 years, 947 patients underwent Laser C-Sections. Double wavelength Laser unit, Cool Blue Tip Optical Fiber, Integrated Infrared temperature control unit, water-cooled heat disperser, silicone retractors and modified incisions.

Results: In our 12 year experience with the Laser C-Section, we have reduced pain and the incidence of Infection, Anemia, wound dehiscence, Hemorrhagic shock, Blood transfusions, HIV, Hepatitis B and C, Hematomas, DVT, PE, UTI, Injury by Scalpel to Fetus and most important, Vertical Transmission of HIV to the newborn fetus.

Conclusions: Patients that underwent Laser C-Sections, had little or no pain and minimal bleeding. Which permitted an early deambulation capacity, usually 2 to 3 hours after surgery. The initial incision with Laser, Vaporizes any Bacteria on skin surface, reducing infection. As patients deambulate free of pain and Anemia, withdrawing Foley Catheter, reduced incidence of UTI. Early deambulation reduced incidence of DVT, PE, Paralytic ileum, future intra-abdominal adherences and promoted quicker healing, reducing recovery periods and Hospital time of only 24 hours or less.

FCS90.3
LASER-ASSISTED EXTRA-PERITONEAL C-SECTION: MOST MINIMALLY INVASIVE C-SECTION
G. De Pena. Hospiten Santo Domingo, Santo Domingo, Dominican Republic

Objectives: The overall goal in Medical Science is to achieve better results in patient care, reducing risks of complications, recovery periods and costs for patients and Public health systems. We achieve these goals by discovering new medications, finding new applications for new technologies, among others.

12 years experience of LASER C-Sections, we have encountered several cases of patients with Ovarian Infections from Premature Rupture of the Membranes and Patients with multiple intra-abdominal adherences from endometriosis or previous surgeries, which increases the morbidity and mortality of the patient.

Our objective was to encounter these complications by combining 2 minimally invasive approaches: Extra-Peritoneal C-Section and LASER Surgery.

Method: In a period of 2 years we have treated 27 patients with either Ovarian infection or history of intra-abdominal adherences. We used double wavelength LASER unit, Cool Blue Tip Optical Fiber, Infrared temperature monitoring system, water cooled heat disperser, silicone retractor and modified incisions (LAASOG SYSTEM).

Results: 27 patients, 9 with Ovarian Infections and 18 with known intra-abdominal adherences, were treated with Laser assisted Extra Peritoneal C-Section.

None of the ovari infected patients suffered peritonitis and all recovered quickly with antibiotic treatment. The other 18 patients with known intra-abdominal adherences also recovered quickly with no iatrogenic damage to intestines or other organs.

Conclusions: In our 12-year experience with Laser C-Sections we had concluded that this method was minimally invasive, reducing pain, risks of complications, recovery periods, Hospital stay and costs. We concluded 9 Indications for a Laser assisted C-Section; Pre Eclampsia, Anemia, HIV patients, reducing vertical transmission to fetus, iatrogenic damage to fetus from scalpel, Hepatitis B and C, HELLP Syndrome, Dengue Fever, Bleeding Disorders and Jehovah Witness patients. With this procedure we have added 2 more indications: Ovarian Infection (PRM) and Intra-abdominal adherences. Patients may eat solids same day of surgery. Therefore converting the Laser Extra-Peritoneal C Section into: THE MOST MINIMALLY INVASIVE C-SECTION.

FCS90.4
RESPIRATORY MORBIDITY IN TERM INFANTS DELIVERED BY ELECTIVE LOWER SEGMENT CESAREAN SECTION – A RANDOMIZED CONTROL TRIAL
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Objectives: Deliveries by caesarean section continue to increase in both developed and developing countries. The study was aimed at investigating the association between term elective caesarean sections and neonatal respiratory morbidity and the importance of timing elective caesarean sections at term. Maternal morbidity was also assessed when the patient underwent emergency LCSs on or on a date other than the elective LCSs date. The primary outcome measures were neonatal morbidities like Transient Tachypnoea of Newborn and Respiratory Distress Syndrome. The secondary outcome measures were emergency caesarean section rates and maternal morbidities like scar dehiscence, urinary tract infection, endometritis, peritonitis and hemoperitoneum.

Method: All term pregnant women attending the OPD of Department of OBG, CMC, Vellore, India between 1st January and 31st December 2009 (150 patients) were enrolled into the study at 35–36 weeks and randomized into either Group-A (37 to 38+6 weeks) or Group-B (39 to 41+6 weeks). They were planned for elective caesarean section. The baseline characteristics like age, BMI, parity, gestational age were noted. Subsequently, emergency or elective LCSs was performed based on the indication and they were categorized for the sake of analysis. Maternal morbidities were looked into. The diagnosis of neonatal respiratory morbidity was established by the Neonatologists.

Results: TTN was diagnosed in only one infant in Group-A while there were none in Group-B. No infants were diagnosed to have RDS in either groups. Out of the 150 women posted for elective LCSs, 55 women underwent emergency caesarean section; 19 (25.3%) women were from Group-A and 36 (48.0%) women from Group-B, the difference was statistically significant (p < 0.001). None of the women in Group-A had maternal morbidities like scar dehiscence, UTI, endometritis and hemoperitoneum, while there was one woman each with scar dehiscence and endometritis and two women each with urinary tract infection and hemoperitoneum in Group-B.

Conclusions: Newborns delivered by LCSs at 37 to 38+6 weeks gestational age had no increased risk factors of developing respiratory morbidities like TTN or RDS in comparison to newborns delivered at 39 to 41+6 weeks. The rates of emergency caesarean section as well as maternal morbidities like scar dehiscence, urinary tract infection, endometritis and hemoperitoneum were significantly higher in the patients undergoing LCSs after 39 weeks. Thus, women requiring elective caesarean section can safely undergo LCSs between 37 and 39 weeks with no increase in the rates of neonatal morbidity but significant decrease in maternal morbidity.
FCS90.5
INTRODUCING THE ANTERIOR NON-EPISTOMITY OR "NATURAL" FORCEPS TECHNIQUE AS A WAY OF MINIMISING THE RATES OF OBSTETRIC ANAL SPHINCTER INJURIES

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Objectives: It is widely accepted that instrumental delivery is associated with an increased risk of anal sphincter injuries (OASIs). What is not clear is whether routine episiotomy, performed during such delivery, is protective towards OASIs. Could potentially the technique of performing instrumental deliveries, rather than the use or not of episiotomy, hold the answer to reducing the incidence of OASIs?

In a series of 120 consecutive Neville Barnes forceps deliveries, the anterior non-episiotomy (ANEF) or “natural” forceps technique is introduced, in an attempt to see whether by mirroring the course the foetal head follows naturally we can reduce the OASIs rates.

Method: With information Governance Team approval, the antenatal notes of 120 consecutive Neville Barnes forceps deliveries, performed by the author over 24 months (February 2013– January 2015), were reviewed.

In ANEF, using Neville Barnes the operator follows the established practice of application and safety-check. As the head crowns, the bed or operating table is lowered to its lowest position. The operator, then, trails with the forceps the natural curve of foetal head birth, slowly bringing the emerging head anteriorly. This is usually achieved by one or two controlled, effortless pulls, during which the patient is asked to breathe and blow gently.

Results: In 120 consecutive Neville Barnes forceps deliveries, 82% of which were in primigravidae, using the ANEF technique, the rate of OASIs was 3.3% (two 3B, one 3C and one 4th degree tear). The 4th degree was secondary to inadvertent forceful expulsive maternal effort, after the head had already been delivered through an intact perineum.

Twenty percent experienced an intact perineum (95% of them were primiparous), 33% had a 1st degree tear, and 47% a small (1–2 cm in length) 2nd degree. Out of those patients, 30% sustained minimal, either unilateral or bilateral, labial tears. There were no adverse foetal outcomes.

Conclusions: Obstetrics and gynaecology, along with other specialties, is moving into the era of Enhanced Recovery, where minimising the impact during operative procedures is becoming the norm. The ANEF technique appears to reduce the rates of OASIs, and is associated with improved recovery by avoiding episiotomy. A 3.3% rate in this series of 120 patients is encouraging, when the quoted OASIs rates in the traditional method of forceps delivery with episiotomy is around 10%.

This abstract is introducing the ANEF or “natural” forceps, as part of the Enhanced Recovery Pathway. Patient satisfaction and early feedback from community midwives is inspiring.

FCS90.6
CESAREAN SECTION RATES AT THE TERTIARY HOSPITALS IN UKRAINE USING THE ROBSON’S CLASSIFICATION

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Objectives: Cesarean section (CS) rate in Ukraine is almost doubled since 1998. Data on CS indications are out of official statistics. To maintain safety mode of delivery without continuous increase of CSs, especially at the referral hospitals, it is important to understand factors associated with operative delivery. Thus, objective of the study was to analyze indications for operative delivery at the tertiary hospitals.

Method: Study has been conducted at the two referral hospitals in the Central Ukraine regions. Data for all births were retrieved from officially approved and used archival paper register and computed. Robson’s classification has been applied to all consecutive deliveries for January–November 2014 (Hospital 1, n=1285) and for January–September 2014 (Hospital 2, n=1280). This classification uses 4 obstetric characteristics (parity, labour type, gestational age and fetal presentation/number) to classify women into one of 10 groups, is easily replicable and subject to the least bias. Descriptive statistics was applied.

Results: CS rates were 34.01% (Hospital 1) and 22.97% (Hospital 2) with no difference in prematurity (around 10%), perinatal mortality (20.23% vs 19.20%) and Apgar score less than 7 at 5 minutes (2.60% vs 2.56%). Multiparous women with uterine scar (Group 5) were most likely to be delivered by CS (12.30% vs 7.03%), followed by nulliparous women (Group 2) who either had labour induced or were delivered by CS before labour (3.74% vs 4.38%). Nulliparous women with single cephalic pregnancy, >37 weeks gestation in spontaneous labour 6.52 times more often contributed to CS rate at the Hospital 1 (3.11% vs 0.47%).

Conclusions: The groups required future analyses in order to understand factors contributed to CS rates were identified. Some practices (less often labour induction and vacuum-extraction application) were associated with higher CS rates. Robson’s Classification can better help us determine if the right women at the right time are undergoing CS, where gaps are, and how they can be met.

FCS90.7
PROPHYLACTIC INTRAMUSCULAR INJECTION OF OXYTOCIN VS INTRAVENOUS INFUSION OF OXYTOCIN TO MINIMISE BLOOD LOSS AT CAESAREAN SECTION

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Objectives: The aim of the present study were to compare the effectiveness of prophylactic administration of oxytocin intramuscularly before giving uterine incision with intravenous infusion just after delivery of neonate in prevention of uterine atony and thereby minimizing blood loss at caesarean section.

Method: The study included 400 informed & consented singleton, full-term pregnant women undergoing elective lower segment caesarean section under spinal anaesthesia. They were randomly allocated to receive either 10 units of oxytocin intramuscularly just before giving uterine incision or intravenous infusion of 10 units of oxytocin soon after delivery of the neonate. The placenta was delivered using cord traction combined with external massage. Intraoperatively, for each patient blood loss was assessed subjectively by visual estimation by the attending staffs (Obstetrician, Anaesthetist and the scrub nurse). Drugs related side effects both to the mother and neonate were noted.

Results: The estimated mean blood loss and time lag between delivery of the baby and placenta were less in intramuscular group (397.04±108.95 ml vs 488.99±159.53 ml; P=0.001 & 17.01±7.2 sec. vs 27.96±13.03 sec; P=0.001). The incidence of side effects of drug (i.e., Nausea, Vomiting, Tachycardia & Hypotension) were more in intravenous group. No neonatal side effects were observed in intramuscular group.

Conclusions: Intramuscular injection of oxytocin appears to be more effective than the conventional intravenous infusion in reducing blood loss at caesarean section. It is saved and facilitated the delivery of the placenta more quicker.
**FCS91. Reproductive Endocrinology**

**FCS91.1**

**A STUDY OF SPERM MORPHOLOGY IN A PAKISTANI POPULATION**

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**Objectives:** To determine the sperm morphology of proven fertile males and compare this with that of infertile males.

**Method:** The study was carried out at railway teaching hospital Rawalpindi and Islamabad clinic serving infertile couples in Islamabad between June 2005 to July 2006. 50 healthy fertile males were selected and their sperm morphology was determined according to Tygerberg’s strict criteria, while another 50 infertile males were recruited as controls.

**Results:** Proven fertile group showed higher morphologically normal forms of sperms (3.04±1.63) than the infertile group. The results showed that sperm morphology assessed by Tygerberg’s strict criteria is of value in the in vivo situation to identify a group with a greater chance of having an infertility problem.

**Conclusions:** Tygerberg’s strict criteria sperm morphology analysis should be used to minimize variations in intra and inter-individual and inter-laboratory sperm morphology assessment.

**FCS91.2**

**CHANGES IN BONE DENSITY AFTER CANCER TREATMENT IN PATIENTS WITH CERVICAL AND ENDOMETRIAL CANCER**

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**Objectives:** This study aimed to evaluate the impact of cancer treatment on bone mineral density (BMD) in the lumbar spine (LS) and femur in the postmenopausal women with cervical or endometrial cancer without bone metastasis compared to normal control postmenopausal women.

**Method:** We retrospectively evaluated the BMD data in the LS, femur neck (FN) and trochanter (FT) by dual-energy X-ray absorptiometry and laboratory data of bone turnover markers at baseline and after one year in 130 patients with cervical cancer, 68 patients with endometrial cancer, and 225 healthy controls.

**Results:** Only T-score of basal BMD at the fourth lumbar vertebra (L4) was significantly lower in patients with cervical cancer compared to controls. One year later, T-scores of BMD at all LS sites and FN in patients with cervical cancer and T-scores of BMD at L3, L4, FN, and FT in those with endometrial cancer after cancer treatment were significantly lower compared to controls.

Lower proportions of normal BMD at all skeletal sites except L2 in patients with endometrial cancer and those at L1, L4, and FN in patients with cervical cancer were observed compared to controls after cancer treatment.

**Conclusions:** Our results suggest that cancer treatment increases bone loss in postmenopausal women with cervical and endometrial cancer.

**FCS91.3**

**SALIVARY VERSUS SERUM APPROACHES IN ASSESSMENT OF BIOCHEMICAL HYPERANDROGENEMIA**

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**Objectives:** This prospective observational randomized study was conducted to investigate the likelihood of using the salivary luteinizing hormone (LH), free testosterone (FT) and dehydroepiandrosterone sulfate (DHEAS) levels instead of serum values in diagnosing biochemical hyperandrogenemia in women with PCOS.

**Method:** This study was conducted on 75 women having PCOS in addition to 20 normal fertile women (control group). Venous blood and salivary samples were taken in the 3rd day of the cycle to measure LH and FT and DHEAS levels.

**Results:** Biochemical hyperandrogenemia prevails in 40% of women with PCOS. Salivary levels of LH, FT and DHEAS correlate with their corresponding serum values, with a higher sensitivity of salivary more than serum approach.

**Conclusions:** Saliva provides a sensitive, simple, reliable, non-invasive and uncomplicated diagnostic approach for biochemical hyperandrogenemia.

**FCS91.4**

**EFFECT OF OBESITY ON HORMONAL PROFILE AND SEMEN PARAMETERS OF MALE PARTNERS OF INFERTILE COUPLES IN NIGERIA**

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**Objectives:** The aim of our study was to evaluate the effect of male obesity on semen quality and hormonal milieu.

**Method:** This was a prospective Cross-sectional multicenter study carried out over a period of six months involving 42 obese and 42 non-obese male partners of infertile couples. Serum levels of testosterone, luteinizing hormone (LH), follicle-stimulating hormone (FSH) and oestrone were assayed in addition to seminal fluid analysis.

**Results:** There was a statistically significant association between obesity, class of obesity with sperm count; motility (p=0.0001, 0.0141, 0.0055, 0.0099), as well as FSH (p=0.0076) and testosterone (p=0.0005) levels. There was however no significant association between LH and estrogen levels in this study (all p > 0.005).

**Conclusions:** This study has demonstrated an inverse but significant relationship between male obesity and semen parameters (sperm count and motility) amongst male partners of infertile couples. This study also showed an inverse but significant relationship between obesity and serum testosterone and FSH amongst the study population. This suggests that male obesity has an adverse effect on the quality of semen amongst male partners of infertile couples.

**FCS91.5**

**PREVALENCE, PRESENTATION AND MANAGEMENT OF POLYCYSTIC OVARY SYNDROME IN ENUGU, SOUTH EAST NIGERIA**


**Objectives:** To determine the prevalence, presentation and management of polycystic ovary syndrome among women in Enugu, South East Nigerian.

**Method:** A prospective descriptive study of women with polycystic ovaries seen in two major Infertility Clinics in Enugu, South East Nigeria over a two-year period.

**Results:** A total of 342 women presented with infertility in the centres within the two-year period, out of whom 62 had PCOS. PCOS occurred in 18.1% of women in the infertility clinics of the two institutions. The common modes of presentation were: inability to conceive (infertility) in 52 (83.9%), oligoamenorrhea in 45 (72.6%), obesity in 32 (51.6%), LH/FSH ratio >2 in 28 (45.2%), hyperprolactinaemia in 26 (41.9%) and hirsuitism in 19 (30.6%) women. Ovulation induction was carried out in 42 of the 50 women with anovulatory infertility only.

**Conclusions:** PCOS is fairly common occurring in approximately one in six infertile Nigerian women. Infertility, oligoamenorrhea, obesity, LH/FSH ratio >2, hyperprolactinaemia and hirsuitism are the commonest presenting features. On individualized management, about two-fifths of them conceive either spontaneously or following ovulation induction, despite poor compliance to recommended drug regimen.
METFORMIN DIRECTLY ALTERS KEY GLYCOLYTIC ENZYME PROTEIN EXPRESSION AND MITOCHONDRIAL FUNCTION IN THE ENDOMETRIA OF PCOS PATIENTS

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Objectives: Polycystic ovary syndrome (PCOS) is a significant risk factor for the development and progression of type I endometrial cancer (EC). In a recent case study, we have reported a proof-of-concept that a combination of metformin and oral contraceptives treats early-stage EC in PCOS patients. Although metformin-induced metabolic effects in PCOS and EC patients have been investigated, it is not known whether this therapeutic drug has a direct effect on the endometria and further regulates glycolysis and mitochondrial function in PCOS patients with endometrial hyperplasia and carcinoma.

Method: Western blot analysis was used in this study.

Results: We show that endometria from PCOS patients with endometrial hyperplasia and carcinoma have a distinct protein expression pattern of glycolytic enzymes, including mitochondrial TFAM, which is necessary for energy production from oxidative phosphorylation. Using endometrial tissues from PCOS patients with hyperplasia, we evaluated the effects of metformin on the protein levels of key enzymes in glycolysis in vitro. In response to metformin treatment, HK2 expression was decreased, whereas PFK, PKM2, and LDHA expression was increased compared to controls. Interestingly, the expression of TFAM and cleaved caspase-3, a downstream target of cytochrome C, was increased after metformin treatment.

Conclusions: Overall, our data indicate that metformin integrates endometrial glycolytic metabolism with mitochondria-related cellular function by regulating key glycolytic enzyme protein expression in the endometrium.

THE IMPACT OF LAPAROSCOPIC CYSTECTOMY ON OVARIAN RESERVE IN PATIENTS WITH BENIGN OVARIAN CYSTS: A PROSPECTIVE STUDY

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Objectives: To investigate the effects of laparoscopic cystectomy on ovarian reserve in patients with benign ovarian cysts as assessed by the serum antimullerian hormone (AMH) and inhibin B levels and to identify the important factors affecting a decreased ovarian reserve.

Method: A total of 40 patients who had undergone laparoscopic cystectomy for ovarian endometrioma (n=22) or other benign ovarian cysts (n=18). Serum AMH, inhibin B, FSH, LH, E2 and antral follicle count (AFC) were measured preoperatively and at 3 months post-operatively. Assessment of the ovarian reserve was based on alterations in the serum AMH and inhibin B levels. The secondary endpoints are changes in FSH, LH, E2, and AFC.

Results: AMH and inhibin B were obviously decreased at 3 months after the surgery (3.76±3.58 ng/mL vs. 2.04±2.52 ng/mL; 72.81±40.71 pg/mL vs. 46.78±41.36 pg/mL, respectively). The AMH levels decrease was more evident in patients with ovarian endometrioma compared with other benign ovarian cysts, in patients with the cyst size ≥5 cm compared with cyst size <5 cm, in patients with bilateral cysts compared with unilateral cysts. The inhibin B levels decrease was more evident in patients with ovarian endometrioma compared with other benign ovarian cysts. A significant negative correlation was detected between the age of the patients and the preoperative AMH levels (P=0.003).

Conclusions: Laparoscopic ovarian cystectomy causes a significant decline in ovarian reserve in patients with benign ovarian cysts as assessed by the serum AMH and inhibin B levels. Therefore, gynecologic surgeons should inform their patients about the possible decline in ovarian reserve after surgery and counsel them on the implication for the future fertility potentials.

REDUCED FECUNDITY AFTER MISSED ABORTION

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Objectives: Missed abortion (MA) should be a paid a lot of follow-up attention by gynaecologist because this clinical entity often entails significant reduction of fecundability including both natural cycle fecundity and assisted reproductive technology cycle efficiency. Suggested causative factors are still controversial and there is no incontrovertible evidence to attribute any of them such a peculiar mechanism of early pregnancy loss. That is why our study was aimed at elucidating mechanisms of MA deplorable sequels and suggesting pathways for solution of this problem.

Method: There were 124 women under surveillance, I group comprised 64 women with diagnosis of MA, II group included 30 women admitted for termination of the pregnancy according to their will, 30 healthy women contemplating prospect of pregnancy were picked out as III group in order to ascertain favourable background for conception. Histological, immunological features and functional capacity of the endometrium obtained by pipelle-curette at 19–21 day of cycle were determined, IL-1β, IL-6, IL-10, TNF-α, glycolyn values in the washings from the uterine cavity were assessed by immunoenzyme method.

Results: The study elicited significant disturbances of endometrial histological structure looking like chronic inflammation, recognized distortion in the local cytokine balance and endometrial steroid receptors susceptibility in the case of experienced MA. Inherent to healthy woman of her reproductive ages Th2-cytokine balance is superseded by Th1-cytokine preponderance with increased values of IL-1β, IL-6 and TNF-α in the endometrium. Although IL-10 is anti-inflammatory cytokine, its level was higher than in other groups that could explain the dormant mechanism of switching on the uterine contractility for expulsion of non-viable concept.

Conclusions: Delayed and incomplete endometrial maturation, sub-sided endometrial oestrogen and progesterone receptors susceptibility in case of MA suggest of luteum corpus failure entailing a significant reduction of glycolyn production which is the prerequisite for local Th2-microenvironment. That leads to temporarily reduced fecundity.

Reproductive Endocrinology

APOPTOSIS GENE EXPRESSION IN EXPERIMENTAL FROZEN-THAWED OVARIAN GRAFTS TREATED WITH ADIPOSE TISSUE-DERIVED STEM CELLS

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Objectives: To evaluate apoptosis gene expression in cryopreserved ovarian grafts treated with adipose tissue-derived stem cell (ASC).

Method: Frozen-thawed ovarian grafts of twelve adult female rats
were treated with rat ASC (rASC) delivery in acellular matrix (Gelfoam) immediately after an autologous retroperitoneal transplant (n=6). Controls received Gelfoam with vehicle (n=6). Quantitative gene expression (qPCR) for apoptosis was evaluated by RT-PCR. A Fold Regulation reference value of –2 and +2 was considered for expression analyses. Further analyses of this pathway were done by Ingenuity Pathway Analysis (IPA®) software in order to determine expression analyses. Further analyses of this pathway were done by Ingenuity Pathway Analysis (IPA®) software in order to determine the main canonical pathways and the expression values of the top molecules.

**Results:** There were 78 genes down-regulated and only one up-regulated (B2m). The top canonical pathways involved were Apoptosis Signaling (29 genes downregulated), Induction of Apoptosis (26 genes), Tweak Signaling (18 genes), Death Receptor Signaling (28 genes) and TNFR1 Signaling (19 genes). Eleven genes were present in all five pathways: BID, BIRC2, BIRC3, Caspase 3, Caspase 8, Caspase 9, CYCS, Naip1, NFKB1 and XIAP. The 10 top molecules down-regulated, in descending order, were HrK, Caspase, Tp73, Dffb, Tp63, Cideb, Lta, Bcl2l11, Cd40lg and Cidea.

**Conclusions:** ASC therapy based on scaffold base-delivery strategy induces downregulation in 78 genes involved in apoptosis pathways and may be useful to improve graft quality.

**FCS92.2**

**DOES AIR POLLUTION AFFECT THE FEMALE MURINE ADRENAL IN TWO CONSECUTIVE GENERATIONS?**


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**Objectives:** Evaluate effects of air pollution in the murine adrenal cortex in two consecutive generations.

**Method:** Twenty female mice were mated at a ratio of one male to two females. After that, they were divided into two groups of ten animals each. One group was daily conditioned in a chamber with exposition of PM2.5 μm (G0P). The other group was allocated in another chamber with filtered air (G1P). Exposure occurred throughout pregnancy period. At birth, fetuses were breastfed for 30 days without pollutants exposure. After this period, mothers were euthanized for adrenal collection and daughters suffered the same exposure protocol (G1P and G1NP – exposed and not exposed to air pollution). The adrenals were proceeded.

**Results:** G0P histomorphometry of adrenal glands, displayed an increased thickness of zona glomerulosa. G0P, had lower VEGF-A immunoreactivity in the zona glomerulosa of the G1NP; adrenal glands of G0P showed higher Ki-67 immunostaining in the zona reticulata than GCRTM. Adrenal glands of G0P showed higher immunoreactivity in the zona glomerulosa than those not exposed; adrenal glands of G0P and G1P showed greater immunoreactivity of cleaved caspase-3 in the zona fasciculata than the unexposed animals. G1P showed a higher corticosterone concentration than G1NP.

**Conclusions:** Exposure to air pollution with particulate matter 2.5 μm determined histomorphometric and immunohistochemical changes in the three zones of the adrenal cortex of two consecutive generations of mice. These changes could cause endocrine and cardiovascular disorders.

**FCS92.3**

**ETIOLOGY OF CHRONIC PELVIC PAIN: PROSPECTIVE STUDY**

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**Objectives:** To identify etiologic factors for the severity of chronic pelvic pain (CPP) in women.

**Method:** Prospective study at the Centre for Pelvic Pain and Endometriosis (BC) from January to September 2014. Subjects rated the severity of CPP (defined as pelvic pain other than dysmenorrhea, dyspareunia, dyschezia, or back pain) from 0 to 10. We studied 4 groups of potential etiological factors: 1) Non-modifiable risk factors (e.g. history of abuse); 2) Modifiable risk factors that could have a bidirectional relationship with CPP; 3) Objective assessment of mood (e.g. depression scale) and physical findings (e.g. abdominal wall trigger points). Multiple linear regression was carried out to identify the variables in each group with an independent effect on CPP severity (0–10).

**Results:** Prospective consent rate was 85%, and sample size was 434. For non-modifiable risk factors, CPP severity (0–10) was independently associated with history of child abuse (b=0.085 [0.03–0.17], p=0.043). For modifiable risk factors, CPP severity (0–10) was independently associated with current smoking (b=1.68 [0.79–2.56], p<0.001) and IBS (b=1.065 [0.38–1.73], p=0.002). For objective assessment, CPP severity (0–10) was independently associated with depression (PHQ-9) scale (b=0.14 [0.09–0.13], p<0.001), BMI (b=0.06 [0.01–0.11], p=0.023), and abdominal wall trigger points (b=1.15 [0.51–1.78], p<0.001). CPP severity was similar in women with or without underlying endometriosis.

**Conclusions:** Increased severity of CPP is related to previous child abuse, smoking, IBS, depression, BMI, and abdominal wall trigger points. These factors serve as potential targets for treatment of chronic pelvic pain.

**FCS92.4**

**THE VALUE OF ENDOMETRIOSIS FERTILITY INDEX IN PREDICTING THE PREGNANCY OUTCOME AFTER LAPAROSCOPY FOR MINIMAL OR MILD ENDOMETRIOSIS ASSOCIATED INFERTILITY**

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**Objectives:** To assess the value of endometriosis fertility index (EFI) in predicting the natural pregnancy outcome after conservative surgery for minimal or mild endometriosis-associated infertility.

**Method:** Medical documents of 123 infertile patients who were confirmed of minimal or mild endometriosis by laparoscopy were retrospectively studied from January 2011 to December 2012. The EFI score was calculated on history and detailed surgical findings. All patients were followed up to assess fertility outcome.

**Results:** The overall postoperative natural pregnancy rate within 24 months was 56.0%. The postoperative natural pregnancy rate was 27.6%, 22.8% and 5.7% in the first 6, 7–12, 13–24 months. There were significant differences among the three groups (p<0.05). The total cumulative pregnancy rates among patients with EFI scores of ≥8 were significantly higher than that of EFI score of <4 and EFI score of 5–7 (76.4% vs 46.5%, 23.5%, P<0.05). The postoperative natural pregnancy rate was positively correlated with EFI scoring (P<0.05). However, the postoperative pregnancy rate had no correlation with r-AFS staging, GnRH-a treatment and ovarian simulation.

**Conclusions:** EFI scores predict natural pregnancy rate in patients with minimal or mild endometriosis-associated infertility. EFI scores may be used to guide postoperative treatment.
POLYCYSTIC OVARY SYNDROME WOMAN WITH ANDROGEN RECEPTOR GENE MUTATION WHO GAVE BIRTH TO A CHILD WITH ANDROGEN INSENSITIVITY SYNDROME

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Objectives: To present a polycystic ovary syndrome (PCOS) woman with heterozygous androgen receptor (AR) gene mutation who gave birth to a baby with complete androgen insensitivity syndrome (AIS).

Method: Cytogenetic analysis and Genotyping for examining the partial sequence of the proband eight exons and their exon-intron boundaries of AR gene of the patient and her baby were performed.

Results: Tests were found in both inguinal canals of her baby. The uterus, vagina and ovaries were not identified in the abdomino-pelvic CT scan (Fig. 1). Karyotyping of her baby showed 46,XY, inv(9)(p12q13). Therefore, this baby was diagnosed as complete AIS. In AIS baby, homozygous c.2482T>C (p.Phe828Leu) mutation on exon7 was detected. She was diagnosed as a PCOS based on the revised PCOS diagnostic criteria of the 2003 Rotterdam consensus. Her genotyping showed heterozygous c.2482T>C (p.Phe828Leu) mutation on exon7.

Conclusions: In Kos patients with hyperandrogenism caused by AR gene mutations, their genetic defects can be inherited to their offspring and lead to the development of AIS. The present case suggests that the heritability of AR gene mutations in PCOS patients should be considered despite a rare possibility of comorbidity of AIS carrier and PCOS.

Role of Midwifery/Safe Surgical Techniques and Practices

AN OVERVIEW ON THE COUNSELING METHODS IN THERAPEUTIC ABORTION

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Objectives: Therapeutic abortion with a massive and complex dimension is a crisis situation in the life span of a woman. Undoubtedly, this decision is very difficult for her and her family and adverse emotional consequences would be enormous, especially when the pregnancy is wanted and anticipated. In this respect, healthcare providers with the use of appropriate counseling methods can facilitate the decision making processes for them.

Method: In this study, researchers reviewed the various consulting methods conducted to improve mothers’ decision-making towards therapeutic abortion by searching English-language publications in PubMed and references from relevant articles published between 1990 and 2014. The main search terms were abortion, therapeutic abortion, counseling and midwifery-led counseling. A number of 60 articles has evaluated from which 22 articles has been extracted and their data were classified after analysis.

Results: In therapeutic abortion different methods of counseling can be used in order to reduce the adverse emotional and exciting consequences regarding to the clients’ characteristics. Three general categories was extracted from the findings of the present study as follows: Attendance counseling, Non-attendance counseling and Peer group counseling.

Conclusions: It is important that the counselors assess the clients skillfully and select appropriate counseling methods according to individual situation. Many adverse emotional consequences arising from abortion can be prevented or reduced in this way.
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Objectives: This study aimed to assess acceptability of diagnosis and treatment of incomplete abortion with misoprostol by midwives, compared with physicians.

Method: A multi-centre randomised controlled equivalence trial was carried out at district level in Uganda. Women with first trimester incomplete abortion were randomly allocated to clinical assessment and treatment with misoprostol by a physician or a midwife. The randomisation (1:1) was done in blocks of 12 and stratified for health facility. Acceptability was measured at a follow up visit 14–28 days following treatment. Analysis of the primary outcome was done using a generalised linear mixed-effects model with a pre-defined equivalence range of ±4% to 4%. The study was not masked. The trial is registered at ClinicalTrials.org, NCT 01844024.

Results: From April 2013 to June 2014, 1108 women were assessed for eligibility of which 1010 were randomised (506 to midwife and 504 to physician). 955 women were successfully followed up and included in the acceptability analysis. 95% (904) of the participants found the treatment satisfactory. The model-based risk difference for midwives vs. physicians was 0.50% (±1.93% to 3.10%). Treatment failure, not feeling calm and safe or experiencing severe abdominal pain or heavy bleeding, following treatment, were significantly associated with lower acceptability. No serious adverse events were recorded.

Conclusions: Treatment of incomplete abortion with misoprostol by midwives and physician was highly, and equally, acceptable to women.
Results: The mean age of the 20 patients was 44.5 years [range, 32–54]. The uterine arteries were catheterised easily in a mean time of 25", compared to 72" using the femoral approach. As far as concerns exposure to radiation, the mean fluoroscopy time for the femoral approach was 21.7" compared to 17.6" [range 7.7–25.5"] for the transbrachial approach. Metrotorhaphia was cured in 18/20 (90%), abdominal pain in 12/20 (60%), compression symptoms in 11/20 (55%). At 3 months the mean volume reduction of the uterus was 35%, more than 50% for the leiomyomas. No immediate complications involving the brachial artery were recorded.

Conclusions: Embolization of the uterine arteries was confirmed to be a valid therapeutic option in selected cases of symptomatic uterine leiomyomata. Traditionally performed via a unilateral or bilateral femoral approach, the variant of using a transbrachial access with a multipurpose catheter was found to be equally valid, in terms of reducing the overall time of the intervention, ease of selective catheterization, and the possible outpatient performance of the procedure.

FC9S9.7
ABDOMINAL HYSTERECTOMY – A NEW APPROACH FOR CONVENTIONAL PROCEDURE
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Objectives: The present comparative study develop a new approach to conventional hysterectomy procedure so as prevent intra-operative and post operative complications during the procedure.

Method: Ligation of uterine and ovarian arteries (in case of salpingo-oophorectomy) was performed, prior to abdominal hysterectomy procedures, in group A (N=1000) and conventional method of abdominal hysterectomy in group B (N=4500) from January 2000 to December 2009. It is a prospective study.

Results: In group A traumatic injury to (L) uterine vessel was observed in 4 (0.4%) and (R) uterine vessel in 3 (0.3%) cases were detected without any noticeable injury to the ovarian vessels, ureters and bladder as compared to injury to (L) uterine 11 (2.4%), ureters 1 (0.1%), bladder 6 (1.5%), haematoma 10 (2.2%) were found to be more in group B. Post operative complications were found to be uneventful in group A.

Conclusions: The present study concludes that ligation of uterine and ovarian arteries, prior to conventional abdominal hysterectomy procedures is found to be extremely safe procedure thereby reducing the risk of intra-operative and post-operative complications.

FC9S9.8
THE RISKS AND BENEFITS OF URETERIC STENTING PRIOR TO MAJOR GYNAECOLOGICAL CANCER SURGERIES
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Objectives: Radical surgery for gynaecological malignancies predispose to incidental ureteric injury. To prevent injury to the ureter and facilitate intra-operative identification of the injury, inserting a double J stent in the ureter could be helpful. In this article we report our experience of ureteric stenting in women undergoing major surgery for gynaecological malignancies, their impact on ureteric injury and incidence of stent related complications.

Method: This is a retrospective cohort study based at a tertiary referral cancer institute in Kolkata, India. All women undergoing major abdominal surgery for gynaecological malignancies between August 2011 and July 2014 were identified from the electronic hospital records. The records of women needing ureteric stenting were analysed to find out the indications, rate of incidental ureteric injury, rate of optimum cytoreduction in ovarian cancer patients, and rate of post operative urinary complications. The rate of ureteric injury and urinary tract infection for women undergoing radical gynaecological cancer surgery but not needing ureteric stenting was compared with those needing stenting.

Results: During the study period 265 women underwent major gynaecological surgery for malignant neoplasm of the reproductive organs. Forty five (17%) women needed ureteric stenting. None of the women in the stented group sustained incidental ureteric injury compared to four in the non stented group (Risk difference −0.018, 95% CI: −0.046 to 0.068). There was a significantly increased risk of UTI in the stented group (RR 2.32, 95% CI 1.52 to3.53, 2 tailed p= 0.0006, risk difference 0.26, 95% CI: 0.11 to 0.42).

Conclusions: Ureteric stenting in carefully selected cases could prevent incidental damage to the ureter but this leads to a significantly higher incidence of urinary infections. The benefits of achieving optimum cytoreduction without damaging the ureter at the cost of higher rate of UTI should be balanced carefully before deciding on placing ureteric stents prior to major cytoreductive gynaecological surgeries.

FC9S9.4
Safe Surgical Techniques and Practices

FC9S9.1
COMPARATIVE STUDY OF THERMAL BALLOON ABLATION AND NDVH IN DUB IN THE LAST 15 YEARS
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Objectives: DUB is a major problem accounting about 2 out of 5 women in the age group 30–45. Majority of the cases presented with moderate to severe anaemia due to recurrent loss of blood. Success rate, safety of balloon ablation therapy over NDVH. Patient acceptance of procedures and outcomes. Operative complications associated with either procedures.

Method: Thermachoice uterine balloon ablation (Johnson & Johnson USA) done in 184 patient while 21 patients chose to go ahead with NDVH.

Results: 184 patients chose to undergo thermal balloon ablation. Of the 184 patients treated with Thermachoice uterine balloon ablation, 166 patients (90%) had complete relief from DUB while remaining 18 patients presented with recurrence of symptoms and had to eventually undergo NDVH.

Conclusions: Thermal balloon ablation has proved to be an effective and safe modality of treatment. Minor complications associated with the procedure were mild fever, pain and infections which presented in 3% of the cases. The procedure was well tolerated because it was done under local anaesthesia which also minimised the hospital stay in these cases. Although NDVH still remains the final modality of treatment but thermal balloon ablation therapy has resulted in substantial reduction in major surgery. Hence thermal balloon ablation proves to be an effective, safe and successful procedure in treatment of DUB.

FC9S9.2
PREPARING FOR THE WORST: ADVERSE EVENT DRILL IN THE CONTEXT OF A LARC QUALITY ASSURANCE PROGRAM

Objectives: Ensuring safe surgical procedures is challenging for all service providers. PSI is an international NGO through which LARC services are provided in 23 countries programs. In order to ensure quality services, a comprehensive Quality Assurance system was developed (supervisory visits; internal/external audits). Essential to this QA system is Adverse Event (AE) management and reporting. In 2014,
506,178 IUDs were inserted with 29 reported AEs (0.006%). PSI encouraged testing the AE management system, which was done in Tanzania (1 AE in 75,697 IUDs) and Uganda (2 AEs in 65,456 IUDs) in 2014.

Method: Components of the AE-drill preparation were 1) identifying key staff that need to be involved, 2) financial planning and 3) designing a scenario. In Tanzania, female actors were briefed to play clients and PSI staff, acting as the mother, accompanied them. In Uganda PSI detailers were briefed. The clinics were selected purposefully (no previous quality audit, no AE reported). The clients presented with history of IUD insertion, and either high fever, or a “missing string” with an ultrasound image showing intradominal IUD in Tanzania and Uganda respectively. A fake journalist approached PSI about a possible AE to test QA response.

Results: In Tanzania, in 3 of the 4 tested clinics, the providers failed to adhere to the AE management system and clients were referred to providers outside the network without any documentation. When the 4th provider contacted the referral hospital the drill was revealed to her. She agreed to participate and an “AE hotline” was used to report the case. Headquarter staff handled the fake journalist’s claims professionally. In Uganda both providers recognized the AE. However, they did not adhere to PSI’s management system, revealing significant gaps in the quality system.

Conclusions: The AE drills revealed challenges in AE management in both countries. Providers recognized AEs but referred them outside of the prescribed network with additional gaps in documentation. Both countries designed responses and created action-plans to improve AE management. Overall, such AE drills need to be tailored to the country context. The drill scenario needs to be both realistic and severe enough to ignite the AE reporting cascade. Clear guidance needs to be given about when to reveal the drill so that the safety of the actors is always ensured.

FCS94.3
PROPHYLACTIC SALPINGECTOMY AT HYSTERECTOMY FOR BENIGN DISEASES
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Objectives: Pelvic (non-uterine) high grade serous cancer (ovarian, tubal and primary peritoneal) are a concern for clinicians and pathologists because of advanced stage of presentation, rapid progression and poor prognosis. However, pathogenesis is still not clear as a convincing precursor lesion is not identified till date. Recent research has shown that probably fallopian tube (FT) is the precursor of these neoplasms. Present study was done to examine the fallopian tube for presence of pre-neoplastic lesions in ovarian, primary peritoneal (PP) and tubal high grade serous carcinomas (HGSC).

Method: Both tubes of all cases of ovarian, PP and FT HGSC were examined histopathologically for precursor lesions. The appropriate sections of fimbrial ends of FT were subjected for immunohistochemistry of P53 and Ki-67 and the results were then analyzed statistically.

Results: Both side tubes of 50 cases of HGSC ovary, two cases of PP carcinoma and three cases of tubal carcinoma were subjected to histopathological examination. On performing IHC, STIC (Serous tubal intraepithelial carcinoma) was detected in 14 cases (28%), p53 signature in 13 cases (26%) and TILT in 10 cases (20%). STIC was detected in one case (50%) of PP carcinoma and one (33%) case of tubal carcinoma.

Conclusions: This revelation concludes that fallopian tubes are the culprit of pelvic HGSC to a large extent. In absence of a proper screening method of HGSC, prophylactic bilateral salpingectomy at hysterectomy for benign diseases can achieve ultimate goal of reduction in incidence of pelvic HGSC.

FCS94.4
MICRO BUBBLE SONOGRAPHIC CONTRAST AGENT TO ENHANCE HIGH INTENSITY FOCUSED ULTRASOUND EFFECTS IN TREATMENT OF UTERINE FIBROIDS

Objectives: To evaluate the effect of the ultrasound contrast agent SonoVue in enhancing ablation effects of Ultrasound –Guided high-intensity focused ultrasound on different types of uterine fibroids.

Method: On a retrospective study, we evaluate 390 fibroids from 319 patients. Among them, 155 fibroids were treated using SonoVue and 235 without SonoVue during the hifu sonication. The effects of HIFU were evaluated with magnetic resonance scanning (MRI) in all patients.

Results: The total sonication time to achieve the same nonperfused volume was significantly shorter with SonoVue. The average energy used and the acoustic energy for treating 1 mm3 shorter in the SonoVue group. Nonperfused volume (NPV) measured in post-HIFU MRI and mean fractional ablation was 74% (15–100) in the HIFU group and 75% (17–100) in the group HIFU+SonoVue. However, in low intensity signal fibroids in T2 MRI, there were a significantly higher NPV in the group treated with SonoVue, 83% (20–100), than in that with only HIFU, 76% (15–100). No difference in adverse events was observed between two groups.

Conclusions: According to our results, the use of therapeutic SonoVue during the HIFU procedure decreases significantly time and energy necessary to treat the same fibroid volume in all types of fibroid.

FCS94.5
HIGH-INTENSITY FOCUSED ULTRASOUND (HIFU) FOR UTERINE ADENOMYOSIS: TWO-YEAR FOLLOW-UP RESULTS
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Objectives: To retrospectively evaluate the long-term improvement of clinical symptoms of adenomyosis after treatment with ultrasound-guided high intensity focused ultrasound (USgHIFU).

Method: From January 2010 to December 2011, 350 patients with uterine adenomyosis were treated with USgHIFU. Among the 350 patients, 224 of them completed the two years follow-up. The patients were followed up at 3 months, 1 year, and 2 years after HIFU treatment. Adverse effects and complications were recorded.

Results: All patients completed HIFU ablation without severe postoperative complications. 203 of the 224 patients who showed varying degrees of dysmenorrhea before treatment had the symptom scores decreased significantly after treatment (P < 0.001). The relief rate was 84.7%, 84.7%, and 82.3% respectively at 3 months, 1 year, and 2 years after treatment. The menstrual volume in 109 patients with menorrhagia was significantly improved after treatment (P < 0.001) with a relief rate of 79.8%, 80.7%, and 78.9% respectively at 3 months, 1 year, and 2 years after HIFU treatment.

Conclusions: With its ability to sustain long-term clinical improvements, HIFU is a safe and effective treatment for uterine adenomyosis.
Results: Partner was tested for fertility. went tubectomy. explained. Counseling was done and the percentage of success rate was explained. Women were selected as per the standard guidelines set by the Ministry of Health and Family Welfare. Duration of the study: 2000 till date. Single surgeon. Site of occlusion should be isthmus. Minimal length of patients 76.25% patients conceived and 23.75% patients not. ampulary anastomosis, 8 underwent cuff salphingostomy. Out of all isthmic or isthmo ampullary anastomosis, 13 underwent ampullo-bilateral abdominal tubectomy. 76 patients underwent isthmo group, 50% of patients were having parity 2, 61% of patients were having parity 3. Also, evaluation the patients satisfaction through one year follow up as a marker of the efficacy of therapy in rising the impedance to uterine artery blood flow which may be due to fibrosis in the uterine cavity. 3. Also, evaluation the patients satisfaction through one year follow up. Partner was tested for fertility. Results: Out of 120 patients 57% patients were in 25 to 30 years of age group, 50% of patients were having parity 2, 61% of patients were having parity 3. 76 patients underwent isthmo isthmic or isthmo ampullary anastomosis, 13 underwent ampullo-ampullary anastomosis, 8 underwent cuff salphingostomy. Out of all patients 76.25% patients conceived and 23.75% patients not. Conclusions: Site of occlusion should be isthmus. Minimal length of tube to be included. Prevention of adhesions during surgery. Diagnosis laparoscopy in patients underwent tubectomy. Partner was tested for fertility. Results: Operating time and intra operative blood loss was definitely less in patients undergoing hysterectomy by using BPVS system. There were no differences in the post operative pain and duration of stay in hospital in both the groups. Satisfaction rate was comparable in both the groups.

Conclusions: Non descent vaginal hysterectomy using bipolar vessel sealing system is a safer alternative technique. There are certain advantages like lesser operating time & intra operative blood loss and tackling the adnexal pathology. The limitations are cost and inability to remove bigger uteri.

FCS94.9
ENDOMETRIAL ABLATION THERAPY IN DYSFUNCTIONAL UTERINE BLEEDING (DUB). IS IT THE ANSWER FOR SAFETY & SATISFACTION?
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Objectives: 1. Prospective case control study was done to evaluate the effectiveness and safety of the outcome of the therapy by endometrial ablation with thermal balloon (Therma Choice uterine balloon therapy system–Gynecare) (TBEA) in the patients with pre-menopausal dysfunction uterine bleeding (DUB). 2. Statistical evidence comparing uterine artery pulsatility index “PI” before and after endometrial thermoablation therapy for one year follow up as a marker of the efficacy of therapy in rising the impedance to uterine artery blood flow which may be due to fibrosis in the uterine cavity. 3. Also, evaluation the patients satisfaction through one year follow up.

Method: Sixty two premenopausal patients with (DUB) were allocated in this study since 2010 to 2013. All patients were submitted to history, examination, pelvic & transvaginal u/s, pap. Smear, diagnostic hysteroscopy and endometrial biopsy. The endometrial therapy using (Thermachoice system) was carried out on cycle 3–8. Color Doppler measurements were carried too. Flow waveforms were obtained from the main branch of the uterine arteries on both sides. Doppler flow parameters were used for statistical analysis. The measurements took place before the initiation of treatment, on the first day post operative, 3, 6 months and one year plus after initiation of the study.

Results: The pulsatility index (PI) was statistically significant higher after endometrial ablation than pretreatment level. The PI was gradually increased throughout the period of follow up at 6 months (2.8±0.9), and 12 months (2.9±0.8), post treatment vs. (1.9±0.4) pretreatment.

Conclusions: Thermoablation therapy induces a rise in impedance to uterine blood flow which is a good marker for inducing amenorrhoea in DUB patients. The procedure was accepted by the patients with a high efficacy rate 90%. The existing evidence suggested that the success rates and complications profile of 3rd generation are low depend on proper patient selection.

FCS95. Termination of Pregnancy

FCS95.1
DECISION-MAKING FOR INDUCED ABORTION IN THE ACCRA METROPOLIS, GHANA
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Objectives: 1. Examine the profile of women seeking induced abortion services; 2. Discuss the factors that influenced abortion decision-making processes; 3. Analyze the factors that influenced choice of place for an induced abortion; and 4. Assess the key collaborators involved in induced abortion decision-making.

Method: A retrospective cross-sectional mixed method study was conducted between January and December 2011. A total of 401 women with records in abortion logbooks were selected for an
interviewer-administered using questionnaire and an in-depth interview. Descriptive and multinomial logistic regression analyses were used to assess the quantitative data, and a thematic analysis was applied to the qualitative data.

**Results:** The study found that, women of various profiles make different abortion decisions with justifications based on peculiar situations during pregnancy. Legal restriction, cost, safety and privacy influenced choice of place and method for abortion. In making abortion decisions, women collaborated with people who influenced the decision-making process. First time pregnancies were mostly aborted regardless of gestational ages and partners' consent. Pressure from partners, circumstances surrounding onset of pregnancy, reproductive intentions and institutional sanctions of pregnant women were push factors for abortion.

**Conclusions:** Decision-making for induced abortion is a process that is not always an expression of a woman's own choice. Reproductive health targeted policies and programmes are needed to support women who become pregnant at any stage in life to make informed choices without any hindrances.

FCS95.2
**WOMEN'S EXPECTATIONS AND EXPERIENCES OF SECOND-TRIMESTER MEDICAL TERMINATION OF PREGNANCY**

**Objectives:** To explore women's expectations and experiences of second-trimester MTOP.

**Method:** A cross-sectional and descriptive study using both a questionnaire and semi-structured interviews for data collection. Thirty-one women filled out the questionnaire and among them 23 women were later interviewed. The questionnaires were analyzed by descriptive statistics. The answers from the questionnaires were followed up in the interviews. The interviews were recorded, transcribed verbatim and then analyzed with qualitative content analysis to identify common themes.

**Results:** The women expressed similar feelings unconnected to the reason for the abortion (fetal malformation or unintended pregnancy). Physical and emotional pain was described by the women. Taking the mifepristone-pill was experienced as especially emotionally difficult for many participants. Women who chose to view the fetus described this as a way of confronting the reality and an opportunity to say farewell to the pregnancy/fetus. Feelings of coping with a new and hard experience was transformed among the participants. The analysis of the interview transcripts revealed five themes mirroring the women's experiences, thoughts and feelings related to the abortion.

**Conclusions:** The decision to undergo second-trimester abortion sometimes exposes women to strong and conflicting emotions which are unconnected to the reason for having an abortion. Despite this women do not regret their decision to terminate the pregnancy. This analysis shows that their rational thinking outweighs their emotionally difficult feelings. It is important for the attending staff to be responsive to the needs of each individual woman whatever the indication is for the abortion.

FCS95.3
**INTRODUCTION OF THE MIFEPRISTONE REGIMEN FOR SECOND-TRIMESTER MEDICAL ABORTION IN SOUTH AFRICA**
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**Objectives:** In South Africa, abortion is legal for social and economic reasons through 20 weeks gestation. The standard abortion regimen has been induction with misoprostol alone, which often requires a hospital admission of several days. In the Western Cape Province, mifepristone-misoprostol medical abortion was recently introduced. The objective of this study was to compare outcomes between the two regimens.

**Method:** We performed a prospective cohort study of 208 women undergoing induction at 13–20 weeks with mifepristone-misoprostol at two public hospitals between October 2013–July 2014 and compared them to historical cohorts of women undergoing induction with misoprostol alone at two hospitals in 2010 (n=60) and 2008 (n=84). For the mifepristone cohort, women were recruited at the time of mifepristone or on admission and underwent two interviews. Clinical information was abstracted from hospital records. Women were also telephoned two weeks after discharge to collect information about delayed complications.

**Results:** With mifepristone, 93% expelled the fetus within 24 hours of first misoprostol dose, compared to 77% with misoprostol alone (p<0.001). Median time from misoprostol to expulsion was 8.5 hours with mifepristone and 14.5 hours with misoprostol-alone (p<0.001). With misoprostol, only 23% stayed two or more nights in hospital, compared with 46% with misoprostol-alone (p<0.001). Major complications were similar the cohorts (3%). With mifepristone, 6 women received blood transfusions, 2 had infections requiring IV antibiotics and 1 had a possible seizure. 90% of women receiving mifepristone said they would recommend the method to a friend, compared to 73% receiving misoprostol alone (p<0.001).

**Conclusions:** Consistent with other clinical trials, mifepristone resulted in a significantly shorter induction interval, shorter hospitalization and improved patient satisfaction in these public hospitals in South Africa. Introduction of the mifepristone regimen has reduced costs and streamlined later abortion care in this setting, leading one hospital to establish a day unit to provide second-trimester abortion services.

FCS95.4
**THE EFFECTIVENESS OF HOME MEDICAL ABORTIONS PROVIDED THROUGH TELEMEDICINE**
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**Objectives:** To evaluate the effectiveness, safety and acceptability of home medical abortion provided via telemedicine and to analyze which factors influence the surgical intervention rate.

**Method:** In total 2997 women living in countries with restricted access to safe abortion, completed the online consultation, received a medical abortion by mail (with 200 mg mifepristone, followed 24 hours later by 800 mcg misoprostol sublingually and a repeat dose of 400 mcg misoprostol sublingually four hours later) and provided follow-up information, were included in the different studies. Demographic data (age, parity, contraceptive use, geographic location) duration of pregnancy at the time of the consultation, doctor or hospital visit after the medical abortion and outcome of the abortion and acceptability of the abortion were analyzed.

**Results:** Surgical intervention rates were influenced by location, hospital visit, gestation and follow-up rate and not by complaints. Surgical intervention rate in Eastern Europe (14.8%), Latin America (14.4%) and Asia/Oceania (11.0%) were high compared to Western Europe (5.8%), the Middle East (4.7%) and Africa (6.1%; p=0.000). The surgical intervention rate after a medical abortion of women living in Brazil was different at gestations of <9 weeks (19.3%), at 10–12 weeks (15.5%) and at >13 weeks (44.8%, p=0.06). However, 42.2% did not have any symptoms of a complication. The acceptability of the home medical abortion in all studies was high (>98%).

**Conclusions:** Home medical abortion provided through telemedicine till 12 weeks of pregnancy is safe and effective and an important
harm reduction strategy for women in countries where there is no access to safe abortion services.

**FCS95.5 STANDARDIZED SECOND TRIMESTER MEDICAL ABORTION TRAINING AND SERVICE PROVISION IN ETHIOPIA, OCTOBER 2010–SEPTEMBER 2014**

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**Objectives:** In Ethiopia, the use of appropriate technology for abortion in the second trimester of pregnancy, either medical induction or dilatation and evacuation, is low: only 17 to 26% of all procedures regardless of the type of facility. Existing medical abortion practices vary greatly as no standard guidelines are available. As a result, poor access to safe second trimester services has resulted in high complication rates. Ipas sought to introduce standardized second trimester medical induction trainings and improve second trimester abortion services by increasing uptake of evidence-based Mifepristone/misoprostol protocols.

**Method:** The intervention consisted of national and hospital-based assessments, whole site values clarification workshops, team based clinical training, and post training follow-up and support. The training curriculum included didactic and hands-on components based on an abortion regimen of Mifepristone 200mg po followed 36–48h later by misoprostol 400 or 800mcg vaginally, followed by 400mcg vaginally, sublingually, or buccally every 3h. On site follow-up visits were performed 8 weeks later. An adverse event monitoring system was also established as an opportunity for no-blame-based learning and service delivery improvement.

**Results:** We have conducted ten rounds of clinical training which included 130 health professionals (59 physician providers (obstetrician, and general practitioners trained on emergency obstetrics care) and 71 nurse/midwives assistants) from 31 hospitals. All the intervention sites are currently providing second trimester medication abortion using the standardized regimen.

A total of around 9800 women accessed services from October 2010 to September 2014. There was a swift decline in incomplete abortion from unsafe second trimester practices. There was Seven severe adverse events reported over this time period (four cases of uterine rupture two severe hemorrhage requiring transfusion and one death).

**Conclusions:** Introduction of a standardized second trimester medical abortion using a combination regimen is effective, feasible and enables rapid uptake with increased access to safe services. There is also a decline in incomplete abortion from unsafe abortion at participating sites.

**FCS95.6 WHAT HAPPENS WHEN MEDICAL ABORTION SERVICES GIVE WOMEN THE OPTION OF TAKING MIFEPRISTONE AT HOME?**

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**Objectives:** Most medical abortion protocols require women to ingest mifepristone in the health center. Allowing women to take mifepristone at home affords greater flexibility and autonomy. We assessed the acceptability and feasibility of home-use of mifepristone.

**Method:** Women presenting to six Planned Parenthood centers for medical abortion were given the choice to take mifepristone in the center or at home. Participants were asked to return for follow-up one to two weeks later, and were asked about acceptability, adherence, and lost productivity. Providers were asked about acceptability of home use for each patient.

**Results:** Of 400 participants, 127 (32%) chose to take mifepristone at home. Home users primarily appreciated the scheduling flexibility; center users preferred starting the process immediately. Seventy-eight percent of home users took mifepristone within two days of their initial visit, and none took mifepristone after 63 days of gestation. Home users were more likely than center users to have missed no days of work (50% vs 29%, p=0.04). Should they need another abortion, 99% of home users would take mifepristone at home again. Providers would recommend home use in the future for 95% of home users and 84% of center users.

**Conclusions:** Many women are interested in taking mifepristone at home, and even more might be interested if they were aware of the option before appointment scheduling. Home use was safe and acceptable to women and providers in our study, and women should be offered this choice.
age up to 63 days and timely access is essential. This study aimed to determine women's acceptability and ability to self-assess their eligibility for an early medical abortion using an online gestational age calculator. Women's acceptability, views and preferences regarding the use of mobile technology for gestational age (GA) determination were explored. No previous studies to ascertain the accuracy of online self-administered calculators in a non-clinical setting have been conducted.

**Method:** A convenience sample of abortion seekers participated in the study 2014, from two clinics providing early medical abortion in Cape Town. Seventy-eight women were enrolled and asked to complete a self-assessment on an electronic tablet by entering the first day of their last menstrual period (LMP) onto a website which calculated their GA. The website guided women through the process of determining their LMP and eligibility for medical abortion. A short survey was administered to explore the feasibility and acceptability of employing m-Health technology in abortion services. Self-calculated GA was compared with ultrasound gestational age obtained from clinical records.

**Results:** Participant mean age was 28 (SD 6.8); 41.0% (32/78) had completed high school and 73.1% (57/78) reported owning a smart/feature phone. Internet searches for abortion information prior to clinic visits were undertaken by 19/78 (24.3%) women. Most participants found the online GA calculator easy to use (91.0%: 71/78); thought the calculation was accurate (85.8%; 67/78) and would be helpful when considering an abortion (93.5%; 73/78): 83.3% (65/78) reported regular periods and recalled their LMP (70.5%; 55/78). On average women overestimated GA by 0.5 days (SD 14.5) and first sought an abortion 10 days (SD 14.3) after pregnancy confirmation.

**Conclusions:** Timely access to abortion information is an essential component of effective abortion services. Advances in the availability of mobile technology represent an opportunity to provide women with accurate and safe abortion information and services. These study findings indicate that women reported an online GA calculator would be accurate and helpful. Women could calculate GA based on LMP recall within a window of 0.5 days, which is not considered clinically significant. An online GA calculator could potentially act as an enabler for women to access safe abortion services sooner.

**FCS96.3**

**DOES STARTING PROGESTIN-ONLY CONTRACEPTION ON THE SAME DAY AS A MEDICAL ABORTION WITH MIFEPRISTONE AFFECT COMPLETION OF THE ABORTION? A REVIEW OF CLINIC RECORDS FROM MEXICO CITY**

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**Objectives:** This study investigated whether starting progestin-only hormonal contraception on the same day as taking mifepristone affects the completion of an early abortion (before 63 days of gestation). If hormonal contraception is offered on the day of an abortion, clients can immediately protect themselves from future unwanted pregnancies.

**Method:** Using a case-control design, we retrospectively analysed anonymized records of 2482 clients who had had medical abortions at four Marie Stopes clinics in Mexico City between October 2012 and March 2013. We compared the incidence of complete abortions among clients who, on the same day as the abortion, had started progestin-only contraception (a 2- or 3-month injectable or an implant) with the incidence among clients who had not. We defined complete abortion as complete evacuation of uterine contents without the need for additional misoprostol or surgical evacuation. We used chi-square or Fisher's Exact tests, as appropriate, to assess bivariate comparisons.

**Results:** 448 women (20.3%) had started progestin-only contraception on the same day as taking mifepristone. They had virtually the same abortion outcomes as the 1756 women (79.8%) who did not start any contraception immediately. In both groups 86% of abortions were complete without the need for additional misoprostol or surgical evacuation [OR 1.02; 95% CI 0.75–1.37], 8.1% of women who had started same-day contraception and 9.0% who had not, required additional misoprostol; 95% of abortions were complete without surgical evacuation [OR=0.85; 95% CI 0.55–1.33]. The rate of loss to follow-up was 11% and did not vary significantly between the groups.

**Conclusions:** Starting progestin-only contraception on the same day as a medical abortion with mifepristone does not compromise the effectiveness of early abortion. Progestin-only contraception should be offered routinely to abortion clients so that women have a broader choice of contraceptive methods to protect themselves from future unintended pregnancies. This evidence supports strengthening the WHO recommendation to offer hormonal contraception on the same day as medical abortion. The recommendation is currently classed as “weak” due to a lack of evidence.
PREVIOUS POST-ABORTAL CONTRACEPTION SELECTION IN WOMEN WITH MULTIPLE TERMINATIONS WITHIN ONE YEAR AT AN URBAN, PUBLIC HOSPITAL

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Objectives: To determine the proportion of women with multiple terminations within one year at an urban, public hospital and the contraception selected after primary termination.

Method: We conducted a retrospective chart review of all women undergoing first-trimester abortion at John H. Stroger, Jr. Hospital of Cook County from June 2012 to May 2014. All patients were counseled on the day of procedure regarding our setting’s available contraceptive options: Tier 1 (tubal ligation, intrauterine device, subdermal implant), Tier 2 (injectable, oral, transdermal, vaginal ring), and Tier 3 (condoms, foam). We examined the proportion of women with additional terminations up to one year later and contraception selection at the index termination.

Results: Of 5,107 women with a termination in the study period, 721 (14.1%) had a second termination within the following year. Of women with multiple terminations and one termination, respectively, 88.5% and 86.7% were African-American (p=0.05), and mean ages were 24.0 years (SD 4.7) and 24.5 years (SD 5.7) (p=0.02). Of women with multiple terminations, 154 (21.4%) selected Tier 1 contraceptive methods, 359 (50.0%) Tier 2, 103 (14.3%) Tier 3, and 103 (14.3%) undecided/no method. Of women with one abortion, 838 (19.2%) selected Tier 1 contraceptive methods, 2,184 (49.9%) Tier 2, 775 (17.7%) Tier 3, and 578 (13.2%) undecided/no method (p=0.10).

Conclusions: Many women with multiple procedures within one year chose Tier 1 or 2 contraceptive methods. Selection did not differ between women with multiple terminations and those with one termination. Contraceptive uptake and compliance may have had more of an impact on subsequent undesired pregnancies than contraception selection.

THE INFLUENCE OF A SOCIALLY MARKETED MEDICATED ABORTION PRODUCT ON ABORTION CHOICES AMONG WOMEN IN CAMBODIA: AN ANALYSIS OF ABDATION TRENDS, 2010–2012


Objectives: To assess whether a social marketing initiative focused on a “combipack” medication abortion regimen (mifepristone/misoprostol) contributed to a reduction in unsafe abortions in Cambodia. Data on abortion prevalence and methods collected over a three-year period is presented and assessed to gauge the impact of this medicated abortion social marketing initiative in Cambodia.

Method: Three annual household surveys were used to gain a representative sample of sexually active married women of reproductive age across 13 provinces: 2010 (n=1,863), 2011 (n=2,080), and 2012 (n=2,080). Women who participated in the surveys met the following inclusion criteria: 1) Aged 15–49; 2) Sexually active in the last 12 months; 3) Not currently pregnant; 4) No intention of having another child for at least two years. The main questions for women are number of abortions she ever had, kind of abortion ever had, and kind of abortion had in the last 12 months.

Results: Over the survey period, the reported annual abortion prevalence declined from 4.5% (CI, 3.7%–5.3%) to 2.6% (CI, 1.9%–3.3%) to 2.5% (CI, 1.7%–3.2%) in 2010, 2011 and 2012 respectively. Among women reporting an abortion in the past year, 72.5% and 54.4% reported the use of surgical methods in 2010, and 2012 respectively. The percentage of women reporting use of medication abortion increased from 27.5% in 2010 to 49.1% in 2012 (p<0.05). The percentage of women reporting the use of unsafe abortion decreased from 4.4% in 2010 to 0% in 2012 (p<0.05).

Conclusions: These trends indicate that large-scale, social marketing of a medication abortion “combipack” coupled with provider clinical and behaviour change training led to a reduction in the number of unsafe abortions and a shift in type of abortions reported in Cambodia, whilst not increasing the overall number of abortion.

POST ABORTION CONTRACEPTION AND THE RISK OF REPEAT ABORTIONS


Objectives: To investigate the effects of different post-abortion contraceptive methods on the risk of repeat abortions taking account of socio-demographic factors at the time of initial abortion using a longitudinal database of terminations of pregnancy in the North East of Scotland.

Method: This was a registry based cohort study using routinely collected data from the Termination of Pregnancy (TOP) Database in Aberdeen, 1st January 1997–31st December 2013. Repeat abortions were found by matching unique identifiers for each woman occurring in the database. Survival analysis was done using the time interval between the first two abortions or the end of follow up as the time variable and the different post-abortion contraceptive methods as exposure. Cox’s proportional hazards model was used to calculate hazards ratios with 95% confidence intervals adjusting for age, parity and social class at the time of initial abortion.

Results: Of the 14968 women who had at least one abortion, 3034 (20.3%) had one or more repeat abortions. Post-abortion contraceptives were grouped as none 1838 (12.3%); contraceptive pill 6016 (40.2%); Depo-Provera 1703 (11.4%); Intrauterine Contraceptive 1267 (8.5%); implant 1823 (12.2%); barrier 768 (5.1%); others 1553 (10.4%). The adjusted hazards ratio (95% CI) for repeat abortions was reduced only with intrauterine contraceptive device [0.79 (0.65, 0.96)] when compared with no contraception. With oral contraceptive pills, repeat abortion occurred soonest, while IUCD offered the longest interval of protection. Lower age [1.07 (1.06, 1.08)] and more deprived social class [1.24 (1.20, 1.28)] were also associated with higher risk of repeat abortions.

Conclusions: Post-abortion contraception plays a key role in preventing repeat abortions. However, the most popular choice of oral contraceptive pills appears to offer no extra protection than no or natural methods of contraception. Intrauterine contraceptive device including the levonorgestrel releasing system gives the best and longest protection from repeat abortions.

KNOWLEDGE SHARING AND MALE INVOLVEMENT FOR SELF-INDUCED ABORTION IN URBAN HAITI: A MIXED METHODS STUDY

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Objectives: Self-induced illegal abortion is believed to be widely practiced in Haiti, however, little is known about how women learn about self-induction abortion regimens and how they obtain the knowledge.
medications and herbs used. This study aimed to learn about knowledge sharing and medication procurement for self induced abortion using a mixed methods approach in an urban setting.

Method: We conducted 8 focus groups with community women (n=62) addressing the topics of contraception and abortion. Using the results of the qualitative phase of the study, a survey was developed and administered to pregnant women (20 weeks of gestation or less) presenting to the maternity ward of a public teaching hospital over a 6-month time frame (n=263).

Results: Among focus group participants, there was widespread knowledge of methods for self induced abortion, frequently using misoprostol. Women learned about abortion from other women, “a secret friend”, traditional doctors, and traditional birth attendants. Women reported informal pharmacies commonly sold misoprostol only to men.

OF women surveyed, 30% (n=78) reported attempting self-induced abortion. The majority of women used misoprostol (85.1%, n=63). When asked who advised them on what medications/herbs to use, 65.5% (n=38) reported it was their male partner and 24% reported it was a friend or family member (n=14). Very few women procured information from medical professionals (n=2, 3.4%).

Conclusions: Self-induced abortion appears to be commonly practiced in urban Haiti. Although misoprostol is frequently used for self-induced abortion women likely rely on men for access to misoprostol through the informal marketplace. Future public health programs targeted at abortion safety would likely benefit from educating both men and women.

FCS96.8  
PHARMACY WORKERS' KNOWLEDGE AND PROVISION OF MEDICAL ABORTION SERVICES IN KENYA


Objectives: In Kenya, over 2,600 women and girls die from complications of unsafe abortion every year and many more suffer related morbidities. More community-level safe abortion access points are needed to reduce maternal mortality. Pharmacies are often the first point of entry into the health system, particularly in urban settings, and may be attractive to individuals seeking stigmatised services such as abortion.

We sought to measure the knowledge and provision practices of Kenyan pharmacy workers with respect to medical abortion (MA) products and services.

Method: The research targeted pharmacies in three Kenyan cities of Nairobi, Mombasa and Kisumu in mid-2013. We randomly selected 100 pharmacies in each city and invited one pharmacist per outlet to participate in a face to face interview. 235 pharmacy workers completed the interview which covered socio-demographics and MA knowledge, training and provision practices. We also conducted a simulated client survey involving 12 fieldworkers aged 17–31 years trained to pose as clients seeking abortion services without prescription; they made a total of 401 visits to 138 pharmacy shops, and completed a structured questionnaire within an hour of each visit.

Results: Mifepristone was less available than Misoprostol (2.7% vs 100% in pharmacy shops selling any MA product), and accordingly, fewer pharmacy workers had heard of Mifepristone (39.2%) than Misoprostol (87.5%). Pharmacy workers had poor knowledge of correct MA regimens, side effects and complications and also of abortion laws and drug registration. 50.1% of simulated clients were referred to another health facility, 34.7% were advised to continue with their pregnancy, 7.7% were offered misoprostol only, 0.5% mifepristone only and 0.8% the combined regimen. Pharmacy workers reported that they were experiencing a demand for abortion services and requested more information on the topic.

Conclusions: Pharmacy workers are important providers of abortion information and referrals in Kenya. However knowledge of MA drugs and their registration status among pharmacy workers is poor and provision of MA methods is low. Stigma around safe abortion remains a challenge and under-reporting due to fear of legal repercussions may have affected the findings. Training on MA, including a focus on stigma reduction, is required to ensure pharmacy workers deliver MA products and high-quality information to expand access to safe abortion within existing legal framework in Kenya.

FCS97.1  
MISOPROSTOL USE FOR ABORTION CARE IN NIGERIA: EVIDENCE FROM THE FIELD

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Objectives: Misoprostol has been shown to be effective and safe when used for Abortion care within the recommended protocol. Available literature suggests that use of misoprostol is not only feasible in Nigeria, but Nigerian women often choose misoprostol over other Abortion care methods when offered the choice. The Nigerian government has also approved the use of Misoprostol for abortion care and other obstetric indications. This review therefore intends to determine the level and pattern of Misoprostol use for first trimester uterine evacuation services and uptake of contraceptive methods postabortion compared to vacuum aspiration (VA).

Method: A retrospective review of logbook data collected on a quarterly basis over a period of three years (July 2011 to June 2014) from 380 Ipas-supported sites in 10 States across five geopolitical zones of Nigeria. Copies of logbook pages were obtained from each facility and data were entered into a relational database. Data were analyzed using stata 13.1 and chi-square tests were used to examine association between categorical variables of interest.

Results: A total of 98,626 women received first trimester abortion procedures; 85% by VA and 15% by medical abortion. Seventy-four percent of women received postabortion contraception. Women were more likely to accept a method if they were treated with Mifepristone compared to VA (78% vs 73%, p<0.001). This association held true irrespective of providers training status and cadre. Misoprostol use was associated with lower uptake of Condoms (16% vs 21%, P<0.001) and higher uptake of long acting contraceptive methods (13% vs 11%, p<0.001) compared to VA. Among trained providers, midlevel providers were more likely to use Misoprostol (49% vs 69%, p<0.001).

Conclusions: Despite the abundance of evidence and government approval, Misoprostol use for abortion care services remains very low in Nigeria. Available data suggests that use of Misoprostol is higher among midlevel providers compared to doctors. Uptake of a contraceptive method post abortion also appears to be higher among women who received Misoprostol for their abortion care. Given the potential for Misoprostol to improve providers efficiency and a woman’s participation in managing her abortion care process, there is need to identify the barrier(s) to Misoprostol use in Nigeria and implement appropriate strategies to improve its use.

FCS97.2  
UTERINE EVACUATION METHODS IN NIGERIA

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Objectives: Unsafe abortion is a major cause of maternal mortality and morbidity in Nigeria. The use of sharp curettage for abortion care contributes to maternal morbidity and is resource intensive. Efforts
have been made to encourage health care providers to use safer and more effective uterine evacuation methods including manual vacuum aspiration (MVA). This review intends to document the preferred method of uterine evacuation among health care providers who offer abortion care services in Nigeria.

**Method:** A retrospective review of logbook data collected on a quarterly basis over a period of three years (July 2011 to June 2014) from 380 Ipas-supported sites in 10 States across five geopolitical zones of Nigeria. Copies of logbook pages were obtained from each facility and data were entered into a relational database. Data were analyzed using Stata 13.1.

**Results:** One hundred and seven thousand and eighty-nine women received abortion care during the review period. More than four-fifth (82%) were managed with MVA, 15% by medical abortion and sharp curettage was used to manage 0.2% of abortion procedures reported. This pattern of MVA use was maintained irrespective of provider cadre, provider training status, type of abortion procedure, age of the woman, facility sector, and in eight of the 10 States. There were no adverse events that required extra intervention. Seventy-two percent of women who were treated with MVA accepted a contraceptive method post abortion and 98% received pain management.

**Conclusions:** The use of MVA appears to be the preferred method of choice for abortion care in Nigeria. MVA was used for most of the induced and postabortion care procedures performed by Ipas trained and non-Ipas trained providers. Given the cost effectiveness and low complication rates of MVA, its use in majority of the cases could be contributing to a reduction of in morbidity and mortality among women seeking abortion care services and low health systems costs of providing abortion care. This data also suggests that the use of sharp curettage for abortion care in Nigeria is becoming outdated.

**FCS97.3**

**STIGMA EXPERIENCES OF FEMALE SERVICE USERS IN LEGAL ABORTION SERVICES IN MEXICO CITY**

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**Objectives:** In 2007, elective abortion up to 12 weeks of gestation was legalized in Mexico City. As a result of this legislative advance in the capital, more than half of the remaining 32 states have added fetal-rights amendments to their state constitutions and the criminalization of women for abortion has increased nationwide, creating a tense and potentially stigmatizing environment for women who exercise their right to choose. The objective of the present study was to identify the stigma perceived, received or expressed by female service users while seeking out and/or receiving abortion care.

**Method:** Field work was carried out during the first semester of 2013 at two legal abortion services in Mexico City, one public service and one private. Fifty women were interviewed in total (25 per service) using a qualitative method via in-depth interviews. The interviews were analyzed by a multidisciplinary team using an inductive method and an open coding system through the software Atlas.ti (Glaser & Strauss, 1967).

**Results:** The most frequent categories of stigma identified were self-stigma, structural barriers, social stigma, myths about abortion, and stigma experienced during the search for services. The stigma present in the interviews originated primarily in women’s experiences prior to their arrival at the facilities in which they received care, including the rejection and mistreatment they received from other health services as well as from other societal institutions (family, partners, religion). Additionally, many interviewees sought to differentiate themselves from women who have abortions for so-called invalid reasons. Stigma experienced at the services themselves was minimal, however, and women had an overall positive perception of care received.

**Conclusions:** The results of the study indicate that, despite the legalization of abortion care, a series of myths, taboos and stereotypes associated with abortion continue to mark the experiences of women who seek legal abortion services in Mexico City.

**FCS97.4**

**STIGMA SURROUNDING ILLEGAL SELF-INDUCED ABORTION IN URBAN HAITI**

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**Objectives:** Stigma associated with induced abortion can be an important factor affecting safe abortion services. Illegal induced abortion is believed to be widely practiced in Haiti; however little is known about any stigma associated with the practice and its potential impact on women and communities. This study used a qualitative approach to learn about the stigma surrounding self-induced abortion in urban Haiti.

**Method:** We conducted 8 focus groups with community women (n=62) and 13 interviews with women’s health providers addressing the topics of contraception and abortion. Discussions were recorded, transcribed and translated. Qualitative data analysis was performed using Maxqda version 10 (VERBI GmbH, Berlin) software.

**Results:** Focus group participants spoke of widespread self-induced abortion practices in their communities. However, if suspected of having an abortion, women often suffered stigma-related consequences within the public sector, churches and health care systems. Participants gave examples including being removed from church choir, taunted by peers and school children and temporarily ostracized from communities. Women perceived that stigma-related mistreatment in health care settings frequently occurs and participants linked this as contributing to women avoiding or delaying safe post-abortion care. Providers perceived that women seeking post-abortion care often didn’t disclose the details of their self-induction regimen and saw this as hindering care.

**Conclusions:** Strategies to make post-abortion care safer in Haiti would likely benefit from measures aimed at reducing stigma within multiple facets of society including communities, churches and health care systems.

**FCS97.5**

**EXPANDING ACCESS TO MEDICATION ABORTION THROUGH NURSES IN PHARMACIES IN NEPAL: SAFETY AND EFFECTIVENESS**


**Objectives:** Abortion has been legally available in Nepal since 2004, but barriers to accessing safe care still exist, particularly in rural and remote areas. Unsafe abortion thus remains a leading cause of maternal mortality and morbidity. Expanding access to medication abortion to the pharmacy is a promising avenue to reach women with safe care. However, no study has evaluated an intervention to provide this service from pharmacy settings. We are conducting a non-inferiority trial evaluating the relative safety and effectiveness of misoprostol medication abortion provided by trained nurses from pharmacy clinics vs. government-certified lower-level health facilities.

**Method:** Nurses from two districts of Nepal, Jhapa and Chitwan, were trained to provide medication abortion services from 12 certified health facilities and pharmacies, with Ministry of Health permission. In October 2014, we initiated recruitment of 500 women seeking abortion within 9-weeks’ gestation. After receiving medication abortion services, participants are asked to return for a follow-up interview and clinical exam in 14–21 days. Analyses describe outcomes
Conclusions: HR services hold a great potential towards reducing the post-abortion visit. However, issues surrounding the limited access to comprehensive FP counseling and methods among providers regarding unwanted pregnancy services, and associated sequelae are important; women who knew someone who worked for the health system burden of post-abortion care. Women unable to disclose their pregnancy, and could not access information about safe services, were likely to resort to unsafe abortion, including: herbalists; non-registered doctors; and, purchase of medical abortion drugs under the counter. Low knowledge of abortion legality led to medical practitioner extortion of money for safe abortions.

Conclusions: This is the first study to obtain government approval to provide abortion services from the pharmacy setting. Preliminary results suggest that mifepristone-misoprostol abortion is highly effective and safe when provided by trained nurses in both pharmacy clinics and public health facilities. Favorable results with the full sample can be leveraged to promote evidence-based care and legislation for increasing access to MA, including, if appropriate, an expansion of medication abortion provision outside of government-certified public health facility settings.

FCS97.6
KEY LESSONS FROM IMPLEMENTATION OF THE HARM REDUCTION SERVICES FOR UNWANTED PREGNANCIES IN TANZANIA: POTENTIAL FOR ELIMINATION OF MATERNAL DEATHS FROM UNSAFE ABORTION
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Objectives: Abortion is legally restricted and there are no unwanted pregnancy services in Tanzania. Most women with unwanted pregnancies turn to unsafe providers or attempt self-induction of abortion. Unsafe abortion contributes 16–25% of all maternal deaths in Tanzania. The harm reduction (HR) model has demonstrated a high impact on reducing maternal deaths from unsafe abortion in Latin America (Briozo, 2006). This operations research evaluated the feasibility and acceptability of the model in Tanzania. The model is based on the right to information; and involves counseling on the risks of unsafe pregnancy termination and giving comprehensive information about safer alternatives, including misoprostol.

Method: Methods for data collection included: 1) surveys and in-depth interviews with women receiving HR services (n=50), 2) knowledge, attitudes and practice (KAP) survey among care providers (n=14), and 3) site observation visits.

Results: 110 women received HR services (Mar-Oct, 2014); 98.2% terminated their pregnancies. 79.2% used misoprostol. All women reported facing no challenges accessing misoprostol; the majority got it from pharmacies without a prescription. 76.3% used the drug as instructed by the provider. No major complications were reported among both misoprostol and non-misoprostol users. The study established significant improvements in attitudes and perceptions among providers regarding unwanted pregnancy services, and in their knowledge on misoprostol use for pregnancy termination. The major challenge to integrate HR services within existing services was the limited access to comprehensive FP counseling and methods during the post-abortion visit.

Conclusions: HR services hold a great potential towards reducing women’s suffering and deaths from unsafe abortion in Tanzania. However, strong providers’ commitment and a broader institutional buy in are key to successful implementation of the HR services in similar settings as Tanzania.

FCS97.7
INDUCED ABORTION IN ZAMBIA: A COMPARATIVE MIXED METHODS ANALYSIS OF WOMEN SEEKING SAFE ABORTION WITH THOSE SEEKING POST-ABORTION CARE AFTER AN UNSAFE ABORTION
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Objectives: Induced abortion has been legal in Zambia since 1972. Levels of unsafe abortion remain high and it is estimated that 30% of maternal deaths are attributed to unsafe abortion. This study seeks to understand why the investment in safe abortion services is not being fully realised and meets this objective by answering three research questions:

- How do the characteristics of women seeking safe abortion differ from women seeking care following an unsafe abortion?
- What influences a woman’s decision making in abortion-seeking?
- How do perceptions of risk and service access influence decision-making for abortion?

Method: Hospital-based recruitment of women (n=112) presenting for either a safe induced abortion or post-abortion care following an unsafe induced abortion. Women were recruited, with informed consent, and were interviewed in-depth about their abortion-seeking experiences. The medical records for most women (n=96) were analysed to triangulate women’s own accounts of their care-seeking. The in-depth interview covered: socio-demographic characteristics; (non-)use of contraception; sources of abortion information; the influence of knowledge (law and abortion services) and risk; and, the role of others (partner, family, friends). Quantitative and qualitative data were collected. Qualitative data were analysed using framework analyses of verbatim translated transcripts.

Results: Significant differences by socio-demographic characteristics: younger women (<20 years) and poorer women (lowest wealth quintiles) are more likely to seek an unsafe abortion. Social networks are important; women who knew someone who worked for the health service were more likely to be able to find out about safe abortion services. Women unable to disclose their pregnancy, and could not access information about safe services, were likely to resort to unsafe abortion, including: herbalists; non-registered doctors; and, purchase of medical abortion drugs under the counter. Low knowledge of abortion legality led to medical practitioner extortion of money for safe abortions.

Conclusions: Zambian women are not accessing safe and legal abortion services because of low levels of knowledge. This is being exploited by registered doctors who extort money for services that should be provided for free. Increased population sensitisation of the circumstances under which safe abortion is available would decrease the use of unsafe abortions, and associated sequelae. Availability of medical abortion drugs in the retail sector mean that substantial proportions of women are self-inducing abortions without appropriate advice or support. The health system burden of post-abortion care following unsafe abortions could be reduced if women knew their rights.

FCS97.8
THE INCIDENCE OF ABORTION IN ETHIOPIA: CURRENT LEVELS AND TRENDS
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Objectives: In 2005, the Ethiopian Parliament amended the penal
code to allow abortion in cases of rape/incest, if the woman has physical or mental disabilities; it is needed to preserve the woman’s life or physical health; she is a minor who is physically or mentally unprepared for childbirth. In 2008, researchers estimated that 382,000 induced abortions were performed; 73% were performed outside of health facilities. This equaled an abortion rate of 23 per 1,000 women aged 15–49, and an abortion ratio of 13 per 100 live births. In 2014, we repeated the assessment.

Method: The project used a study design previously used in Ethiopia as well as other African nations. We fielded three surveys: a) Health facility-based prospective morbidity survey (PMS); b) Cross-sectional health facility survey (HFS); and c) Cross-sectional Health Professional Survey (HPS).

The Ministry of Health is expanding the program while addressing the challenges identified in this assessment to improve access to safe abortion services within the legal framework.

FCS98.1 ABORTION SERVICE PROVISION IN RWANDA SINCE PENAL CODE OF 2012: AN ASSESSMENT OF MEDICAL AND LEGAL SYSTEMS

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Objectives: To conduct a situation analysis to identify the status of legal abortion service provision in Rwanda based on data from health facilities and courts. Rwanda’s Penal Code published in June 2012 allowed for exemptions for abortion in cases of rape, incest, forced marriage, or when the pregnancy jeopardizes the health of the unborn baby or pregnant woman, and a court order is required for the first three exemptions. Previous data on the extent of provision of legal abortion services was scarce.

Method: The assessment included three components: retrospective record review (RRR) from eight district hospitals and their affiliated gender based violence (GBV) centers as well as the intermediate courts for the same districts (for the period of July 2012–June 2014); qualitative component including 22 in-depth interviews with key stakeholders and three focus group discussions with women in the community; and prospective operations research (POR) where data from monitoring of service provision at the health facilities was collected for the period of August–December 2014 after training of the providers at these facilities. Quantitative results from the RRR and POR are presented here.

Results: RRR identified 3,763 records at the GBV centers; where 273 were pregnant at admission; there was only one termination for a pregnancy as a result of rape. Of the 527 female victims identified during the POR, 84 were pregnant and none came back with a court order to terminate a pregnancy. At hospitals, there were a total of 2,956 records for pregnancy terminations. Of the 312 cases during POR, 85% were for obstetric reasons (intrauterine fetal death, missed abortion, trophoblastic disease, etc.); followed by maternal health (14%) and fetal impairment (1%). The use of medical methods was 64% during POR.

Conclusions: Hospitals are well-equipped to provide uterine evacuation services for any indication, but they are not receiving eligible women with court orders. While GBV centers admit many cases of sexual violence; it is rather an exceptional situation for women to obtain a court order to terminate a pregnancy resulting from rape, incest, or forced marriage. The delays in seeking care after rape prevented evidence to be assembled for the legal process that follows. The Ministry of Health is expanding the program while addressing the challenges identified in this assessment to improve access to safe abortion services within the legal framework.

FCS98.2

SUBLINGUAL VERSUS VAGINAL MISOPROSTOL FOR CERVICAL DILATATION 1 OR 3 HOURS PRIOR TO SURGICAL ABORTION. A RANDOMISED, CONTROLLED, DOUBLE-BLINDED TRIAL

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Objectives: To investigate if sublingual administration of misoprostol one hour prior to vacuum aspiration can be more effective than vaginal administration and as effective as either route three hour prior to surgery.

Method: 184 nulliparous women requesting first trimester surgical abortion were randomised to four groups, receiving 400mcg misoprostol sublingually, or vaginally, 1 or 3 hours prior to surgery. Main outcome was baseline cervical dilatation after misoprostol priming. Resistance of the cervical os was measured objectively using a tonometer. Gestational age was established by ultrasound. The medication (misoprostol and placebo) was self-administered 1 hour or 3 hours prior to surgery. Side effects were recorded before surgery and women were asked which administration they preferred. Exact priming time was recorded. Cumulative force required to dilate the cervix was calculated. Time for surgery was recorded. Intra-operative blood loss was measured and surgical complications were noted.

Results: There was a significant difference in the baseline dilatation comparing the priming effect after 1 hour sublingual (7.9mm) to 1 hour vaginal administration (7.2mm) (p=0.038), corresponding with significantly lower cumulative force needed for dilatation (p=0.048). No difference was recorded in the mean baseline dilatation after 1 hour (7.9mm) and 3 hours (7.6mm) (p=0.45), or in cumulative force (p=0.68) when misoprostol was administered sublingually. When administered vaginally, significantly higher cumulative force was needed for dilatation in the group with 1 hour priming time compared to 3 hours (p=0.005). More women started bleeding prior
to surgery in the sublingual administration group after 3 hours priming time (p=0.0008). Women preferred vaginal treatment (p=0.0001).

**Conclusions:** Sublingually administered misoprostol is superior to vaginally administered misoprostol when given one hour before surgery, and it is as effective as after a three hour priming interval with either route of administration.

**FCS98.3**

**TESTING THE FEASIBILITY OF RESPONDENT DRIVEN SAMPLING TO MEASURE THE PREVALENCE OF ABORTIONS OUTSIDE OF THE FORMAL HEALTH SYSTEM IN CAPE TOWN, SOUTH AFRICA**

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**Objectives:** Unsafe abortion is one of the most preventable causes of maternal mortality and morbidity worldwide. In settings where abortion is legally restricted, or where it is permitted but not widely accessible, women face significant barriers to abortion access. In informal and self-induced abortion becomes more prevalent around the globe, there is a pressing need for new and innovative research methods that can accurately measure the incidence and characteristics of informal sector abortions.

**Method:** We tested the feasibility of a new methodology for the measurement of abortion prevalence and abortion related outcomes: respondent-driven sampling (RDS) – a sampling methodology that has been successfully used to estimate unbiased prevalence of sensitive and illegal behaviors among hidden populations – among women who have had informal sector abortions in Cape Town, South Africa. We conducted formative research via in-depth interviews with key informants in a variety of sectors related to abortion – including service provision, community-based organizations, researchers, journalists, sex workers, and HIV positive networks to identify an appropriate “seed” with whom we could collaborate to begin recruitment.

**Results:** We have conducted a small feasibility of RDS in Cape Town, South Africa. Our initial “seed” – the participant who began recruitment – was a member of a well-established network of sex-workers – a population who are known to have well established social networks. We have successfully recruited 28 participants who had informal sector abortions from seeds within a sex-worker network. RDS appears to be a feasible methodology among a strongly networked population, it is now imperative to test the method within a broader population to assess the potential for generating potentially unbiased, population level estimates of the prevalence of informal sector abortion in South Africa.

**Conclusions:** This is the first known study to test the feasibility of RDS methodology for the measurement of informal sector abortion. The use of RDS as a methodology for collecting data on abortion prevalence and other abortion outcomes could have broad reaching implications for abortion research globally as a mechanism to produce less-biased estimates of key abortion outcomes, and will help to inform future research on informal abortion seeking, care, and outcomes both in South Africa and globally.

**FCS98.4**

**THE CHANGING LANDSCAPE FOR ABORTION CARE AFTER LEGAL REFORM IN ETHIOPIA: A DESCRIPTION OF ABORTION CARE AND MORBIDITY FROM ABORTION COMPLICATIONS, 2008 & 2014**

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**Objectives:** In a national study conducted in 2008, researchers estimated that of the 382,000 abortions performed that year, almost 73% were performed outside Ethiopian health facilities. In the six years following that research, improvements in skilled birth attendance, use of antenatal care and contraception – have coincided with the expansion of legal abortion services since reform of the abortion law in 2005. This research provides a national description of abortion care and morbidity during this time, comparing 2014 and 2008 results to assess the degree to which abortion care and unsafe abortion morbidity have changed in the intervening years.

**Method:** Prospective abortion-related morbidity data and counts of legal abortions were collected on symptoms and treatment of 1,932 women seeking postabortion care (PAC) and 6,976 women seeking pregnancy terminations (TOPs) over one month in 344 health facilities in 2008; the same information was captured on 2,898 women seeking PAC and 2,707 women seeking TOPs in 369 public, private and NGO health facilities in 2014. The 2014 data were combined post-data collection with monitoring data from 106,180 women who sought care in 74 NGO health facilities. Data were weighted for the multi-stage sampling design and annualized to create national estimates.

**Results:** Preliminary results indicate that legal abortions provided in health facilities more than doubled, with non-NGO facilities providing half of these procedures. Provision of and number of women seeking PAC increased almost 2.5 times over 2008. Socio-demographic characteristics of women seeking PAC changed in 2014 with more single and younger women presenting with complications. Women in 2014 sought care earlier for complications and abortions. In 2014 a smaller proportion of women, 11%, reported trying to interrupt their pregnancies. Although the morbidity pattern was similar in both years, only four women died in 2014 resulting in a lower case-fatality rate that year.

**Conclusions:** This research has national and global implications exploring abortion morbidity longitudinally and assessing the impact of abortion policy reform over time. The 2014 study findings were compared to 2008 baseline measures in order to assess the impact of maternal health interventions, including changes in contraceptive use, on abortion-related morbidity and mortality during the 5-year period. Findings indicate that abortion care provision and care-seeking in health facilities has increased exponentially between 2008 and 2014, however, eradication of morbidity due to unsafe abortion remains a far-off goal.

**FCS98.5**

**OBSTETRIC UROGENITAL FISTULAE: A MISERY FOR WOMEN IN DEVELOPING COUNTRIES**

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**Objectives:** To describe the characteristic of women with obstetric fistulae and to evaluate surgical outcome.

**Method:** The case record of files patients with obstetric fistulae was reviewed. The parameters analysed were demographic and obstetrics characteristics and surgical outcome.
Results: Total number of gynaecological admissions were 9121 and total number of patients with obstetric fistulae were 301 giving prevalence of 3.3%. Out of 301 patients 193 (64%) had fistulae as a result of obstetric trauma. The age in years (mean, range) 31.5±7.5, 16–54 years, parity (mean, range) 3.2±2.8, (0.15) length of labor (mean, parity) 2.3, 91–4 days), unattended and unskilled deliveries were 56%, only 8% were literate and still birth rate was 93%. Surgical repair by layered closure was performed in 168 patients mostly by vaginal route, 4 cured after ureteric stenting and 3 healed spontaneously. The success rate was 94%.

Conclusions: The obstetric fistulae have almost been eliminated from developing countries, but still a misery for women of developing countries. Obstetric labor is the main cause of obstetric fistulae, which can easily be prevented. Sufferer of urinary fistulae live miserable life and prevention is the goal to be achieved, successful repair is crucial.

FCS98.6
COMMUNITY BASED PREVALENCE OF PELVIC FLOOR DISORDERS IN EASTERN NEPAL
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Objectives: To find out prevalence of pelvic floor disorders in community.

Method: Community based door to door survey with preformed questionnaire was done in 10 villages in Eastern Nepal covering 9000 women of reproductive ages. Sociodemographic variables and their responses were noted.

Results: 3.5% patients admitted having symptom of continuous leakage of urine. 4.2% patient had stress urinary incontinence. 4% patient had urge incontinence. 8.5% patient were having symptoms of pelvic organ prolapse. Having these symptoms significantly affected the quality of life in 60% of women.

Conclusions: This is one of the first study of this kind in Nepal. This would help to decide the priority in prevention. The clinical confirmation of such problem would help to plan the treatment.

FCS98.7
CHARACTERISTICS OF URINARY INCONTINENCE IN PREGNANCY
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Objectives: To identify the prevalence of UI during pregnancy and characteristics of urinary loss in this period.

Method: A cross-sectional population-based study. All pregnant women regardless of gestational age were interviewed in the postpartum time or until hospital discharge. An investigation based on the literature, containing questions about the occurrence of UI, their types and the key moments in the urinary leakage occurred.

Results: 996 women were interviewed, with a mean age of 26.11 years (± 5.92) and body mass index (BMI) of 29.72 (±5.87) kg/m2. Of these women, 518 (52%) were classified as incontinent. The most common type of UI was mixed urinary incontinence (60.2%) and considered severe impact on QOL, the ICIQ -SF score.

Conclusions: Among the women with UI, the changes it causes in QOL during this period were considered severe. Health professionals should be on alert as the complaint in this period, in order to institute measures to minimize changes caused by UI.

FCS98.8
URINARY CONTINENCE IN PREGNANCY AND IMPACT CAUSED IN QUALITY OF LIFE
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Objectives: To evaluate the prevalence of UI and their types, estimate the impact caused by it in QOL and possible associations UI with socio-demographic and clinical and anthropometric variables in women during pregnancy.

Method: A cross-sectional population-based study. All women regardless of gestational age were interviewed postpartum time until discharge. An investigation based on the literature was used, containing questions concerning the occurrence of UI, their types and assessing the impact on QOL by the International Consultation on Incontinence Questionnaire - Short Form (ICIQ-SF).

Results: 996 women were interviewed, who had a mean age of 26.11 years (± 5.92) years and body mass index (BMI) of 29.72 (±5.87) kg/m2. Of these women, 518 (52%) were classified as incontinent. The most common type of UI was mixed urinary incontinence (60.2%) and considered severe impact on QOL, the ICIQ -SF score.

Conclusions: Among the women with UI, the changes it causes in QOL during this period were considered severe. Health professionals should be on alert as the complaint in this period, in order to institute measures to minimize changes caused by UI.

FCS99. Urogynecology
FCS99.1
THE VALUE OF THE PREOPERATIVE 1-HOUR PAD TEST WITH PESSARY INSERTION FOR PREDICTING THE NEED FOR A MID-URETHRAL SLING FOLLOWING PELVIC PROLAPSE SURGERY: A COHORT STUDY
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Objectives: Part of the patients with pelvic organ prolapse (POP) but without symptoms of stress urinary incontinence (SUI) may demonstrate SUI after prolapse surgery (occult SUI), no optimal preoperative screening method is currently available for it. The aim of this study is to estimate the value of the preoperative 1-hour pad test with pessary insertion for predicting the need for a mid-urethral sling (MUS) following prolapse surgery.

Method: Two hundred and six patients were enrolled for advanced prolapse without complaining of urinary incontinence (UI) in this prospective cohort study. Exclusion criteria included prior or concomitant anti-incontinence surgery. Preoperatively, a stress test, the 1-hour pad test and uroflowmetry were performed with prolapse reduction. Primary outcome was postoperative de novo UI. Median follow-up was 31 months (range 12–48 months).

Results: Of the 206 patients, 45 (21.8%) had evidence of occult SUI preoperatively, 62 (30.1%) exhibited de novo UI postoperatively, only 13 (6.3%) opted MUSs. Patients with occult SUI experienced higher de novo UI rate (53.3% versus 23.6%; RR=2.26, 95% CI: 1.25–4.25; P=0.000). The OSUI and concomitant hysterectomy were identified as independent risk factors related to de novo UI (OR=4.19, 95% CI: 1.99–8.86; OR=2.86, 95% CI: 1.02–7.99). We performed receiver operating characteristic (ROC) curve analysis to evaluate the value of preoperative 1-hour pad test. The area under ROC curve was 0.816±0.085 (95% CI: 0.649–0.983), the cutoff value was 1.9 g (sensitivity 80.0%, specificity 83.9%).
Conclusions: Nearly 30% of patients might have suffered from de novo UI after prolapse surgery, but most of them are mild. The preoperative 1-hour pad test with prolapse reduction is a feasible method for quantifying the degree of urinary loss, >1.9 g may be a practical indicator of a postoperative subsequent MUS. Further studies are needed to identify whether prophylactic MUS is more beneficial to OSUI patients whose pad weight is greater than 1.9 g.

FCS99.2 RETROPUbic TENSION-FREE VAGINAL TAPE AND INSIDE-OUT TRANSObturator TAPE: A LONG-TERM RANDOMIZED TRIAL

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Objectives: To compare the complications and surgical outcomes of TVT and TVT-O tape approaches in the long-term.

Method: From 2004 to 2008, SUI patients with urethral hypermobility who failed conservative treatments were randomized to TVT or TVT-O procedure according to the SAS randomization schedule in a referral center. Patients with intrinsic sphincter deficiency, mixed urinary incontinence, pelvic organ prolapse greater than POP-Q stage I or past history of hysterectomy or pelvic reconstruction surgeries were excluded. All of the patients were interviewed by an independent investigator at the follow-up. The primary outcomes were the proportions of patients with complications. The secondary outcomes included the cure rates, validated-questionnaires of quality of life (QOL) and sexual function.

Results: A total of 120 (85.71%) of the 140 randomized patients completed the long-term follow-up. In a mean follow-up of 95.5±16.7 months, no significant difference was found in proportions of patients with complications or in different complications between groups. De novo LUTS and URI were prime long-term complications. Tape exposure occurred until 7±y postoperatively. The objective cure rates of TVT and TVT-O procedures were 79.30% and 68.35%, insignificantly higher than subjective rates. The cure rates of TVT-O patients were non-significantly lower than TVT patients. The PFIQ-7 scores remained improved (P<0.001) after both procedures. No difference was observed in the PISQ-12 scores after either procedure.

Conclusions: In the long-term, the higher risk of chronic pain or less voiding dysfunction of transobturator route reported by short-term studies was not found. Neither the proportion of patients affected by complications nor the cure rates showed significant difference between procedures. However, the QOL remained improved in both arms in the long-term and the sexual function was unchanged. Equivalent trial should be preferred in the future study design.

FCS99.3 HELP-SEEKING BEHAVIOR AMONG WOMEN CURRENTLY LEAKING URINE IN NIGERIA: IS IT ANY DIFFERENT FROM THE REST OF THE WORLD?

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Objectives: To determine help-seeking behaviors and factors influencing the choice of hospital care in women currently leaking urine.

Method: This study was part of a multistage community survey conducted among 5001 women in Nigeria who participated in the Ibadan Urinary Incontinence Household Survey aged ≥18 years. Cluster multistage sampling was used to select eligible respondents. Information was obtained by an interviewer who administered a structured questionnaire on sociodemographics, obstetric and gynaecological characteristics, leakage of urine and trigger factors. Help-seeking behavior was analyzed among 139 respondents currently leaking urine within the population surveyed.

Results: The mean age of those currently leaking urine was 35.7 years (SD=15.8). Only 18 (12.9%) had ever sought help, of which 15 received hospital care. Logistic regression analysis showed that the odds of seeking hospital care was higher among less educated women (odds ratio [OR] = 4.05, 95% confidence interval [CI]: 1.17–13.89) and among those with severe incontinence (OR = 4.20, 95% CI: 1.24–14.29). Reasons mentioned for not seeking hospital care include a belief that the condition is not life-threatening (51.2%), ignorance of availability of treatment (18.2%), lack of funds (1.7%), shyness (2.5%), afraid of complications (1.7%), other (2.5%), and no reason (22.3%).

Conclusions: This study shows that very few women, currently experiencing urinary incontinence have sought medical care (approximately 1 in 10); and that the barriers identified are similar to those identified in previous studies, except that these women lack the necessary funds to seek care.

FCS99.4 LONG TERM FOLLOW-UP FOR EFFICACY AND SAFETY OF TRANSObturator TAPE FOR TREATMENT OF FEMALE STRESS URINARY INCONTINENCE

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Objectives: The aim of the study is to evaluate the long-term efficacy and safety of transobturator tape (TOT) procedure in the treatment of genuine stress urinary incontinence (SUI) in female patients.

Method: Prospective clinical study was conducted at Obstetrics & Gynecology and Urology Departments at Tanta University Hospital, Egypt, included 56 women with genuine SUI underwent TOT procedure. The preoperative and postoperative work-up used for objective assessment included cough stress test (CST), 1 h pad weight test (PWT) and two questionnaires; the Urogenital Distress Inventory – Short Form (UDI-6) and the Incontinence Impact Questionnaire – Short Form (IIQ-7). Subjective improvement was assessed by the Patient Global Impression of Improvement scale. Urodynamic tests were performed when indicated. Follow-up evaluation was carried out every 3 months during the 1st year and yearly afterwards.

Results: After 12-month follow-up, a negative CST was found in 93.3%, 1 h PWT <1 g was present in 91% and the subjective cure rate was 90.5%. A significant improvement in both UDI-6 and IIQ-7 were found (p<0.001). Negative CST, 1-h PWT <1 g and the subjective cure rate at the last follow-up were (90%), (88%) and (89%) respectively. The postvoid residual urine and Qmax did not differ significantly between the preoperative values and at the last follow-up. 6 patients complained from groin pain, urgency and voiding difficulties after a mean follow-up of 42 months.

Conclusions: TOT procedure is an effective and safe minimally invasive procedure for the treatment of genuine SUI with satisfactory long-term outcome and low complications rate.

FCS99.5 COMPARATIVE STUDY OF STRESS URINARY INCONTINENCE IN AN AMAZON RIVERSIDE COMMUNITY AND IN AN URBAN POPULATION: DOES LIFESTYLE MATTER?

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Objectives: The objective of this study was to compare the preva-
Outcome of primary surgery for circumferential vesico-vaginal fistula: A review of 102 cases

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Objectives: Circumferential urethral fistula is a severe form of obstetric injury that is recognized to carry a poor prognosis for eventual continence but this has not been quantified before.

Method: An analysis of 106 women who had undergone primary repair of a circumferential fistula was carried out with particular reference to whether there was reported complete continence or some improvement in remaining dry.

Results: Of the 106 women only 25% reported themselves continent post-operatively and 10/44 (23%) if the fistula was greater than 1.5 cm. There was a 10/62 (16%) reporting continence if the fistula was less than 1.5 cm. The likelihood of having SUI in a woman from a rural population who had homebirth was 0.13; and in a woman from the urban group who had homebirth, this chance was 0.37.

Conclusions: Urinary incontinence was less common in a rural population as compared to an urban group. In this study, home childbirth and urban women were associated with the occurrence of SUI.

Knowledge and perception of genito-urinary fistulae by patients and population in Niger before and during End Fistula Campaign

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Objectives: To determine the knowledge and perception of fistula patients and general population on the causes, names, social consequences, methods of treatment and ways of prevention of the disease.

Patients, materials and methods: The survey was conducted in 1994–95 and in 2012–2013. It involved 843 patients registered in 11 health centers nationwide and 954 healthy individuals from general populations in 1994: 215 patients in a national referral Centre and 300 people in 2012–2013. Trained health personnel administered to VVF patients and to individuals a questionnaire and focus groups discussions.

Patients’ knowledge and perception: Fistula names in national languages are similar, symptomatic and express urine leakage. During End Fistula campaign, new names such as yoyo and labor trauma appeared.

Causes: Obstructed labor and surgical/obstetric procedures. Consequences: high rate of fistula-related divorce.

General population’s knowledge & perception: During End Fistula campaign, more people have heard about fistula and named it by urine leakage, labor/delivery disease, women’s trauma etc. Main causes: early marriage, pregnancy and labor, traditional practices, lack of health centers.

Treatment: Modern medical treatment. Prevention: Avoid early marriages and pregnancy, build healthcare centers and roads, get educated “

Conclusions: End Fistula campaign has a slight positive impact on patients’ and population’s knowledge and perception of fistula.
WHAT IS THE PREVALENCE OF OBSTETRIC FISTULA AND SYMPTOMATIC UTERINE PROLAPSE IN WOMEN FOLLOWING CHILDBIRTH? A COMMUNITY-BASED SURVEY OF 23,000 ETHIOPIAN WOMEN OF REPRODUCTIVE AGE

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Objectives: 1) To determine the prevalence of obstetric fistula and symptomatic uterine prolapse in women of reproductive age. 2) To investigate factors related with symptomatic uterine prolapse.

Method: This is a cross-sectional study of reproductive age women. The study was based in the Oromia and Amhara regions of Ethiopia. A random sample of 22,930 reproductive aged women participated in a face-to-face prevalence survey. Of these women, a sample of 4,432 women who delivered a baby in the past 12 months (2013–14) also completed a maternal health survey.

Results: The prevalence of obstetric fistula was 6 per 10,000 women of reproductive age. There were 4 untreated and 9 treated women. Two fistulae occurred following caesarean section and 11 following vaginal delivery. Just 3/13 babies survived. Four (44%) treated women continued to experience some urinary incontinence.

The prevalence of symptomatic uterine prolapse was 1.8%. Women with uterine prolapse had higher parity (p=0.02), but were of similar age (mean 29 years). Poverty, occupation and education level were not associated with uterine prolapse. The vast majority of women (96%) were farming the land or undertaking manual labour.

Conclusions: The prevalence of obstetric fistula in Ethiopia has declined since reports of 2.2 per 1000 in 2005. The vast majority of women have received treatment for their fistula, although almost half continue to experience some level of urinary incontinence.

There is a high prevalence of symptomatic uterine prolapse in women of childbearing age and this burden of untreated pathology is likely to increase with advancing age.

Paediatric fistula accounts for one fifth of female genital fistula. 2. To explore the characteristic features of paediatric fistula.

Method: The study was a retrospective descriptive analysis of sixteen years review of all new women with female genital fistula (4,912) recorded on Evangel VVF center data base in Jos Nigeria from January 1, 1999 to March 5, 2015. Descriptive statistical analysis was employed with SPSS version 17; while charts were generated using Microsoft Excel.

Results: 21.1% of all female genital fistula women were less than 18 when they developed the fistula. 92% of Paediatric fistulae were of obstetric origin; 78% had the fistula at their first delivery; 5.6% of foetuses delivered were alive; 80% of victims of Paediatric fistula had no living child; 85.1% were illiterate; 27% were divorced or separated.

Conclusions: Paediatric fistula accounts for one fifth of female genital fistula and presents with dire complications.

Recommendations: 1. Further study should compare Paediatric and Adult fistula. 2. Paediatric fistula should be prioritized for treatment and prevention.

Objectives: Obstetric fistula (OF) remains a major public health problem in Nepal where unattended obstructed labor is common. The objective of this study is to contribute in decreasing the obstetric fistula related morbidity by providing information that could help in struggle against OF. This study also aims to assess the results of the different studies on fistula initiatives in Nepal.

Method: Study results published from Nepal accessed through PubMed, Lancet, Medline, WHO, UNFPA and Google Scholar were analyzed. Keywords used in the search, included obstetric fistula, Nepal, repair of fistula, and prvalence. Information was collected on the prevention, the management, the social reintegration, the training and the research related to obstetric fistula. Standard search tool, structured questionnaire for health workers and patient’s interview were also used. Literature review on obstetric fistula in Nepal was also done.

Results: It is estimated that there are 400 new cases of OF in Nepal each year leading to 5000 prevalent cases. Obstetric fistula surgery is practiced in few sites only. It is a hidden tragedy mainly in the rural Nepal in women who were isolated for years. Prolonged ob-
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TREATMENT PLAN OF OBSTETRIC FISTULA AT THE SCHIPPHA MEDICAL CENTER WITH SURGICAL UNIT

1. To analyze the epidemiologicals, clinical and therapeutic aspects of the women suffering from obstetric fistula at the Schippha Medical Center with Surgical Unit in Ouagadougou.

2. To present the efforts of the Schippha Medical Center with Surgical Unit in prevention of obstetric fistula and rehabilitation of the healed women.

Method: We made a prospective cross-sectional and descriptive study about women who got gynecological treatment within 24 months (from August 22th 2012 till July 23th 2014). The study site was constituted by the Schippha Medical Center (1). It concern every women treated in this center who voluntarily agree with the study terms. Evolutionary aspects are spread out in three phases. The healing phase: these women maintain continence and have good urination. The improvement phase: the losses are reduced. The failure phase: the woman situation is unchanged. The methods used for prevention were illustrated presentations, group work, and role plays.

Results: During the study period 431 cures of fistula were made in the operating room.

Postoperative monitoring has found an amendment of the leakage of urine at the exit of the first intervention in 96.3% of the cases, of the second intervention in 94.2% of cases, and 60.6% of case of the third or more intervention. Prevention has relied on an awareness of the rural population of 6 villages by presentations on obstetric fistula and how to avoid this condition.

For more efficiency and an extension of action it was organized a capacity-building of field officers involved in this activity.

Conclusions: The results of obstetric fistula treatment plan in the Schippha Medical Center with Surgical Unit are quite satisfactory. The use of the partogram and promotion of deliveries assisted by a staff of quality remain the only weapons of prevention of this scourge, which constitutes a real development problem.

THE ROLE OF FIBROSIS IN POST-OPERATIVE HEALING OF FEMALE GENITAL FISTULA

1. To present the efforts of the Schippha Medical Center with Surgical Unit in prevention of obstetric fistula and rehabilitation of the healed women.

Method: We made a prospective cross-sectional and descriptive study about women who got gynecological treatment within 24 months (from August 22th 2012 till July 23th 2014). The study site was constituted by the Schippha Medical Center (1). It concern every women treated in this center who voluntarily agree with the study terms. Evolutionary aspects are spread out in three phases. The healing phase: these women maintain continence and have good urination. The improvement phase: the losses are reduced. The failure phase: the woman situation is unchanged. The methods used for prevention were illustrated presentations, group work, and role plays.

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THE ROLE OF FIBROSIS IN POST-OPERATIVE HEALING OF FEMALE GENITAL FISTULA

1. To analyze the profile of women with genital fistula in Jos in 2014 in comparison with 1999. 2. To analyze the trend of the profile of women with genital fistula in Jos from 1999 to 2014. 3. To predict the future profile of women with female genital fistula in Jos Nigeria using the trend analysis.

Method: The study is a sixteen years retrospective record review of all women with female genital fistula in Evangel Vescio Vaginal Fistula (VVF) center Jos from January 1, 1999 and December 31, 2014. Records were obtained from Evangel VVF Microsoft Access database. 4,876 entries were included in study, but incomplete entries were excluded from analysis. Descriptive analysis was done using SPSS.

Charts were generated using Microsoft Excel.

Results: In 2014 Pediatric fistula was 20.5%, 34.7% in 1999 (trend 20.9%) respectively; 2.7% and 43.9% were menstruating (trend 27.1%); 2.7% and 14.8% were leaking feces (trend 8.7%; 27.0% and 43.2% had foot drop (trend 39.9%); 1.2% and 26.2% had previous repair of their fistula (trend 10.0%); 68.5% and 44.9% occurred in first pregnancy (trend 48.5%); 41.7% and 86.7% spent 2 or more days in labor (trend 57.2%); 7.1% and 21.3% delivered at home (trend 13.3%); 6.9% and 7.8% of deliveries were alive (trend 11.0%); 89.1% and 93.7% were illiterate (trend 89.6%); 10.8% and 28.3% were divorced or separated (trend 17.7%).

Conclusions: The profile of obstetric fistula was gloomy in 1999, appears to have improved in 2014, and the trend suggests significant improvement in the future, provided the current efforts at controlling fistula are sustained.
FCS100.7
ADDRESSING FISTULA IN A PRIVATE, CHARITABLE HOSPITAL – MAMM’S INSTITUTE OF FISTULA AND WOMEN’S HEALTH (MIFWOH)
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Objectives:
• Share the experience of challenge in case collection.
• To discuss the challenges in the Intractable, referred fistula cases.
• To Present the outcome of the patient admitted in MIFWOH.

Method: This is a retrospective Cross-sectional, descriptive type of study, done during the period of January 2013 to December 2014. Data were collected from the record sheet of the hospital using a questionnaire. Informed consent were taken from each patient. Data were available in a total number of 120 patents admitted in 2013 and 2014 who were included in the study. Data analysis was done using SPSS scientific package. Results were presented in table and Chart.

Results: A total of 120 fistula patients’ data was available and analyzed for the study. Sociodemographic data reveals that the mean age of the patients was 38 years (at the time of admission). 83% patients had Obstetric Fistula, 17% iatrogenic Fistula. 70% of them were illiterate and 96% were referred by doctors. A good number of the patients were either divorced or abandoned by husband. Those who have children were living with husband mainly. Among the patients admitted, 10.83% had Intractable Fistula. All the patients were operated in the hospital. 112 patients underwent local repair, 6 patients ureteric re-implantation and remaining 2 patients had urinary diversion operation. The success rate was 88% for local repairs.

Conclusions: Survey of 2003 revealed that about 71,000 are living with fistula in Bangladesh. In spite of having GOB strong initiatives, good number of fistula surgeons, still there is difficulty in getting good number of patients, which indicate that awareness among patients about available treatment facilities is still poor. So, in addition to treating the patients, identification of the patients and bringing them to the available treatment facility is still a big challenge. This is also a big Challenge for Mifwoh. Collaboration with NGO, like Brac and other NGOs who are working in community level, is very important and helpful.

FCS100.8
THE PANZI CLASSIFICATION AND SCORE FOR FEMALE GENITAL FISTULA
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Objectives: Several vesico-vaginal fistulae (VVF) classification systems are currently in use. Goh and Waaldijk most common but very little evidence-based analysis has been done on their ability to predict surgical outcome. The objective was to determine the predictability of Goh and Waaldijk, and create the Panzi Classification and Score to serve as one comprehensive classification system with a quantitative Panzi Score as an indicator of fistula complexity.

Method: Fistula surveillance began in 2012 at Panzi General Reference Hospital in Bukavu, Democratic Republic of Congo. In December 2014, over 700 patients were registered in the electronic data repository. Data are collected on patient demographics, medical history, fistula characteristics, surgical techniques and outcome. Fistulae are classified using both Goh and Waaldijk. Predictability of both Goh and Waaldijk, as well as the newly developed Panzi Classification and Score, on surgical outcome were analyzed using logistic regression.

Results: 592 patients had complete data on Waaldijk, Goh and surgical outcome. These data were used to develop the Panzi Classification, recorded as: T_S_C_F. T = type, S = size, C = circumferential and F = Fibrosis, with the value for each category written after the letter. Possibilities are: Type 0–3, Size 0 (<3 cm) or 1 (>3 cm), Circumferential 0 (no), 1 (yes), and Fibrosis 0 (none), 1 (moderate), 2 (severe). T2.S0.C1.F3 is Type 2, ≤3 cm, circumferential, with severe fibrosis. This allows physicians to immediately know the fistula characteristics. For each increase in the Panzi Classification Score, surgical outcome was 1.483 times more likely to fail (95% CI: 1.146–1.919, p-value = 0.003).

Conclusions: The Panzi Classification and Panzi Classification Score are easy tools to determine the severity and complexity of fistula. They are also easy to use and will enable fistula surgeons to compare cases across clinical sites.
Objectives:
Necrotic tissue is an accepted cause of disseminated intravascular coagulation (DIC). In the setting of ovarian torsion, some venous outflow from the adnexa must occur in order for tissue factor to enter the peripheral circulation. Despite coagulopathy being a hypothesized complication of ovarian torsion there are scant documented cases, particularly in adults.

Method: We present a case of an 18-year old woman weighing 170 kg who developed a coagulopathy as a complication of ovarian torsion.

Results: The woman presented with 48 hours of abdominal pain which spontaneously resolved. At initial presentation, laboratory results demonstrated a hemoglobin of 101 and normal coagulation studies. Computed tomography scan revealed a 30 × 32 × 20 cm complex pelvic mass. On hospital day 4, the hemoglobin fell to 76, with prothrombin time 24, partial thromboplastin time 36, INR 2.3 and fibrinogen 5.8. Urgent operative intervention was arranged. A subumbilical midline laparotomy revealed a large benign ovarian cyst with 720 degrees of torsion. The cyst was drained of 11.3L of fluid prior to exteriorisation and salpingo-oophorectomy; histopathology showed cystadenoma and hemorrhagic infarction.

Conclusions: Diagnosis of large ovarian mass and torsion may be delayed in obese women due to lack of recognition of increasing abdominal girth and reduced sensitivity of ultrasound and Doppler assessment. The finding of a large but benign–appearing pelvic mass associated with progressive anemia should raise a suspicion for ovarian torsion with evolving DIC and precipitate urgent surgery with correction of coagulopathy. A heightened clinical suspicion for ovarian torsion and rapid transfer of these women to a tertiary hospital setting may reduce morbidity through minimizing delays in diagnosis and treatment.

Objectives:
To evaluate the current evidence about the impact of simulation team training in obstetrics to improve non-technical skills: teamwork, communication, leadership, situational awareness, and decision making to improve outcomes.

Method: The method was a literature review using systematic search strategies and strict inclusion criteria. The selected studies were appraised critically and the evidence was synthesized by mixed methods approach to guide the development of best practice in role of simulation training in management of obstetric emergencies.

Results: The database search identified six studies – two qualitative and four quantitative. The outcomes were defined and measured by different assessment tools by different studies. A meta-analysis was not possible due to heterogeneity of data. None of the studies measured all the outcome measures under review. Improvement in teamwork was shown by all the studies, enhanced communication by four studies, improved leadership by two studies and better situational awareness by one study.

Conclusions: This review reports limited evidence on positive impact of intervention on the outcomes under review. There is a need for standardisation of outcome measures nationally and internationally so that results of future studies can be compared and results can be pooled for future systematic reviews and meta-analysis.

Objectives:
The combination of sound and sight stimulates the mind and brain. The use of technology in the education has come a long way in a relatively short period of time. The number of tools and the ways in which to use them offer today’s administrators and educators unparalleled opportunities to reach students and the systems.

Method: The prospective study done in a new periphery semi urban medical college during the period June 2013 to April 2014, where no required set up. Recording system are personally arranged following the ethics in Gynae Department. In the class Three way discussion with patient student and teacher were arranged About 30 percent for the student counseling and consultation with patient.20 percent was for conception clearance telling different stories related to it another 20 percent for return back from the student 10 percent for relaxing and wishing pictures, roll call and any problem about their health etc.

Results: Attitude for learning were, Very good 55%, Excellent 20%, Good 15%, Not satisfactory 10%. Interaction. Interpretation between patient student teachers were very interesting. Knowledge attitude perception and skill were optimum.
Conclusions: This way of teaching was less stressful and student were more attentive.
A visual instruction movement arose, which encouraged the use of visual materials to make abstract ideas more concrete to students. Audio-visual, Video-conference and distributed education and Communication can bring the world of medicine immerse and diverse. Video recording in low resource setup could be a good archive for future use.

P0004 NO-ONE PUTS OUR STUDENTS IN THE CORNER: DEVELOPING A STUDENT CENTERED TEACHING TOOL FOR INTRAPARTUM CARE
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Objectives: In modern medical education medical students are increasingly left out of participating in intrapartum care, in contrast to most other patient care settings. Students have less time to develop competencies in obstetrics that will be, for many of them, their only exposure to intrapartum care in their careers. The objective of this project was to develop a tool to facilitate medical student engagement and learning from the multidisciplinary team in the intrapartum care setting.

Method: A Labour Ward handbook was developed with the aim of encouraging students to seek out knowledge from their clinical tutors on the Labour Ward and to interact with labouring women in a structured way, underpinned with an understanding of labour physiology. The handbook is revised with feedback from each rotation of medical students in the department and is available in electronic format across a range of platforms.

Results: The handbook was a popular innovation with the medical students. There was an improvement in the student perception of their educational experience in our department and an increase in the number of students likely to consider a career in obstetrics and gynaecology.

Conclusions: Changes in patient expectations, the reduction in birth rate and increase in high risk pregnancies are combining to reduce medical student exposure to the normal physiology of labour and delivery. Traditional models of delivering learning are no longer effective and a student centred paradigm that takes advantage of available technology for information delivery can be an effective and engaging solution.

P0005 FACTORS INFLUENCING MEDICAL STUDENTS' EVALUATION OF THE OBSTETRICS CLERKSHIP
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Objectives: Many medical students express that their clinical exposure and integration to the medical team on the delivery ward varies depending on the hospitals where they are assigned, hence creating feelings of inequality and dissatisfaction regarding the attainment of clinical objectives. In previous studies, the presence of residents and the participation of students to the department’s activities were described as having a positive influence on students’ experience during their obstetrics clerkship. Male students tend to perceive their gender as a negative factor. The objective of this study was to determine the factors influencing medical student’s evaluation of their obstetrics clerkship.

Method: A questionnaire evaluating demographic characteristics, technical gestures performed and students’ perception of integration and exposition during the obstetrics clerkship was distributed to medical students in 5 teaching hospitals.

Results: Medical students were recruited from October 2012 to October 2013. A total of 176 students answered the questionnaire. The mean global evaluation of the rotation was 81.8% (SD 9.0%). There was no difference between genders (p=0.40). Positive perceptions of integration to the medical team and of clinical exposition were the two factors linked most significantly to a good evaluation of the clerkship (p<0.001). Only the number of deliveries performed was associated with a higher mean global evaluation of the clerkship (p=0.05).

Conclusions: Perceptions of integration and clinical exposition are the principal factors correlating with the global evaluation of the obstetrics clerkship. Contrary to previous studies, we did not find any difference in satisfaction between genders.

P0006 APPLICATION OF THE PHEEM QUESTIONNAIRE TO THE OBSTETRICS CLERKSHIP IN A FRENCH CANADIAN UNIVERSITY
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Objectives: Following informal discussion with medical students, specific concerns were identified regarding some variations in clinical exposition during the obstetrics clerkship between the different teaching hospitals. The objectives of this study were to compare the compulsory rotations in obstetrics performed in different teaching hospitals and to correlate the Postgraduate Hospital Educational Environment (PHEEM) score to the medical students’ global evaluation of the clerkship.

Method: The PHEEM is a validated questionnaire developed to evaluate and compare clerkships performed in different settings. It comprises 40 items and the final score ranges from 0 to 160. The French version of the PHEEM questionnaire was distributed to medical students at the end of their obstetrics rotation along with additional questions regarding demographic characteristics and global evaluation of the clerkship.

Results: A total of 176 medical students were recruited in 5 teaching hospitals from October 2012 to October 2013. The global PHEEM score was 119.7 (SD 13.7). The mean PHEEM score between the hospitals ranged from 113.3 to 129.2 (p<0.001). The PHEEM score was significantly linked with students’ evaluation of their rotation, F(1,174) = 86.08, p<0.001.

Conclusions: There were significant differences in the PHEEM score within teaching hospitals. This score correlated well with students’ evaluation of their clerkship. The use of the PHEEM questionnaire could be implemented in obstetrics to ensure standardization of the clerkship in the different settings.

P0007 CONTRACEPTIVE KNOWLEDGE ASSESSMENT: VALIDITY AND RELIABILITY OF A NOVEL CONTRACEPTIVE RESEARCH TOOL
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Objectives: In order to develop effective teaching methods for contraceptive education, researchers require a validated, reliable tool to measure subjects’ contraceptive knowledge. However, most widely used indices are outdated and no longer useful. The objective of this study was to create and assess the validity and reliability of a novel assessment tool for measuring contraceptive knowledge.

Method: The study tool was validated using both qualitative and quantitative methods. The tool was developed by the research team and then reviewed by a selected group of experts. Participants for testing the tool included English-speaking men and women ages 15–45 at a single institution. Structured interviews were conducted with a randomly selected group of patients for qualitative feedback regarding the readability and ease of administration and the study tool was adapted accordingly. Quantitative tests included (1) comparison
with a gold standard; (2) test-retest reliability; (3) comparison between a group with low contraceptive knowledge and a group with high contraceptive knowledge.

Results: Qualitative feedback was obtained on the 25-question knowledge assessment tool from 6 experts and 7 patients. The study tool was administered to a total of 102 patients, with a mean score of 9.0. In comparison with the gold standard, the mean score was significantly higher (new tool 9.1 vs. gold standard 5.8, p < 0.001). Test-retest reliability was demonstrated via repeat testing within 2–4 weeks, demonstrating no difference between test and retest in the same subjects (p = 0.667). When compared to medical students, patients’ mean scores were significantly lower as expected (patients 9.1 vs. medical students 19.4, p < 0.005).

Conclusions: We have designed a valid and reliable study tool to measure a person’s level of knowledge regarding contraception. This tool will allow the assessment of baseline knowledge, educational gaps, and post-educational knowledge achievements after an intervention.

P0008 INVESTIGATION ABOUT THE INTEREST OF RESIDENTS AT THE MEDICAL SCHOOL OF THE UNIVERSITY OF SHERBROOKE, ALL SPECIALTIES INCLUDED, IN INTERNATIONAL HEALTH IN LOW- AND MIDDLE-INCOME COUNTRIES

A. Pinault-Reid 1, J.-C. Pasquier 2, P. Grand’Maison 3, S. Langevin 3, S. Blouin 3, 2Gynecology and Obstetrics Department of the University of Sherbrooke, Sherbrooke, Quebec, Canada; 2International Relations Office of the University of Sherbrooke, Sherbrooke, Quebec, Canada; 3Faculty of Medical and Health Sciences of the University of Sherbrooke, Sherbrooke, Quebec, Canada

Objectives: This investigation at the University of Sherbrooke medical school residents from all specialties was designed to determine their interest in the completion of an international health internship in low- and middle-income countries (LMICs) during their residency. More specifically, to identify resident motivations and barriers to international health.

Method: A written survey was given to all residents present during department meetings, involving both family medicine and specialties, and collected after they completed it. This survey comprised 20 questions regarding demographics, education, previous international experience, and interest, motivations and perceived barriers in the completion of an international health internship in LMICs during the residency.

Results: In all, 266 residents completed the survey for a response rate of 40.0%. From these, 38.0% had an interest to do an international health internship in LMICs during their residency. The major reasons for their interest were “to contribute to an important cause” and “to improve their openness and skills to work with people from different cultures”. Perceived barriers included “lack of free time”, “lack of available organized opportunities” and “fear of wasting time that could be used for an elective or potential fellowship program”.

Conclusions: There is an interest of residents to do an international health internship in LMICs during their residency. This interest is different depending on the residency program; program directors, where there is a great interest, should be aware about this and develop opportunities by giving information and support.

P0009 MINI-CEX FOR FORMATIVE ASSESSMENT OF POSTGRADUATE STUDENTS IN OBSTETRICS AND GYNECOLOGY

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Objectives: 1. To introduce mini-CEX as a tool for formative assessment of postgraduate students in obstetrics and gynecology. 2. Perceptions of postgraduate students regarding being observed and assessed while they examine clinical cases. 3. Perceptions of faculty regarding feasibility, usefulness and acceptability of mini-CEX at GMC Bhopal.

Method: Postgraduate students of obstetrics were given a schedule plan of 1 mini-CEX per month, each mini-CEX to be taken by a different faculty and address a clinical problem not previously examined. The exact time, place and case was decided by student and faculty. The faculty observed while resident performed a focused history taking and physical examination. The resident then presented a diagnosis & treatment plan. Faculty member rated resident using mini-CEX evaluation form and provided educational feedback.

Conclusions: Perceptions of the faculty and students were taken regarding their experiences with mini-CEX, their desire to continue with same and areas of improvement.

Results: 80% of scheduled mini-CEX encounters took place; each resident had 5 encounters. Mean time taken for observation was 18.56 minutes, for feedback 7.25 minutes. Residents and faculty perceived a need for such assessments, and reported improvement in history taking, examination, and counseling skills. Residents reported increased communication skills, thought organization and confidence levels. Residents first apprehensive, were later comfortable being observed during their clinical encounters and welcomed one to one interaction with faculty. Initial difficulties faculty faced allotting grades improved with provision of rating scale. Quality of feedback improved with a workshop on mini-CEX, discussions amongst faculty and structuring feedback.

Conclusions: Observation of performance in authentic clinical settings, case diversity, flexibility of time and multiple encounters with different assessors contributed to the utility of mini-CEX for formative assessment of clinical skills in our setup. The faculty & residents reiterated their willingness to continue with mini-CEX as one of the tools for formative assessments.

P0010 IMPROVING THE QUALITY OF MATERNAL AND NEWBORN HEALTH CARE SERVICES THROUGH ACCELERATED IMPLEMENTATION OF THE ESSENTIAL INTERVENTIONS BY THE HEALTH CARE PROFESSIONALS ASSOCIATIONS IN UGANDA


Objectives: To assess whether joint action by the three Health Care Professionals Associations accelerates the implementation of the Essential Interventions (EIs) relating to Child Birth and Postnatal care increases the compliance of obstetricians, midwives and paediatricians.

Specific objectives:
- Increase the compliance on the selected EIs.
- Increased capacity of the participating obstetricians, midwives and paediatricians to integrate the selected EIs into clinical practice.
- Assess the joint effort of three Health Care Professional Associations.
- Assess the effect of the intense dissemination of guidelines on the compliance of EIs.
- Enable health care professionals to promote EIs for health professionals to implement.

Method: A before and after study was used to assess the trend on the coverage of 8 EIs and the effect of the package of activities. The pack-
Sexual and Reproductive Rights

P0012 SEXUAL PROBLEMS CAUSED BY VAGINAL DELIVERY AND CESAREAN SECTION

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Objectives: This research has been done to identify the differences in sexual satisfaction in two different ways of delivery: vaginal delivery and cesarean.

Method: This study is a cross-sectional study in which 300 women who had a history of delivery between 1 and 6 months of the study and had the inclusion criteria were selected. The questionnaire had two parts: one demographic data and Part II questions about sex while doing research and before delivery. The validity of the questions was confirmed after being evaluated by 5 gynecologists and tested by 10 samples. To evaluate sexual problems, t test was used for quantitative variables and Fisher test and Chi square were used for qualitative variables.

Results: 155 mothers had vaginal delivery and 145 of them had cesarean section. Dyspareunia increased from 16.7 percent in the prenatal status to 43.3 percent, lack of sexual desire went from 2.3 percent to 35.7 and fail to orgasm after vaginal delivery rose from 2 percent to 21 percent. There was a significant relationship between sexual problems before and after vaginal delivery (p<0.001) and sexual problems in vaginal delivery and cesarean section were significantly different (P<0.039).

Conclusions: According to the study results the complications after vaginal delivery should be reduced with enhancing the quality of care during childbirth. As a result the desire of pregnant women to have cesarean section will increase.

P0014 IRANIAN MARRIED WOMEN’S PERCEPTION RELATED TO THE RIGHT TO FERTILITY REGULATION

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Objectives: “Population paradox” has led to more public debate focus on the right of choosing the number and spacing children. In some countries like Iran, “a demographic winter” resulted from both aging and the decline of family number has become the main concern of policy makers. This qualitative study explored Iranian married women’s perception related to the right to fertility regulation.

Method: Semi-structured, in-depth interviews were conducted with 25 married, sexually active, not sterilized women. Each interview was recorded and transcribed verbatim. Data were analyzed using the conventional content analysis with MAXQDA software version 2007.

Results: The emergent categories from data were composed of interaction with social network, interaction with husband, and interpersonal interaction. Maintaining fitness in the right to fertility regulation was the central theme extracted from the women’s perception. Participants selected a decision which more consistent with situation.

Conclusions: Our findings showed that the fit choice does not always mean the best selection for women. Recognizing factors influencing the right to fertility regulation could help to implementation of the national family planning programs. Policy makers can decrease barri-
ers affected the intention to having children in some women who use contraceptive methods in spite of willing to pregnancy. It seems that the approach could provide both population growth and women’s sexual and reproductive rights.

**P0015**

**SERVICE DELIVERY CHARACTERISTICS ASSOCIATED WITH REPRODUCTIVE HEALTH SERVICES AMONG PERINATALLY-INFECTED HIV POSITIVE ADOLESCENTS IN ART CLINICS IN UGANDA**

S. Nalugo Mbalinda, N. Kiwanuka, D. Kaye. Makerere University, Kampala, Uganda

**Objectives:** HIV perinatally infected adolescents have the right to healthy sexual and reproductive lives. Integration of sexual and reproductive health (SRH) and HIV services is a policy priority, both globally and in Uganda. However, little is known about which SRH service characteristics, such as quality of care, strength of SRH service integration, and youth-friendliness in ART clinics in Uganda. This study explores the facility, provider-level characteristics and Perinatally-infected HIV positive adolescents' experiences about the quality of SRH provided in the ART clinic.

**Method:** We undertook a mixed method study. We employed a survey with perinatally infected adolescent. 24 in depth interviews with adolescents, 12 in depth interviews with the service providers and we performed a record review about reproductive health services in the clinics. Survey data underwent descriptive analysis and content analysis was used for qualitative data. Thematic codes were generated from a subset of the transcripts, and these were modified, refined and organized during coding and analysis.

**Results:** None of the ART clinic offered comprehensive SRH services. All offered SRH education but referred the adolescents to other units for services like family planning. All the units had peer education programs but only three out of twelve had trained health workers in offering adolescent friendly services. All the adolescents wanted all the services to be offered in the same unit however although the providers were in favor of integration they had fear of the increased workload and not being trained.

**Conclusions:** None of the ART clinics offered comprehensive SRH services to HIV perinatally infected adolescents. There is need to integrate SRH services into ART clinics for adolescents but this has to be done in light of the challenges of integration of the services.

**P0016**

**MANAGEMENT OF OBSTETRIC FISTULA AT SCHIPHRA DISTRICT HOSPITAL IN BURKINA FASO**

A. Zalha, B. Thieba, M. Akotionga. SOGOB, Kadiogo, Burkina Faso; Schiphra, Kadiogo, Burkina Faso; UNFPA, Kadiogo, Burkina Faso

**Objectives:** To describe epidemiological, clinical features and management of obstetric fistula cases as well as the outcomes at Schiphra District Hospital in Ouagadougou, Burkina Faso.

**Method:** This was a cross sectional study about obstetric fistula (OF) patients and their management over a 24-month period, from August 22, 2012 to July 23, 2014. The study was conducted at the Department of Obstetrics and Gynecology of Schiphra District Hospital in Ouagadougou, Burkina Faso. Demographic characteristics, clinical features and outcomes of surgical treatment of obstetric fistula cases managed in that hospital were recorded.

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**Conclusions:** Outcomes of management at Schiphra District Hospital are satisfactory. The use of the partograph along with the promotion of assisted delivery by a skilled health worker are the key interventions for preventing obstetric fistula.

**P0017**

**OBSTETRICIAN-GYNECOLOGISTS & THEIR PROFESSIONAL SOCIETIES AS CONTRIBUTORS TO ABORTION LAW REFORM: THE CASES OF ETHIOPIA, RWANDA, AND MOZAMBIQUE**

S.J. Holcombe, N. Prata. University of California, Berkeley, Berkeley, CA, USA

**Objectives:** Unsafe abortion is one of the three leading causes of maternal mortality in Sub-Saharan Africa; however, few countries have reformed their laws to permit safer, legal abortion. This research seeks to describe the extent and nature of the contributions of ob-gyns and/or their professional societies to liberalization of abortion law in Ethiopia (2005), Rwanda (2012), and Mozambique (2014). Obstetrician-gynecologist societies globally have not tended to spearhead abortion law reform, despite having the stature and standing to do so. To the contrary, theory predicts and the empirical record largely reveals that societies shy from engagement in such often conflictual policy-making.

**Method:** This cross-sectional research uses in-depth interviews with obstetrician-gynecologists in Ethiopia (10), Rwanda (4), and Mozambique (4), and with others familiar with the respective national reproductive health policy contexts and ob-gyn societies (the Ethiopian Society of Obstetricians & Gynecologists - ESOG, the Rwanda Society of Obstetricians & Gynecologists - RSOG, and the Associação Moçambicana de Obstetas e Ginecologistas - AMOG), as well as other primary data.

**Results:** Individual obstetrician-gynecologists’ reform participation was rooted in both their professional experience as well as personal and (in some cases) professional society commitments to reducing maternal mortality. They understood themselves as conducting evidence-based advocacy grounded in research and medical evidence: successfully framing reform as a critical response to high rates of maternal mortality, and educating the elite public and policymakers. In Ethiopia and Rwanda, obstetrician-gynecologists also contributed to developing regulations to ensure the fullest expansion of access possible under the reform. Of the professional societies, ESOG made the most substantial and sustained contributions to reform efforts.

**Conclusions:** Findings can inform efforts to facilitate obstetrician-gynecologist and medical society participation in policy reform elsewhere in Sub-Saharan Africa to improve women’s reproductive health.

**P0018**

**RECONSTRUCTIVE SURGERY AFTER FEMALE GENITAL MUTILATION**


**Objectives:** Female Genital Mutilation/Cutting (FGM/C) affects 130 million women worldwide and is widely recognized as a violation of human rights. Due to immigration it is estimated that 38,000 women in Sweden are living with the consequences of FGM/C. Reconstructive surgery after FGM/C is now available in Sweden. However, little is known about women’s reasons for requesting clitoris reconstruction, or the immediate and long-term effect of the surgery. Our study sought out to investigate 1) immediate and long term results and clinical outcomes of surgery, 2) motives for requesting surgery, 3) patients’ expectations of surgical outcome, and 4) experience undergoing surgery.
In Pakistan, abortion is only legal to save the life of the woman. Due to the narrow interpretation of the law, stigma, and provider biases based on their personal values, an estimated 623,000 women were treated for complications resulting from induced abortions in 2012. Abortion Values Clarification and Attitude Transformation (VCAT) workshops are an intervention that aims to address stigma-related barriers to care and engage stakeholders to facilitate provision of and access to abortion care. This study aimed to evaluate Ipsas Pakistan’s VCAT workshops’ success in improving providers’ knowledge, attitudes, and behaviors pertaining to abortion care.

**Method:** Ipsas Pakistan conducted 39 VCAT workshops for 720 stakeholders from 2011–2014. This mixed methods study included quantitative data from matched pre- and post-VCAT workshop surveys from 84 Ipsas-trained abortion care providers. The survey evaluated the participants’ knowledge and attitudes toward abortion and contraception. Differences in pre- and post-workshop answers were assessed using McNemar’s test, and statistical significance was assessed at an alpha level of 0.05 for all analyses. In addition, 23 in-depth interviews were conducted with Ipsas-trained providers to understand their perspectives on behavior change resulting from participation in the VCAT workshops. The interview transcripts were read and analyzed thematically.

**Results:** Both knowledge and attitudes about abortion improved between the pre- and post-workshop surveys. Pre-workshop 33% of providers knew the legality of abortion in Pakistan, compared to 86% post-workshop (p<0.001). Additionally, pre-workshop 79% of providers said they could explain their personal values concerning abortion compared to 99% post-workshop (p<0.001). The qualitative data showed that after VCAT participation, providers began to regard access to abortion services as a woman’s right and to treat their clients with more empathy. Providers also reported an increased sense of professional responsibility to provide abortion care and, when needed, began providing referrals for safe abortion services.

**Conclusions:** This study finds that VCAT workshops have been successful in Pakistan in improving providers’ knowledge, attitudes and behaviors about abortion and abortion care. VCAT workshops are a promising approach for helping providers clarify their personal values about abortion to improve care for women, especially in a culturally conservative setting such as Pakistan.

**Evaluating Values Clarification Workshops in Addressing Barriers to Abortion Care Provision Among Healthcare Providers in Pakistan**


**Objectives:** In Pakistan, abortion is only legal to save the life of the woman. Due to the narrow interpretation of the law, stigma, and provider biases based on their personal values, an estimated 623,000 women were treated for complications resulting from induced abortions in 2012. Abortion Values Clarification and Attitude Transformation (VCAT) workshops are an intervention that aims to address stigma-related barriers to care and engage stakeholders to facilitate provision of and access to abortion care. This study aimed to evaluate Ipsas Pakistan’s VCAT workshops’ success in improving providers’ knowledge, attitudes, and behaviors pertaining to abortion care.

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Addressing Violence Against Women

P0022
NATIONAL CLINICAL GUIDELINES (PROTOCOLS) FOR THE HEALTH SECTOR ON SEXUALLY TRANSMITTED INFECTIONS ASSOCIATED WITH VIOLENCE AGAINST WOMEN IN LATIN AMERICA AND CARIBBEAN PAHO MEMBER COUNTRIES

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Objectives: Sexual violence is highly prevalent in Latin America and Caribbean countries (LAC) and is associated with negative sequelae including the risk of transmission of sexually transmitted infections (STI). Health care providers have been identified as likely the first and most trusted professional contact for survivors (2013 Responding to IPV and Sexual Violence against Women: WHO Clinical and Policy Guidelines). Evidence-based national guidelines can play an important role in informing health-care providers on how to manage STIs associated with sexual violence against women. This presentation surveys the prevalence of national guidelines that outline this management in select LAC countries.

Method: Twenty-seven English, Spanish or Portuguese speaking countries were queried by email or telephone through PAHO focal points, internet searches, personal contacts or UN Women website.

Results: Out of 27 countries we obtained 15 national policies on violence against women, all of which addressed physical, emotional and sexual violence. We also obtained 12 clinical guidelines, all of which mentioned the importance of privacy, confidentiality and safety, while 6 addressed violence during pregnancy. Topics associated with IPV were addressed by differing numbers of guidelines: documentation of the risk of pregnancy (8), emergency contraception within 5 days of sexual violence (8), referral for abortion (where legal) for unwanted pregnancy (4). In-service health-care training was mentioned in 6 guidelines but did not mention frequency, duration or many essential topics.

Conclusions: It appears there are gaps in developing national policies and clinical guidelines on violence against women during and associated with pregnancy in LAC, including in the essential training of health-care providers. Notably only half of the obtained clinical guidelines included IPV-P. All PAHO member countries should develop and implement clinical guidelines (which include violence associated with pregnancy) reflecting the 2013 Responding to Intimate Partner Violence and Sexual Violence Against Women: WHO Clinical and Policy Guidelines.

P0023
MEDICO LEGAL EVIDENCE AND LEGAL OUTCOME AMONG CASES OF SEXUAL ASSAULT (RAPE) IN ADDIS ABABA

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Objectives: To describe the medico legal findings of sexual assault cases in Addis Ababa; to determine the association between medico legal evidences and legal outcome, to describe the processing and attrition of sexual assault cases, through the Ethiopian police and criminal justice system.

Method: This was a retrospective cross sectional descriptive study from January 1 2009 till 31 December 2009 conducted in the ten sub cities of Addis Ababa. Samples of 224 sexual assault cases were drawn from the 10 police sub cities. Data was collected from standardized police charts and court records. OR and 95% CI estimates were also used to compare important outcome predictors. Logistic regression done to determine the association between medico legal finding and other important predictors of out come with conviction.

Results: There was no evidence of trauma in nearly half (50.4%) of cases. The degree of injury was rated as mild, moderate and severe in 14.3%, 18.8% and 16.1% of cases respectively. Among police-reported cases seen over the 1-year study period charge filing and conviction rate were 76.8% and 58.9%, respectively. Up on bivariate analysis the following victim and assault characteristics (unknown assailant, weapon use, reporting of rape within 72 hours, positive evidence of trauma, severe injury extent score and visualization of sperm by direct microscopy) were associated with conviction at a P value of less than 0.05.

Conclusions: There was a remarkably higher charge filing and conviction rate. The frequency of sperm-semen positivity (9.9%) in this study represents a lower percentage of cases compared with other reports Sexual assaults by unknown assailant and visualization of sperm by direct microscopy were associated with conviction. Qualitative study to survey police, prosecutors, physicians and judges regarding the usefulness of medical-legal evidence is recommended to understand the roles and limitations of each agency handling the case. Community education program regarding sexual assault prevention and victimization is of paramount importance which might also result in earlier reporting.

P0024
BENZODIazePINES ARE NOT DRUG OF CHOICE IN POSTTRAUMATIC STRESS DISORDER (PTSD) AFTER RAPE

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Objectives: Post traumatic stress disorder (PTSD) is a chronic disabling anxiety disorder that follows after having experienced or witnessed a traumatic event. The use of benzodiazepines in treating anxiety symptoms in PTSD has been debated because of their lack of effect as well as causing several side effects. Studies on other anxiety disorders have indicated changed sensitivity to GABA-A receptor active substances. The aim of the present study was to investigate the GABA-receptor sensitivity in patients with PTSD.

Method: Injections of allopregnanolone, diazepam, and flumazenil were carried out, each on separate occasions, in 10 drug naïve patients with PTSD compared to 10 healthy controls. Effects were measured in saccadic eye velocity (SEV) and in subjective ratings of sedation.

Results: The PTSD patients were less sensitive to allopregnanolone
compared with the healthy controls. This was seen as a difference in SEV between the groups (p=0.047). Further the patients were less sensitive to diazepam, with a significant less increase in sedation compared to the controls (p=0.027). After flumazenil injection, both patients and controls had significant agonistic effect on SEV, leading to decreased SEV after injection. The patients also responded with an increase in sedation after flumazenil injection, while this was not seen in the controls.

Conclusions: Patients with PTSD have a changed sensitivity to GABA-A receptor active substances. As a consequence of this, benzodiazepines and other GABA-A receptor active compounds such as sleeping pills will be less useful for this group of patients.

**P0025**

**INITIATIVE TO PREVENT SEXUAL ASSAULTS TO MINORS IN JAPAN**

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Objectives: SACHICO (Sexual Assault Crisis Healing Intervention Center Osaka) is the first one-stop center for sexually assaulted women in Japan. It was established at Hannan Chuo Hospital in April, 2010, aiming 1) to give 24 hours-total support including emotional/mental relief and urgent gynecological assistance, and 2) to support victims enabling their self-determination. The SACHICO team consists of professionals from several fields and trained volunteers. In this report, we summarized our 4 years activities and analyzed the data to enhance care of victims.

Method: SACHICO is connected with gynecologists, psychiatrists, nurses, counselors, police, lawyers, child consultation centers and other institutes via hot line from sexually assaulted victims. We reviewed the case sheets with respect to background profiles of victims and a type of assaults. During April, 2010 and March, 2014, a number of hot line uses were 17,173, and the clinic visits were 780 individuals with a total of 2,400 cumulative visits. 2/3 visits were on holiday and/or night time.

Results: Of the 780 first visits to SACHICO, a type of assaults included 466 rapes/indecent assaults, 172 sexual abuses/sexual violence, 71 domestic violence victims, and 71 other assaults. 501 (64%) were under the age of 20. Recent trend has indicated that a number of children who encounter sexual assaults through SNSS such as LINE are increasing. 45 were pregnant after rape, and 23 of them were under the age of 20.

Conclusions: Sexual assaults are serious violation to the reproductive health and rights of women. Close co-operation among SACHICO, family, school, child consultation centers, such sections of the local government as child rearing support and maternal and child health, and welfare institutes are essential for care of the sexually assaulted victims. Conceivable measures to prevent victimizing children from sexual assaults may include 1) establishing rape crisis one stop centers around the country, 2) improving sexual education in school, and 3) offering safe places for social activities of minors.

**P0026**

**PATTERN OF SEXUAL ASSAULT SEEN IN SOKOTO, NORTHERN NIGERIA**


Objectives: To determine the pattern of sexual assault managed in Usman Danfodiyo University Teaching Hospital Sokoto Nigeria.

Method: It was a retrospective study that looked into cases of sexual assault admitted during the period 2010 to 2014. During the period of study, there were 5317 gynecological admissions. Out of which 45 were cases of sexual assault, out of the 45 cases only 34 case files were available for data collection. Relevant information on the patient bio data, type of assault, mode of presentation, law enforcement were extracted from the patients records and analysed.

Results: The prevalence of sexual assault was 0.84%. The age group ranged between 2 years and 37 years. Mean age was 12.6±8.3 years. Type of assault was mainly penetrative in 24 (70.6%) while fondling was noted in 10 (29.4%) of the victims. There was a single assailant involved in 31 (91.2%) of cases while 3 (8.7%) cases involved gang rape. The assailants were mostly unknown to the victims in 14 (41.2%). Acquaintance and family members accounted for 13 (38.2%) and 7 (20.6%) respectively. Mean interval between assault and presentation was 36.6 hours. Law enforcement was involved in 25 (73.5%) leading to arrest in 19 (55.7%) cases. The mortality was 1 (2.9%).

Conclusions: The prevalence of sexual assault in this study appears low probably due to the fact that majority of cases are not reported due to stigma. Sexual assault of young children is dominant in this study which is a cause for major concern. Care givers should be more vigilant. Cases should be encouraged to present early so a proper diagnosis can be made to help lawenforcement. stringent laws should be instituted and enforced in cases of assault.
P0028
COMMUNITY HEALTH WORKER UNDERSTANDING OF AND ATTITUDES REGARDING INTIMATE PARTNER VIOLENCE IN THE DOMINICAN REPUBLIC
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Objectives: Intimate partner violence (IPV) is prevalent in Latin America and is a leading cause of death for women. A population survey of Latin American and Caribbean countries reveals that 17–53% of women in the region have experienced physical or sexual violence by an intimate partner, and many women do not seek help or report abuse. The objective of this study is to explore the understanding and attitudes surrounding intimate partner violence among community health workers (cooperadoras) in the Dominican Republic, and to quantify rates of IPV in their respective communities.

Method: Investigators conducted five focus groups of cooperadoras, with a total of 35 participants, representing various regions of the Dominican Republic. Nine open-ended questions were explored including knowledge of and attitudes toward IPV in the community, understanding of its causes and availability of resources for women. Then, validated surveys were distributed to a sample of 385 women in the community in order to better understand the prevalence of this issue. A two-sample Chi-square test was used to compare responses to survey questions by the number of sexual partners and whether the respondent lived in a rural or urban setting.

Results: Cooperadoras believed IPV is a social issue citing multiple causes including the women themselves and poor communication between couples. They stated that IPV is prevalent and that death was an outcome in many of their communities. They could not identify available resources or how to help affected women. 385 IPV surveys were collected. Urban participants were just as likely as rural participants to have suffered physical abuse, coercive control, and expressive forms of aggression. Rural women were more likely to experience psychological abuse (40% rural and 27% urban; p=0.01) and to experience sexual abuse (28% rural and 19% urban; p=0.03).

Conclusions: Community health workers in the Dominican Republic could be a potential resource for women affected by IPV, but currently do not view themselves as such because of limited knowledge and resources. This study establishes the high prevalence of IPV in Dominican communities serviced by cooperadoras. By recognizing the different types of IPV present in these communities, future interventions could target each type, including education for community health care workers to identify and advocate for women, appropriate referral of women to resources, and discussions with community members regarding management and prevention of intimate partner violence.

P0029
RAPE WITHIN MARRIAGE: HORRIBLE EXPERIENCE FOR MARRIED WOMEN
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Objectives: To identify the demographic characters and type of injury of married women, who are victims of sexual violence.

Method: It is a prospective observational study carried out in the obstetrics and Gynaecology department of a referral hospital situated outside the capital city. Data was collected purposively from the married sexual violence victims, admitted in inpatient department for management from January 2014 to December 2014.

Results: There were 27 women admitted with different types of injury in vulva, perineum and/or vagina. Mean age was 28 years, mean parity was 3, only 2% of them were illiterate and 2% was post graduate, 78% of them needed repair under anaesthesia, 62% needed blood transfusion, 18% needed more than 3 units of blood. Three Percent arrived at hospital in haemorrhagic shock. Avarage hospital stay was 7 days. There was no death. All of these women returned to their husbands house.

Conclusions: In Bangladesh, status of women is low; so, the wife has no rights to say ‘No’, due to forceful coitus. These injuries happen and needed hospitalization and blood transmission. There must be some ways to protect these women from these horrible experiences.

Addressing Maternal Mortality
P0030
PERIPARTUM HYSTERECTOMY: IS PLACENTA ACCRETA RARE IN NON-PLACENTA PRAEVIA, NON-PREVIOUS CAESAREAN SECTION CASES?
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Objectives: Peripartum hysterectomy may be required as a life-saving measure to control persistent postpartum haemorrhage. This study is aimed to review the incidence, management and outcome of women who underwent peripartum hysterectomy due to atonic PPH during the years 2012 and 2013.

Method: This is a retrospective audit of case notes of women who underwent peripartum hysterectomy due to atonic PPH in KK Women's and Children's Hospital, Singapore from 1st January 2012 to 31st December 2013.

Results: Six women were identified and the incidence of peripartum hysterectomy for atomic PPH was 3 per 10,000 deliveries. None of them had a history of previous Caesarean section and all of them had a normally located placenta. Three of the six women (50%) had focal placenta accreta on histopathology. Massive transfusion protocol was activated for four women (67%). The estimated blood loss ranged from 2 to 4 litres. None of the women received salvaged blood.

One woman developed DIVC. One had acute myocardial infarction on the operating table. One developed a Ructus muscle hematoma postoperatively. There were no maternal deaths.

Conclusions: Placenta accreta can occur in non-placenta previa/non previous LSCS cases. The refractory atony in three such cases in this study was probably due to the focal placenta accreta. Intra-operative cell salvage is a useful adjunct in the management and can be included in the massive transfusion protocol.

P0031
CASE SERIES OF MORBIDLY ADHERENT PLACENTA (MAP) IN PATIENTS WITH PREVIOUS CESAREAN SECTION AND MATERNAL OUTCOME
C. Bai. Liaquat university of medical and health sciences hyderabad sindh pakistan, Hyderabad sindh, Pakistan

Objectives: To determine incidence, risk factors and maternal outcome in patients with MAP in association with previous cesarean section.

Method: This study was conducted at the obstetric unit III of Liaquat University hospital Hyderabad Sindh from 15 December 2010 to 14 December 2014. Departmental approval of study obtained. 82 patients with morbidly adherent placenta were identified by using ICD-9 codes for placenta accreta, previa and cesarean hysterectomy. Medical record was abstracted and entered in a predesigned proforma. Variable analyzed were incidence, risk factors, early and late maternal morbidity.

Results: During study period out of 6,120 patients with previous caesarean section 82 patients were identified as cases of morbidly adherent placenta giving incidence of 13.39 per thousand. Thirty (36.58%)
patients were with more than three cesarean sections. Seventy six (92.68%) patients had total abdominal hysterectomy while seventy (85.36%) patients had more than four units of packed RBC and fresh frozen plasma transfusion.

Conclusions: High index of suspicion of MAP with scheduled hysterectomy after investigation and optimizing patients along with multidisciplinary approach is associated with better outcome.

P0032
UNSAFE ABORTION: CHANGING PATTERN OF AN AVOIDABLE TRAGEDY
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Objectives: The study was done to analyze cases of unsafe abortion and hence understand the pattern and compare the morbidity and mortality associated with unsafe abortion with previous trends.

Method: It was a prospective observational study were all the abortion related admissions from January 2012 to December 2013, for a period of 2 years in gynecology unit in B.P.Koirala Institute of Health Sciences were analyzed. Cases of unsafe abortion were identified and classified using the classification developed by The South African National Incomplete Abortion Study conducted in1994. Morbidity pattern was compared among the patients using the above classification system.

Results: In the study period there were 788 admissions with different types of miscarriage. Out of these 66 women were admitted with diagnosis of unsafe abortion making 8.3% of abortion related admission. Most common mode of unsafe abortion was by taking different types of oral drugs in various doses prescribed by medical shops (65.2%). Thirty eight (57.6%) women with unsafe abortion were of low grade. Most common clinical presentation was heavy vaginal bleeding (77%) with anemia. After evaluation commonest diagnosis made was incomplete abortion in 37 (56.1%) women. Majority of patient were reluctant to reveal the history at first place.

Conclusions: Incidence of maternal mortality relating to unsafe abortion has reduced significantly in recent years though the incidence of unsafe abortion is unchanged. The mode of unsafe abortion, presentation and morbidity of it has changed significantly in recent years.

P0033
WHY MOTHERS DIED: WHY WE ARE NOT IMPROVING
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Objectives: To determine prevalence and reasons of maternal deaths in patients received in tertiary level hospital.

Material and method: This study was conducted at the obstetric unit III of Liaquat University Hospital, Hyderabad Sindh, from 15 December 2009 to 14 December 2014. Departmental approval of study obtained. 185 patients died during study period. Medical record was abstracted and entered in a predesigned proforma. Variable analyzed were incidence and reasons of maternal deaths.

Results: During study period maternal deaths were 185 out of 19500 admission in obstetric department giving maternal mortality ratio of 948/100,000. 51% patients were multipara, 46% were less than 30 years of age and around 76% were unstable on arrival. Third delay was present in 40% of patients.

Conclusions: Maternal mortality ratio (MMR) of a country is indicative of its health and development status. Information of maternal mortality is important because we are standing in 2015, this is year which was set by united nation to reduce maternal mortality by three quarters from 2000 to 2015.

P0034
WHAT ARE THE FACTORS THAT INTERPLAY FROM NORMAL PREGNANCY TO NEAR MISS MATERNAL MORBIDITY IN A NIGERIAN TERTIARY HEALTH CARE FACILITY?
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Objectives: To examine the epidemiological characteristics and factors associated with maternal outcomes in a Nigerian tertiary health facility using a mixed method approach.

Method: A prospective case control study design involving 375 pregnant women who received maternal care from a tertiary health facility in Southwest Nigeria. Statistical analysis for the quantitative aspect was performed using STATA version 12. The differences in the proportion of women with normal pregnancy, acute maternal morbidities, and near misses with specific characteristics were compared using a chi-square test at a 5% level of statistical significance. After in-depth interviews reporting the experience of near-miss survivors, a generalized ordered logit model was used to generate the estimates of partial proportional odds ratios (and 95% confidence intervals) across categories of the outcome variable.

Results: There was no significant difference between the mean age of the groups (p=0.554): 29.5 (±5) years for women who had normal pregnancy (NP), 30.0 (±5) for those with acute maternal morbidity (AMM) and 28.6 (±6) for those with near misses (NM). There was significant difference between the three groups of women with respect to maternal education (p=0.044). Factors strongly associated with maternal morbidity were late referral of women, presence of complications at booking antenatal visits, low birth weight, and severe birth asphyxia. The nearmiss women were further characterized, and a low proportion (25%) had organ dysfunction or failure.

Conclusions: The challenge of such diagnoses in resource-constrained settings raises questions about the appropriateness of using organ dysfunction criteria in developing countries.

P0035
607 CASES COMPARATIVE ANALYSIS OF PREGNANCY OUTCOMES OF PREMATURITY WITH OR WITHOUT PRETERM RUPTURE OF MEMBRANES
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Objectives: To explore the effects of preterm premature rupture of membranes on the maternal and perinatal outcomes.

Method: The clinical data of 607 cases of premature from January 2003 to December 2013 were retrospectively analyzed. 607 cases were divided into two groups: 369 patients with premature rupture of membranes, while the others were the control group. Pregnancy outcomes were compared between the two groups.

Results: In group PROM, cesarean section rate was significantly higher than the group of premature without preterm rupture of membranes (18.43% vs 11.76%, P<0.05); the length of hospital stay was significantly higher (6.3 days vs 5.5 days, P<0.05); the newborn infection rate was significantly higher (20.51% vs 11.32%, P<0.05); the RDS was significantly higher (9.23% vs 2.83%, P<0.05).

Conclusions: Premature rupture of membranes has a higher cesarean section rate and a higher premature children and perinatal morbidity. Therefore, early detection and appropriate treatment
to reduce incidence of preterm rupture of membranes and preterm child morbidity is important.

P0036  
Z. Yannwei, S. Wen, X. Xue, T. Wenting, K. Liyun, C. Dunjin. The Third Hospital affiliated to Guangzhou Medical University, Guangzhou, China  
Objectives: To identify the epidemiologic profile, factors and maternal outcome rated in the obstetric intensive care unit (ICU).  
Method: A retrospective cohort study was conducted between June 2004 and June 2014 in a tertiary referral ICU, the third hospital affiliated to guangzhou medical university. Guang Zhou, China. To compare the epidemiologic profile, factors, management and maternal outcome of the patients.  
Results: 57.6% of the patients were admitted for direct obstetric causes, and 42.4% were admitted for indirect obstetric causes. The mortality (10.1% vs 4.9%), the length of stay in ICU (4.9±6.4 vs 3.6±4.0) of indirect obstetric patients was higher. The mechanical ventilation rate of direct obstetric patients was higher (49.1% vs 39.8%). It was no difference in the rate of MODS, hemofiltration. Among 485 direct obstetric patients, 32.7% had HPDs, 19.2% had bleeding disorders, and 14.2% had infection. Among 357 indirect obstetric patients, 12.2% had heart disease, 5.5% had pulmonary infection. It was difference in the rate of mechanical ventilation, hemofiltration, MODS, mortality, the ength of stay (P < 0.05).  
Conclusions: The third trimester or the post-partum period was the most critical period during the pregnancy. The HPDs, the bleeding disorders and the obstetric correlation infection were the main direct obstetric causes to referral to ICU. The heart disease, hepatitis,and the infectious complications were the main indirect obstetric causes to referral to ICU.

P0037  
SUBACUTE PUEPERAL UTERINE INVERSION: A CASE REPORT  
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Objectives: To reduce the maternal morbidity and mortality due to mismanaged third stage of labour.  
Method: A selected case study.  
Results: Though the mortality of the patient could be avoided by proper treatment but the morbidity was inevitable.  
Conclusions: Puerperal uterine inversion is an extremely rare and severe complication in third stage of labour. The diagnosis is essentially clinical. The mortality can be prevented by immediate diagnosis and prompt treatment which associates medical resuscitation and a rapid manual reversion of the uterus to avoid serious morbidity like invasive surgical approach. It can be prevented based on eviction of predisposing factors; admittedly active management of third stage of labour can reduce the incidence of uterine inversion.

P0038  
MATERNAL MORTALITY IN RURAL NIGER DELTA REGION OF NIGERIA ON THE EVE OF 2015  
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Objectives: This study evaluated the socioeconomic factors, causes of maternal mortality and health system contributions to maternal mortality in a rural setting in a developing country.  
Method: This was a retrospective analysis of maternal death in the first decade of Madonna University Teaching Hospital Elele, Rivers State from January 2005 to December 2014. The lying-in and labour ward registers and case records from records’ department were used to retrieve relevant information concerning the patients. The data generated was analysed using SPSS version 20.  
Results: 26 maternal deaths were recorded out of 2025 deliveries in the hospital giving a case fatality of 1.283 per 100,000 delivery. The mean age and parity of the women were 27.3±4.7 and 2.3±2.1 respectively. 24 (92–3%) were unbooked in the hospital. Only 1 (3.8%) had post-secondary education while 13 (50%) were petty traders. 5 (19.3%) were referred from traditional birth attendants and 6 (23.1%) from maternity homes. The leading causes of death were Sepsis 7 (26.9%), hypertensive disorders 6 (23.0%), obstetrics haemorrhage 6 (23.0%) and obstructed labour 4 (15.4%). Twenty three (88.5%) of the deaths occurred in the postpartum period.  
Conclusions: The maternal mortality recorded in this study is higher than the national average. The pattern is also different. This showed that clean and safe delivery is still a scarce commodity in rural areas of Nigeria. There is need to raise the socioeconomic status of the rural dwellers, provide comprehensive obstetrics care and encourage early and prompt referral.

P0039  
MATERNAL DEATHS: INITIAL REPORT OF AN ON-GOING MONITORING OF MATERNAL DEATHS AT THE FEDERAL MEDICAL CENTRE KATSINA, NORTHWEST NIGERIA  
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Objectives: To assess the maternal mortality ratio (MMR) from data collected as maternal deaths occurred over a 4-year period.  
Method: A Departmental database established in 2008 was used to keep data on deliveries and maternal deaths as they occurred. The causes of death were decided after a meeting reviewed the case. Analysis was done using Microsoft Excel software and results presented in means and frequencies.  
Results: Eight thousand two hundred and twenty live deliveries that occurred were complicated by 68 maternal deaths. The MMR was 827/100,000 live births. The MMR for unbooked women was four times higher than for booked women. Obstetric haemorrhage was the main (21.6%). Direct cause of death followed by preeclampsia/eclampsia (18.9%). While anaemia was the leading (8.1%) indirect cause of death, tetanus in the puerperium reared its head as an emerging (5.4%) indirect cause of maternal death. None of the women ever used contraceptives. Most deaths occurred in teenage mothers (23.5%), unbooked women (86%) and in the postpartum period (69%).  
Conclusions: The MMR was high and tetanus in puerperium emerged as an indirect cause of maternal deaths. There is a need to curb the emergence of tetanus in the puerperium as a cause of maternal death.

P0040  
THE ASSOCIATION BETWEEN INTER-PREGNANCY INTERVAL (IPI) AND PREGNANCY OUTCOME  
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Objectives: Both short and long inter-pregnancy intervals have been found to increase the risk of various adverse perinatal and obstetric outcomes. The aim of this study is to evaluate the association between inter-pregnancy interval (IPI) and pregnancy outcomes.  
Method: A cross-sectional study was done among 661 parous women admitted in the Department of Obstetrics & Gynaecology, Shaheed Suhrawardy Medical College Hospital, Dhaka, during 1st April to 30th December’ 09. Data were collected by direct interview
and reviewing records using a structured data collection sheet about pregnancy, maternal and perinatal outcome. In this study IPI of 24–60 months was taken as the reference category. Data analysis was performed using SPSS version-16 and statistical analysis was done using appropriate statistical test (Odds ratio = 95% CI, Chi square test ($\chi^2$) and Fisher exact test, results considered significant when $P<0.05$.

**Results:** Spontaneous abortion was higher ($p<0.001$) in 6–11 months and 12–24 months IPI (OR: 3.00, 95% CI: 1.61–5.58 and OR: 2.29, 95% CI: 1.19–4.41 respectively). Induced abortion was higher ($p<0.001$) in 12–24 months IPI (OR: 3.47, 95% CI: 1.71–7.08). Maximum IUD was found in <6 months of IPI. IPI <24 months increased ($p<0.05$) the risk of PROM, oligohydramnios, pre eclampsia, IUGR (majority are <6 months). PE, PROM were found more in >60 months IPI. IPI <6 months had increased ($p<0.05$) the risk of Preterm birth, Neonatal sepsis and LBW.

**Conclusions:** In this particular sample, Inter-pregnancy interval (IPI) between 25–60 months have a lower chance of fetal loss and less adverse maternal & perinatal outcome than those with shorter and longer IPIs.

**P0041**
**PROMOTING QUALITY IMPROVEMENT AT HEALTH FACILITIES IN DAR ES SALAAM**

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**Comprehensive Community Based Rehabilitation in Tanzania (CCBRT), Dar es salaam, Tanzania; 2Dar es salaam City Council, Dar es salaam, Tanzania; 3Ministry of Health and Social Welfare, Dar es salaam, Tanzania**

**Objectives:** To improve the quality of maternal and neonatal care using the national basic emergency obstetric and neonatal care standards based management (BEmONC SBM-R) tool at 16 maternity units in the Dar es salaam Region.

**Method:** CCBRT collaborated with the Ministry of Health and Social Welfare, regional, municipal and facility leaders to design and implement a multipronged intervention. Managers were trained in SBM-R tool management, and service providers were trained using national BEmONC, Perinatal Education Program curricula. CCBRT trainers coached providers through on-the-job training. Quality improvement teams were strengthened and trained on assessment, root cause analysis, and finding local solutions. CCBRT also supported infrastructure improvements and supplied essential medical equipment. Healthcare providers were assessed using the SBM-R tool. CCBRT administered six SBM-R assessments annually. Trainings and infrastructure works were based around gaps identified during assessments.

**Results:** Approximately 2,138 doctors and nurses were trained by the end of 2014. The SBM-R assessments demonstrated that competency increased from 9% to 78%. As a result of infrastructure improvements, more women accessed these maternity units; in 2011 there were 74,792 deliveries in total with 94 maternal deaths and 395 neonatal deaths. No vacuum deliveries were conducted and 1,939 caesarean deliveries in total and maternal mortality was 129 and neonatal mortality was 1,508. There were 498 assisted deliveries and 10,718 caesarean sections.

**Conclusions:** A combination of on-the-job coaching, training, and mentoring; as well as infrastructure upgrades were effective tools for improving the quality of care and reducing maternal and newborn death. There were some challenges; most notably maintaining an adequate staffing levels to meet the increased demand for services. This may have contributed to a fall in competency during the final assessment. More detailed analysis is required to understand the full effects of unrealistic staffing norms on competency. Future capacity building and quality improvement programmes must address both gaps in care and infrastructure in order to see widespread improvement.

**P0042**
**IMPROVING COMMUNICATION BETWEEN COMMUNITIES AND HEALTH FACILITIES USING MOBILE PHONE TECHNOLOGY WITH INFORMATION POWER RESULTS IN IMPROVED CARE OF VULNERABLE MOTHERS AND NEWBORNS – A CASE OF FOUR RURAL HOSPITALS IN UGANDA**

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**Objectives:** 1. To establish a functional communication system among health workers within a health facility (intra-hospital) and the catchment area (inter-hospital). 2. To promote improved communication between mothers in the communities and health facilities using a toll free telephone lines.

**Method:**
- Interventional research selected 3 pilot hospitals based on national criteria, i.e. Public, Private Not-for-Profit and Private For-Profit and Baseline survey done by STM.
- Site survey by ICT/communication engineers to choose most reliable network in the catchment area.
- Dialogue meetings with community members/Village Health Teams (VHT), District Leaders and Health workers regarding toll free service installation and utilization using drama, radio, religious gatherings, police and IEC materials.
- Ongoing on site mentoring of Health workers on the effective use of toll free lines.

**Results:**
- Installed secured and stationary toll free hotlines in Maternity Units of four hospitals (Kawolo, Buikwe, Naggalama, Mukono).
- A mobilized and educated community regarding toll free use for MCH emergencies in the catchment area of the four hospitals.
- Over 7,200 telephone calls made by community/mothers to hospitals with over 120 referrals.
- At least 42 laboratory consultations (blood transfusion).

**Call analysis:**
- ANC mothers – 20%
- Pregnancy complications – 44%
- Husbands – 18%
- Newborn complications – 7%
- TBAs – 8%
- Others – 3%

**Conclusions:** Caller User Groups (CUGs) and toll free lines are an inexpensive, cost-effective ($1.65 per interventional call) method of improving inter- and intra-hospital communication for midwifery service providers. Toll free lines are an efficient link between rural communities and health facilities in case of life-threatening complications they contribute to reducing the 3 delays CUGs motivate health workers and contribute to a more favorable working environment.

**P0043**
**OBSTETRIC INTENSIVE CARE UNIT ADMISSION EVALUATION (ICU): AN IMPORTANT PARAMETER IN ASSESSING MATERNAL MORTALITY & MORBIDITY**

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**Objectives:** 1. To review all critically ill obstetric patient who were admitted to the Department of OB-GYN & subsequently transferred to ICU of a tertiary care hospital to identify the demographic char-

**P0044**

**MEDICAL DETERMINERS OF THE MATERNAL MORTALITY IN TUNISIA**

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**Objectives:** The maternal mortality (MM) is an important problem worldwide, and especially in developing countries. Within the framework of the fight against this plague, Tunisia made a commitment to reach the 5th Goal of the Millennium for the Development of the United Nations.

**Method:** In order to calculate the scale of the problem and to estimate the advance towards the fulfillment of this objective, a national survey on the maternal mortality was led by the National Institute of the Public health in 2008–2010.

**Results:** The ratio of MM in Tunisia was 44.8 for 100,000 alive births. There was a significant reduction of maternal mortality: 35% in ten years. Mean age of the women was 33.2 years. The average number of antenatal consultations was 3. Only 10% of the deaths arose at home against 27% in 1993–94. Only 6% of deaths followed a complicated abortion. 51.9% of the deaths arose in post-partum, mostly within first 24 hours. Hemorrhage remained, the main cause of MM: 31.7%. Among the recorded maternal deaths, 70.9% were considered avoidable.

**Conclusions:** The quality of the care stays at the heart of the problem of the MM in Tunisia.

**P0045**

**SEVERE MATERNAL MORBIDITY AND MORTALITY DUE TO POSTPARTUM INFECTION: A CROSS-SECTIONAL ANALYSIS FROM RWANDA**

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**Objectives:** Maternal mortality in Rwanda has decreased steadily from an estimated 952/100,000 live births in the year 2000 to an estimated 320/100,000 in 2013. Postpartum infection, however, remains a significant cause of maternal death. The objective of this study is to identify evaluate “near miss” severe morbidity and mortality in women with postpartum infection. The objective of this study is to identify severe morbidity and mortality in women with postpartum infection in the largest public referral hospital in Rwanda.

**Method:** We performed a retrospective review of all patients admitted to the University Teaching Hospital of Kigali (CHUK) with infectious complications between January 2012 and December 2013. Demographic data, length of stay, initial surgery, antibiotics, and secondary surgery were recorded. The primary outcome was a composite of maternal mortality or severe morbidity defined as need for hysterectomy and/or more than one laparotomy. Statistical analysis was performed using STATA. Differences in the primary outcome were assessed using the Fisher exact test. Differences in a secondary outcome of median length of stay were assessed using the Kruskal-Wallis test.

**Results:** We identified 117 patients with postpartum infections. Diagnoses at the time of admission included: peritonitis (57%), deep surgical site infection/fascitis (17%), endometritis (15%) and other infectious complications (7%). Primary procedures performed prior to transfer were: cesarean section (75%), abortion (14%), and vaginal delivery (6%). Antibiotics were initiated prior to transfer in 66% of women. Surgery was required in 73% of patients. Twenty two percent of patients required hysterectomies. Peritonitis, public insurance, and referral from a District Hospital were significantly associated with the composite risk of severe morbidity or mortality. Maternal deaths occurred in 4% of our cohort, despite aggressive therapy.

**Conclusions:** Peritonitis, secondary to cesarean deliveries, is associated with significant morbidity and mortality in our population. Although cesarean deliveries are potentially life saving for mothers and babies, the procedure is not without potential life threatening sequelae. In our setting, peritonitis is the most common cause of near miss morbidity and mortality and warrants further investigation.

**P0046**

**MATERNAL MORTALITY: A TWENTY FIVE YEARS’ RETROSPECTIVE STUDY IN A TERTIARY CARE HOSPITAL IN NORTH-EAST INDIA**

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**Objectives:** The study was aimed at evaluating the spectrum of causes of maternal deaths and to seek its remedy.

**Method:** The present study was based on a primary data of 1,52,708 live births occurred during January 1989 to December 2014 at Regional Institute of Medical Sciences Hospital, Imphal, Manipur in far northeastern state of India. The data was analyzed through SPSS package using $\chi^2$ test.

**Results:** The overall MMR was found to be 148.12 per 100000 live births. Out of the complications: hemorrhage (46.18%), sepsis (20.40%) and toxemias (10.48%) were the major killers. In case of socio-demographic factors: age, parity and education were found to play a significant role. MMR was higher in illiterate mothers, unbooked, women residing in rural areas compared to literate, booked and urban areas (p value <0.001). Majority of the deaths occurred in the first 24 hours of admission and in the postpartum period.
Conclusions: Maternal mortality rate of Manipuri women were varied over during the last 25 years. Improving female literacy, access to effective contraceptives, good quality health care as well as good transport facilities may reduce maternal deaths.

P0047
ASSESSMENT OF REFERRAL SYSTEMS OF PREGNANT WOMEN AND NEWBORNS IN SOUTH AREAS OF KYRGYZSTAN
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Objectives: Kyrgyz Republic have high maternal mortality rate 55.5. The main causes of deaths are bleeding (44%), pregnancy-induced hypertension (19%) and sepsis (14%). It is due to the low quality of emergency obstetric care (55.8% cases - inappropriate care), lack of criteria and standards of referral, underdeveloped transport system. Objective is evaluation of referral systems of mothers and newborns in the south of the Kyrgyzstan (Uzgen, Kara-Suu, Karakulda areas), from primary health care to secondary and tertiary level. Choice of regions was determined by density of population, high fertility rates, the availability of home birth (4%), and distance from centers.

Method: Held data collection at the organizational level, analysis of medical records, redirection logs of both sending and receiving health levels, quality of filling, content, ambulance records, and audit of 36 clinics (infrastructure, availability of equipment for antenatal, birth and postpartum care), anonymous survey among 241 women (social situation, births, knowledge in issues of pregnancy and births, risks health of newborn, readiness for birth and perception of local conditions) and anonymous 79 test of medical personnel consisted of questions from antenatal, intranatal and postpartum care for new-borns and also questions of redirection.

Results: 55.6% women observed by obstetricians, 18.3% – midwives, 38.7% – decided place of birth itself, 36.8% – with husband, 17.7% – mother in law’s. If start labor 91.2% women use private car, 6.5% ambulance. Antenatal care knowledge of family doctor – 74%, obstetricians–69%, midwives–68%, neonatologists–61%, labor, postpartum care: obstetricians–76–74%, midwives – 69–47%, neonatologists – 66–56%, knowledge on referral – 68%, 5% women referral by ambulance. 5 of 36 clinics have Internet, 16.6% – inside bathroom, 83.4% – no basic conditions, in 22 – water is outside. Ambulance no equipped, 4% of finance allocate to transport.

Conclusions: Almost all organizations have a low level of infrastructure and knowledge of medproviders. There are drawbacks in transport service: the redirect standards have not been revised, incompetence of the consultants, a need to develop a set of documents for the referral systems. In improvement of referral systems leading role belongs to hospital management to integrate with the local authorities and services. For implementation in clinics developed: steps towards effective implementation of transport and counseling, notification scheme of participants of emergency advice, service agreement for medical advisor, a patient card of the transport, ambulance call, transport medical care cards.

P0048
RETAINED PLACENTAL TISSUE AS AN EMERGING CAUSE FOR MALPRACTICE CLAIMS
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Objectives: To review malpractice claims regarding intrauterine adhesions, and to explore the clinical approach that might reduce those claims or improve their medical and legal outcomes.

Method: We examined 42 Asherman’s syndrome claims handled by MCI, the largest professional liability insurer in Israel. The clinical chart of each case was reviewed and analyzed by the event preceding the adhesion formations, timing and mode of diagnosis, and outcome. We also assessed whether the adverse outcome was caused by sub-standard care and it if it could be avoided by different clinical practice. The legal outcome was also evaluated.

Results: Forty-seven percent of the cases occurred following vaginal delivery, 19% followed cesarean section, 28% were RPOC following a first-trimester pregnancy termination, and 2% followed a second-trimester pregnancy termination.

Conclusions: It is apparent that due to the lack of an accepted management protocol for cases of RPOC, it is difficult to legally defend those cases when the complication of Asherman syndrome develops.

P0049
SKILLED DELIVERY UTILIZATION & THEIR DETERMINANTS IN FOUR REGIONS OF ETHIOPIA
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Objectives: The objective of this assessment is to determine skilled delivery utilization rate and identify lessons for scale up and explore community perception about facility delivery.

Method: The study was a cross-sectional pre-post intervention operational research that has employed both qualitative and quantitative methods. An assessment of 96 health centers was made using the WHO facility readiness tool at base line and end line. Thirty two focus group discussion and 69 key informant interviews were conducted to assess community awareness & barriers to institutional delivery and identify lessons learned for scalability. Analysis was made using SPSS version 20 for quantitative and Nvivo 7 for the qualitative.

Results: Equipping health care workers with the required knowledge and skills through an in-service training on selected MNH competencies has improved from base line to end line: BEmONC (44% to 99%)and LAFP (58% to 80%). Facilities readiness in terms of providing women friendly services have shown improvement from 21% to 63% while there is still room to make it 100 percent in all HCs. Majority of the health managers (KII) at different levels have also mentioned that the comprehensiveness of the support by IFHP is working well and need to be scaled to other facilities as well.

Conclusions: An intervention to be effective and impact making in maternal and new born health should be comprehensive that addresses community level, facility level and health systems level barriers. Thus, efforts should be made at all levels. Providing woman friendly service and holding cultural ceremonies after delivery improves the utilization and acceptability by the community.

P0050
BIRTH PREPAREDNESS AND COMPLICATION READINESS: A STUDY OF PREGNANT WOMEN IN IRRUA, SOUTH-SOUTH, NIGERIA
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Objectives: This study was carried out to assess the level of birth preparedness and complication readiness and their associated factors among antenatal care attendees in a tertiary institution in South-South Nigeria.

Method: This study is a descriptive cross sectional study conducted among consenting 430 pregnant women attending the antenatal clinic of Irrua specialist Teaching Hospital, Edo State, Nigeria from October-December 2015. The data was collected with the aid of a pre-tested interviewer structured questionnaire and analyzed using SPSS 21.0. Univariate and logistic regression was carried out. Test of statistical significance was done using Chi- square and Fisher’s exact test where applicable with acceptable level of confidence set at P <0.05.

Results: 430 pregnant women were recruited for the study. The mean age of the respondents was 29.91±4.255. In this study, 73.5% of the respondents were aware of the possibility of severe bleeding.
during pregnancy while 85.1% mentioned severe bleeding as one of the complication during labor. Only 29.3% of the respondents met the criteria of BP/CR in this study. Birth preparedness and complication readiness was higher among educated mothers and knowledge of obstetric danger signs was also significantly associated with BP/CR (P=0.000 and P=0.000 respectively). Only 12.1% of the respondents had community based support services.

**Conclusions:** Birth preparedness and complication readiness plan in this study was low. Education had a strong influence and knowledge of key danger signs were identified as associated factors. Furthermore, community participation was observed to be low. Improved education on birth preparedness and complication readiness with emphasis on recognition of key Obstetric complications is recommended. Community based health education is also recommended.

**P0051**

**PREVENTION AND MANAGEMENT OF PPH AND PE/E IN IDENTIFIED SIX HOSPITALS IN ETHIOPIA**

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**Objectives:** Ethiopia is the second most populous country in Africa (85.9 million) with a maternal mortality of 676/100,000 live births, skilled birth attendance rate 22%, and CPR of 29%. Hemorrhage and preeclampsia/eclampsia (PE/E) are the major causes of maternal death (post-partum hemorrhage (PPH) 22% and hypertension 20%). FIGO supported by Jhpiego, is working in reducing maternal mortality related to these causes by promoting best practices in Uganda, Sudan, Mozambique, Nepal, India and Ethiopia. FIGO Sub grants to each countries OB/GYN professional associations.

**Method:** The main components of this project include: 1. Identify protocols, guideline, and best practices and see consensus with FIGO and WHO guidelines. 2. Select hospitals and conduct a one day consultative meeting. 3. Implement best practices or address barriers to sustain implementation. 4. Report and develop recommendations based on the project findings.

**Results:** A total of six hospitals were involved in the project data was collected monthly, the recommendations on challenges and barriers includes.

**PPH – Recommendations:**
- Training on AMTSL, basic emergency obstetric care.
- Develop Job aid, wall charts and posters.
- Availability of basic supply like oxytocin, misoprostol.
- Advocate for institutional delivery.
- Home friendly delivery care in a facility.

**PE/E – Recommendations:**
- Purchase basic supply, drugs and equipment.
- Training on emergency care.
- Incentive, staff motivations.
- Improve quality of antenatal care to detect preeclampsia early.
- Strengthen referral system.

**Conclusions:** Promoting best practices by addressing barriers and challenges to PPH, PE/E will lead to significant reduction of maternal morbidity and mortality related to the two major causes of maternal death.

**P0052**

**TRENDS IN MATERNAL MORTALITY IN A Gambian TERTIARY HEALTH CENTRE**

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**Objectives:** To determine the trend in maternal mortality ratio between January 2007 and December 2013 at EFSTH and identify any changes in the causes of maternal mortality.

**Method:** A retrospective review of all maternal deaths occurring in the Edward Francis Small Teaching Hospital from 1st January 2007 to 31st December 2013 was done. Case abstraction was done with a pre-structured questionnaire using the WHO definition of maternal mortality. Descriptive statistics was generated using the Epi Info 7 statistical software from CDC Atlanta.

**Results:** 612 maternal deaths occurred during the period. The MMR ranged from 1667/100,000 live births for 2007 to peak at 2105/100,000 in 2011 after showing a slight initial decline. Direct maternal deaths accounted for 77.8% of all deaths with obstetric haemorrhage (32.7%) the leading cause. 80.8% of maternal deaths were referred from other health facilities and 61.8% of all maternal deaths occurred within 24 hours of admission. The average time spent on admission before death was observed to have progressively decreased with referrals ending in death increasing progressively.

**Conclusions:** There has not been any improvement in the Maternal mortality ratio in the only tertiary centre in The Gambia. The fact that most deaths occurred within 24 hours of referral to the hospital suggests a need to strengthen the capacity of primary and secondary levels of care to identify problems, treat appropriately and refer in a timely manner.
**P0054**

TRADO-CULTURAL AND SOCIO-ECONOMIC EFFECTS OF FETO-MATERNAL OUTCOME IN A RURAL COMMUNITY IN THE NIGER DELTA: 5 YEARS RETROSPECTIVE STUDY IN NDUTH, OKOLOBIRI

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**Objectives:** The objective of the study is to understand the likely socioeconomic, trado-cultural impact on the negative outcome on pregnancies in the rural and semi-urban settlements in the Niger delta. Advocate; if necessary the need for reevaluation of our trado-cultural practice, the non adherence to modern medical care. To educate and empower more precisely the targeted group: suggesting ways in reducing negative fetal outcome and maternal complications associated with pregnancy in our society and the region in general were reviewed.

**Method:** All pregnant women admitted and managed to delivery with some forms of negative feto-maternal outcome between 1st January 2009 and 31st of December 2013 at the Department of Obstetrics and Gynecology, Niger Delta University Teaching Hospital, Okolobiri, Nigeria. A newly established tertiary health institution, located within the rural community in Bayelsa State. It covers the rural communities and also referrals from other institutions both public and private from the whole state. It is a teaching unit for specialist obstetricians and gynecologists in training, as well as undergraduate medical students of the Niger Delta University, college of medicine.

**Results:** During the study period 508 patients with some pathological outcomes in a total of 2815 deliveries were recorded. The incidence ratio of stillbirth was 31.62% and maternal mortality was 5.68%. The major contributor to maternal mortality was PPH, obstructed labour and preeclampsia contributed more to stillbirth. Only 22.64% attended antenatal clinic at least once during the pregnancy. 83.07% were managed primarily by the TBA and 72.44% had abdominal massage prior to presentation. Anemia was present in 61.61%, only 9.65% had post secondary education, 91.14% resides in rural areas, while only 3.74% were pensionably employed and cesarean section rate was 45.27%.

**Conclusions:** Maternal mortality and perinatal loss was unacceptable, majority of those incidents occurred among the socio-economically deprived patients and basically unbooked. Therefore, the need for better health care promotion among the targeted group, re-evaluation some of our trado-cultural practice and non adherence of modern health care; ad vocation and provision of compulsory antenatal care services may have great impact.

**P0055**

COLOPSOCOPIC ACETOWHITENING OF VULVAR LESION: A VALIDITY STUDY

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**Objectives:** To evaluate the acetowhite changes of the vulva as a predictor for high grade vulvar intraepithelial neoplasia.

**Method:** We performed retrospective analysis from 344 patients referred to our gynecology oncology clinic for genital dysplasia. All patients underwent vulvar colposcopy. Vulvar biopsies were performed for acetowhite changes and visible vulvar lesions such as ulceration, hyperpigmentation, and thickening of the vulvar tissue. High grade vulvar dysplasia was defined as vulvar intraepithelial neoplasia 2 or worse. Results of the vulvar pathology were collected and sensitivity, specificity, negative and positive predictive values.

**Results:** Of the 344 women who underwent vulvoscopy 241 patients had acetowhite lesions, of whom 89 had true high grade dysplasia. Using colposcopic acetowhite changes as a marker for high grade vulvar dysplasia, the test’s sensitivity was 97%, specificity was 40%, negative predictive value was 98%, and the positive predictive value was 37%.

**Conclusions:** Acetowhiteness of the vulva has high sensitivity but low specificity as a predictor of high grade vulvar intraepithelial neoplasia. The absence of acetowhite lesion can reassure that high grade vulvar lesion is absent.

**P0056**

ASSOCIATION OF LOW SERUM VITAMIN D LEVEL WITH UTERINE ATONY

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**Objectives:** To determine the association of low erum Vitamin D level with uterine atony among women delivering in a tertiary care hospital.

**Method:** Case control study. Setting: A total of 130 patients were recruited and grouped as A (Cases) including patients with uterine atony (100 patients) and group B (Controls) patients having no uterine atony (30 patients) after delivery and fulfilling the inclusion or exclusion criteria. The test for 25 OH vitamin D was performed on Elecsys 2010 Roche by using electrochemiluminescence technique. Oral informed consent and approval from institutional ethical committee was obtained. Chi square test was applied to compare atony and non atony groups in terms of presence or absence of vitamin D deficiency. The data entered and analysed on SPSS version 17.

**Results:** It was noted that those who have uterine atony 87% were having vitamin D deficiency or insufficiency as compared to 68% in group with no uterine atony. (p=0.02). In atony group mean age was 25±4 years, gravida 2.6±1.2, gestational age, 37±1.2, blood loss 1032±400, and serum vitamin D level 15.9±6 ng/ml. In non atony group, mean age was 26±3 years, gravida 2.7±1, gestational age, 38±8, blood loss 309±92, and serum vitamin d level 23±9 ng/ml serum vitamin D level was significantly low (15.9±6 ng/ml) in atony group as compared to non atony group (23±9 ng/ml).

**Conclusions:** Our results revealed that low vitamin D level is strongly associated with uterine atony and hence is a risk factor for uterine atony.

**P0057**

ANALYSING THE CHANGING TRENDS IN PERIPARTUM HYSTERECTOMY AT A TERTIARY CARE CENTRE OF INDIA

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**Objectives:** To evaluate risk factors and the changing trends in the indications for peripartum hysterectomy (PH) in recent years.

**Method:** A retrospective study was performed in the Department of Obstetrics & Gynecology, KGMU, Lucknow, India from 1st January 2005 till 31st December 2015. The study material was obtained from the patient database of the hospital medical records. Annual birth rates, LSCS and total cases of PH each year were evaluated. The primary indications for PH were recorded. The intraoperative findings and postoperative outcome/complications were noted. Statistical analysis with χ² comparison and SPSS10 version was done to evaluate the relevant analysis.

**Results:** Pending.

**Conclusions:** The study highlights the alarming rise in placenta accreta in the previous LSCS and stresses on the need for meticulous selection criteria for performing primary LSCS. Emergency peripartum hysterectomy is a most demanding obstetric surgery performed in life threatening hemorrhage. Antenatal anticipation of the risk factors, involvement of an experienced obstetrician at an early stage of management and a prompt hysterectomy after adequate resuscitation can help in reducing maternal morbidity and mortality.
P0058
THE VALUE OF PLATELET COUNT IN THE DIAGNOSIS OF ECTOPIC PREGNANCY
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Objectives: Six to sixteen percent of all pregnant patients presenting at the emergency room complaining of vaginal bleeding and/or abdominal pain have ectopic pregnancies. These cases lead to 10 to 30% of maternal deaths in developing countries. Recognizing that underdeveloped emergency obstetric care equates to poor health outcomes and improving the structure in terms of simplifying diagnostics and reducing the need for high-end, often unavailable, medical tools, this study aims to ultimately provide a means of affordable, rapid, and timely diagnosis of ectopic pregnancy in a low-resource setting with the use of platelet count.

Method: This is a retrospective case control study of patients with clinical suspicion of ectopic pregnancy and who subsequently underwent laparoscopy or laparotomy at the Department of Obstetrics and Gynecology at St. Luke’s Medical Center, Philippines. Patient profiles and outcome measures were tabulated and multivariable analysis and logistic regression were performed using SPSS® Statistics Base.

Results: A total of 158 pregnant patients, in a 1:2 ratio, were included in the study, with 104 patients in the ectopic group and 54 in the non-ectopic group. Between the ectopic group and the intrauterine group, there was no significant difference in the platelet count and when examined further, within the ectopic group, there was no significant difference in the platelet count between ruptured and unruptured ectopic pregnancies.

Conclusions: With the aim of simple and fast diagnosis with the use of platelet count, this study has shown that there was no significant difference between the ectopic and intrauterine groups and further between the ruptured and non-ruptured ectopic groups in contrast to previous studies. This study therefore concludes that platelet count as a simple diagnostic tool may not prove valuable in ectopic pregnancy.

P0059
INTRAUTERINE CONDOM CATHETER BALLOON TAMPONADE IN CONTROLLING INTRACTABLE PPH IN DEVELOPING COUNTRIES: EXPERIENCE IN KHALISHPUR CLINIC, BANGLADESH
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Objectives: The study was undertaken to evaluate the efficacy of condom catheter as an intrauterine tamponade to manage PPH (postpartum hemorrhage).

Method: The study was carried out with 21 patients when PPH occurred due to uterine atony and could not be managed with uterotonic and other conventional methods. An sterile rubber catheter was fitted with condom and inserted into the uterus and inflated with 250 to 300 ml of normal saline and was kept in situ for 24 to 48 hours, and then gradually deflated when bleeding ceases.

Results: Among the 21 patients, 20 patients stopped bleeding within 12–15 minutes, and only one patient needed hysterectomy as she developed disseminated intravascular coagulation. No patient died. There were no other complications.

Conclusions: The intrauterine condom catheter tamponade can stop massive PPH effectively and quickly, when other conventional measures fail. At the same time it is safe, easy to implement, materials are easily available, and inexpensive. In developing countries, where PPH remains the leading cause of death, this method can reduce maternal mortality and morbidity.

P0060
EVALUATION OF THE OBSTETRIC INDICES AT A NEW FEDERAL TEACHING HOSPITAL IN SOUTHEAST NIGERIA
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Objectives: To appraise the obstetric indices at a federal teaching hospital in southeast Nigeria.

Method: A three-year retrospective study of the obstetric records at a teaching hospital in Nigeria.

Results: Obstetric indices were generally poor with annual variations – maternal mortality ratio (511/100,000), stillbirth rate (54/1,000), antenatal attendance (65.5%) and contraceptive prevalence rate (17.3%).

Conclusions: Illiteracy, poor socio-economic status, teenage pregnancy, HIV infection and high fertility rates were major contributors to the poor obstetric indices. Health education, scale-up of awareness campaigns and improved maternal and child health care services are needed to improve obstetric outcome of pregnancy in low income settings.

P0061
EVALUATING THE EFFECTIVENESS OF MATERNAL NEAR-MISS AUDIT IN CHINA
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Objectives: To explore the effectiveness of maternal near-miss audit on improving the quality of obstetric care, minimizing the incidence of severe obstetric complications in the hospital, and reducing maternal mortality.

Method: A two-year intervention study was conducted in two healthcare facilities in Henan Province and Chongqing between 2006 and 2007. During the study, the experimental group adopted the method of maternal near-miss audit while the control group did not. Both groups conducted the retrospective investigation of severe cases via an identical survey form before and after the intervention, so as to evaluate the effectiveness of the audit.

Results: In the intervention group, maternal near-miss mortality ratio raised from 76:1 to 196:1 and the maternal mortality index dropped from 76:1 to 0.010. The incidence of severe obstetric complications decreased from 21.2% to 18.0% in the intervention group, while increased from 16.0% to 22.2% in the control group. Meanwhile, in the intervention group, the full-score rate of standard care for all types of severe obstetric complications has increased significantly after the audit.

Conclusions: Maternal near-miss audit can improve the quality of obstetric care and minimize the incidence of severe obstetric complications. Therefore it needs to be expanded further in China.

P0062
REVIEW OF MATERNAL DEATHS AND RESPONSE (MATERNAL DEATH AUDITS) IN RESOURCE-POOR COUNTRIES: ANALYSIS OF 22 HEALTH STRUCTURES IN MALI
M. Traoré1, A. Coulibaly1, J. Blake2, L. Perron1,2. 1Reduction of Maternal and Neonatal Mortality Project in Mali, Bamako, Mali; 2SOGC, Ottawa, Canada

Objectives: The QUARITé trial (QUA for quality care, RI for risk management and TE for obstetrical techniques) showed that hospital mortality rates could be lowered by 35% when intervention was combined with improved care provider knowledge, the introduction of maternal death audits, and the supervision of activities by outside supervisors. This observation resulted in an analysis of interven-
tion designed to repeat the same strategy at the 22 health institutions included in the QUARITÉ project. The purpose of this presentation is to share the preliminary findings of this new intervention in Mali.

**Method:** To begin with, we trained opinion leaders within the GESTA International Program health structures. This training was followed by the establishment of a maternal death audit committee and ongoing officer training activities at each structure. We also trained a national team of supervisors to conduct regular monitoring of the maternal death audit committees’ activities. Our analysis of maternal death audit activities began in the first half of 2014. The preliminary results are based on the site visit reports of outside supervisors and annual reports of the health structures involved.

**Results:** We recorded a total of 434 maternal deaths at the 22 health structures in 2014. Of that number, 47 deaths were pronounced on arrival. We audited 201 deaths. One hundred and three (103) maternal deaths were preventable. In all, 243 recommendations were made, and 162 were implemented. The major causes of maternal deaths were: haemorrhaging = 136; eclampsia = 81; infection = 39; uterine rupture +36. The health structures delivered a total of 132 continuous training sessions.

**Conclusions:** Maternal death audits are an effective strategy for reducing maternal mortality but require a motivated, well-trained and regularly monitored multidisciplinary team.

**P0063**

**OVERCOMING LOW IMPLEMENTATION LEVELS FOR ESSENTIAL MATERNAL AND NEWBORN HEALTH INTERVENTIONS: RESULTS FROM THE EQUIP PROJECT USING SYSTEMIC QUALITY IMPROVEMENT IN TANZANIA AND UGANDA**

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**Objectives:** Quality management has the potential to overcome barriers to care by assisting facility and community teams to use a problem-solving approach to overcome low implementation levels of essential interventions for maternal and newborn health. We present the effects of a systemic quality management approach at the district, facility and community levels, supported by information from high-quality continuous population-based surveys, on utilization and quality of maternal and newborn health services in Tanzania and Uganda.

**Method:** In Uganda and Tanzania, the Expanded Quality Management Using Information Power project (EQUIP, 2011–2014) applied a plausibility design to evaluate the effect of quality management with one implementation and one comparison district in each country. We used the improvement collaborative model, in which groups of quality improvement teams (QIT) tested self-identified implementation strategies (change ideas) and followed progress with locally generated data. Evaluation included indicators of process, coverage, and implementation practice using an interrupted time-series approach based on data from continuous household and health facility surveys.

**Results:** An increase in the number of livebirths where mothers received uterotonics within one minute after birth was observed in intervention compared to comparison districts in both countries (26 percentage point increase [95% CI: 25%–28%] in Tanzania and 8% [95% CI: 6%–9%] in Uganda). There was some evidence of an increase in the preparation of clean birth kits for home deliveries in Tanzania, with the difference adjusted for baseline at 31% (95% CI: 2%–60%). In Tanzania our analysis also indicated weak evidence of improved availability of key items for infection prevention (21% difference, 95% CI: −4%–46%) which was not seen in Uganda.

**Conclusions:** The study indicated that our systemic quality improvement approach was feasible and increased implementation levels of selected essential intervention, particularly in Tanzania where district-owned non-earmarked funds were used to support improvement work. The approach was highly appreciated by community, health facility staff and district managers who felt empowered to decide on priorities.

**P0064**

**CAESAREAN OVERUSE AND LACK OF HEALTH INSURANCE AFFECTS SAFE MOTHERHOOD: A PROSPECTIVE NEAR MISS STUDY AT UNIVERSITY HOSPITALS IN TEHRAN, IRAN**

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**Objectives:** To investigate the frequency, causes, risk factors, and perinatal outcomes of severe maternal morbidity in settings with high rate of CS in Tehran, Iran.

**Method:** A prospective descriptive study of women developing organ dysfunctions during pregnancy, childbirth, and within 6 weeks post partum was conducted at three university hospitals from 2012 to 2014. The modified WHO near miss approach was applied to identify cases. A random sample of admitted women in the maternity units during the study period represented population. Pertinent data was extracted from patients’ notes. Chi-square tests and logistic regression models examined measures and compared differences.

**Results:** Among 12965 live births, 82 developed severe morbidities and 12 died. Over a third of near misses and 42% of mortalities were referred to the hospitals. Total maternal near miss ratio was 6.3/1000 live births. Majority of maternal near misses resulted from severe postpartum haemorrhage, hypertensive disorders, and placenta praevia. The significant risk factors were Afghan nationality; CS delivery, co-morbidity, and severe anaemia while prenatal care gave protection. The increased risk for immigrants and the protective influence of prenatal care disappeared after adjusting for health insurance. Compared with population, adverse perinatal outcomes were significantly higher among cases.

**Conclusions:** The WHO near miss tool was found practical and useful in middle-income settings. CS and its consequences were clearly associated with maternal near miss. Afghan-born immigrants faced higher risk of severe morbidity through lack of health insurance. Health coverage for reproductive services can provide access to care and improve safe motherhood for both immigrants and natives.

**P0065**

**AFGHAN IMMIGRANTS FACE HIGHER RISK OF SUBOPTIMAL OBSTETRIC CARE: MATERNAL NEAR MISS AUDITS AT THREE UNIVERSITY HOSPITALS IN TEHRAN, IRAN**

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**Objectives:** To examine the quality of care for maternal near miss cases, to determine if the quality of care for Afghan mothers differed from natives, and to identify potentially preventable factors that contributed to severe maternal morbidity.

**Method:** A prospective audit of selected cases with maternal near miss was conducted at 3 university hospitals in Tehran, from 2012 to 2014. The modified WHO approach was applied to identify cases. A total of 70 case notes with severe maternal morbidity (50 Iranians and 20 Afghans) were reviewed and the quality of care was judged by
Consensus. Interviews with patients provided additional inputs. Inadequate and suboptimal care concerning nationality was measured and compared with Chi-square tests and logistic regression models. Potentially preventable factors attributed to near miss were identified at patient, provider, and health system levels.

**Results:** Overall inadequate care items were identified in 64 near misses (91%). Compared with natives, the risk of suboptimal hospital care was 7.9 times higher for Afghan-born mothers after controlling for socioeconomic factors. However, the increased risk disappeared by adjusting for health insurance. A majority of near miss events (74%) were preventable with adequacy of care at provider (90%), patient (23%), and health system (17%) levels.

**Conclusions:** Maternal near miss cases received clearly suboptimal care. The greater risk for Afghan mothers ran through the lack of health insurance that could affect accessibility of reproductive services. The most important preventable factor attributed maternal near miss was inadequate practice by care providers. To improve maternal safety, effective actions to target professional performance seem crucial. To address patients' delays, sociocultural and migration effects on health seeking behaviour have to be identified.

**P0067**

**IMPROVING THE COMPETENCE OF THE SKILLED BIRTH ATTENDANT IN RURAL RWANDA: TRAINING MATERNITY NURSES IN NORMAL & OBSTRUCTED LABOR AND POSTPARTUM HEMORRHAGE DIAGNOSIS AND MANAGEMENT**

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**Objectives:** Research has shown that reduced maternal mortality is associated with skilled attendance at birth, however not all “skilled birth attendants” are truly competent. Traditional didactic teaching methods are commonly used to train skilled birth attendants (SBAs) in Sub-Saharan Africa. We aimed to employ a multifaceted training program that combines simulation training with didactics and skills lab sessions to improve the core competency of rural Rwandan skilled birth attendants in normal and obstructed labor, vaginal delivery, and postpartum hemorrhage.

**Method:** A convenience sample of 19 nurses from rural Rwandan health care facilities participated in the study. The training intervention included a 5-day course of lectures, simulations, demonstrations, and skills labs. Simulation-based clinical scenarios were used to test each participant’s ability to assess normal labor, recognize obstructed labor, manage normal delivery, and recognize and manage postpartum hemorrhage. The same scenario was used as the pre and posttest. Task-based checklists were created using WHO guidelines and used during the simulation to evaluate performance. Paired t-tests were used to measure change in performance score.

**Results:** After the multifaceted training program, improvement was noted in the following: knowledge of normal labor (p<0.01), obstructed labor (p<0.01), and postpartum hemorrhage (p<0.01); ability to effectively recognize and manage obstructed labor (p<0.01) and post-partum hemorrhage (p<0.01).

**Conclusions:** Simulation training in concert with didactics and skills labs can be an effective form of improving the competence of skilled birth attendants in low resource settings.

**P0068**

**MATERNAL NEAR-MISS AUDIT IN CHINA: THE ESTABLISHMENT AND DEVELOPMENT**

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**Objectives:** To identify the key elements for the successful promotion of a national model of maternal near-miss audit in China.

**Method:** A narrative review of the first-hand documents about the establishment and development of maternal near-miss audit model in China from 2004 to 2014 was conducted.

**Results:** From 2004 to 2009, based on maternal near-miss audit framework published by WHO in 2004, we has modified the framework to make it more suitable for Chinese context. The pilot application study was undertaken in selected counties, cities, and provinces to test the feasibility and the effectiveness of the audit model. From 2010 to 2012, we summarized the result of the pilot study and gave guide to some hospitals to conduct audit at provincial, municipality level. From 2013 to 2014, we held two national level trainings of trainers and introduced the methodology of this audit nationwide officially.

**Conclusions:** The maternal near-miss audit model which developed and promoted by NCWCH within the last decade in China has proven itself as a feasible and effective tool to improve the quality of obstetric care of health facilities at all level across the country. Hopefully, China’s work could provide some references to other developing countries when carry similar works.

E333

P0069
A POSTPARTUM HEMORRHAGE PACKAGE WITH UTERINE BALLOON TAMponade: A PROSPECTIVE MULTI-CENTER CASE SERIES IN KENYA, SIERRA LEONE, SENEGAL, AND NEPAL

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Objectives: To evaluate the effectiveness and safety of an ultra-low-cost uterine balloon tamponade package (ESM-UBT™) for facility-based management of uncontrolled postpartum hemorrhage (PPH) in Kenya, Sierra Leone, Senegal, and Nepal.

Method: This large prospective multi-center case series was conducted in resource-scare areas of Kenya, Sierra Leone, Nepal, and Senegal. A standardized ESM-UBT package was implemented in 307 facilities over 29 months (September 1, 2012 – February 1, 2015). Data were collected via a multi-pronged approach including data card completion, chart reviews, and provider interviews. Beginning in August 2014, women who had previously undergone UBT placement were sought and queried regarding potential complications associated with UBT use. Main outcome measurements included all-cause survival, survival from PPH, and post-UBT-use complications (surgery, hospitalization, antibiotics for pelvic infection) associated with UBT use.

Results: 201 UBTs were placed for uncontrolled vaginal hemorrhage refractory to all other interventions. All-cause survival was 95% (190/201). However, 98% (160/163) of women survived uncontrolled PPH if delivery occurred at an ESM-UBT on-line facility. 38% (71/188) of women were either unconscious or confused at the time of UBT placement. One (1/151) potential UBT-associated complication (post-partum endometritis) was identified, and two improvised UBTs were placed in women with a ruptured uterus.

Conclusions: These data suggest that the ESM–UBT package may be an effective and safe method to arrest uncontrolled PPH and save women’s lives. The UBT was successfully placed by all levels of facility-based providers.

P0070
ASSOCIATION BETWEEN THE “FOUR-TOO” (EMPAT TERLALU) AND MATERNAL MORTALITY IN NIAS ISLAND INDONESIA 2010–2012 (5 YEARS AFTER TSUNAMI DISASTER)

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Objectives: There are several things that can improve Maternal Mortality Rate (MMR) in Indonesia remote areas and termed as: the “Four-Too” and the “Three-Delay”. Indonesian language for “Four-Too” is: Empat Terlalu, consist of too many children (terlalu banyak anak), too young (terlalu muda)-too old (terlalu tua)-too close (terlalu sering) in pregnant. While the “Three-Delay” as Tiga Terlambat consist of delay detection (terlambat mengetahui), delay decision (terlambat memutuskan), delay referral and treatment (terlambat mengirim dan menangani). During 2011 in Nias Island, MMR reached upto 431.96/100,000. The purpose of this study is to determined the association between the “Four-Too” and maternal mortality at Gunung Sitoli General Hospital Nias 2010–2012 (5 years after Tsunami disaster).

Method: This cross sectional retrospective study was conducted at Gunung Sitoli General Hospital with a total sample of 96 mothers from 2010 until 2012 that fulfilled the inclusion and exclusion criteria with a sample collection by purposive sampling technique. Data was achieve from medical record and being analyze with a Chi-square test.

Results: From 96 respondents, 19.8% were <20 years of age; 14.5% were >35 years of age; 65.7% were between 20 and 35 years of age. From 36.5% respondents have had <1 or >4 parities and 63.5% respondents had 2–4 parities. Moreover, 31.3% respondents had <2 years of pregnancy interval and 68.8% respondents had a pregnancy interval >2 years. Statistical test demonstrated significant relationship with age is too young (p value=0.040) and age is too old (p value=0.043) while pregnant, parity ≤1 or >4 (p value=0.034) and pregnancy interval <2 years (p value=0.048) against maternal mortality incidence.

Conclusions: There is a significant relationship between the “Four-Too” and maternal mortality incidence in Nias. It is expected that all health personnel to promote health education to fertile couples, pre-marriage counseling and pregnant mothers on risk factors “Four-Too” on maternal mortality.

P0071
THIS IS AN EFFORT TO MAKE A PRACTICAL EXPERIENCE AT A REMOTE HOSPITAL IN ASIA TO BE USED AS A TRAINING SYSTEM FOR THE OBSTETRICS EDUCATION IN JAPAN, WHICH ENCOURAGES JAPANESE MEDICAL PERSONNEL TO JOIN TOGETHER AS A TEAM TO ACHIEVE THE MDGS TARGET

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Objectives: Japan has reduced it’s maternal mortality ratio (MMR) from 180 to 6 between 1950 and 2004. The Millennium Development Goal (MDG) targets the MMR around the world to reduce the rate by three quarters between 1990 and 2015. Bangladesh has worked well to reduce it’s MMR from 322 to 194 between 1998 and 2001. However, there is still much to be done to provide sufficient perinatal care for those in need. As a part of the global network, Japan should participate in reaching the MDG5. We introduced our trial to develop sustainable and bilateral training on both sides.

Method: An obstetrician was sent to work for a rural hospital in Bangladesh which had 4,200 deliveries from 2010 to 2011. After this practical experience, she returned to participate on a teaching team to educate midwives and obstetricians. We observed how the education system in Japan could benefit from her experience. There were also 13 other medical personnel from Japan who visited this rural hospital in Bangladesh to observe it’s practices. We followed up with these visitors after they returned to Japan and observed how their experience in a rural area influenced both their motivation and techniques in their home country.

Results: The doctor sent to Bangladesh took part in the clinic and the labour room. She was able to train doctors in ultrasonography which helps provide a diagnosis in the situation where no MRI/CT is available. She returned and participated with a training including the supervision of an emergency breech delivery. Out of the thirteen medical personnel who visited Bangladesh, one chose to work in a remote island and another in the disaster area hit by a tsunami. By experiencing a remote environment, Japanese medical personnel are able to gain practical skills and are also motivated to consider of the remote areas in their own country.

Conclusions: A system is needed to support and value those who join the practical work in remote areas. Currently, most workers go as volunteers and their work in the abroad is not counted towards their training for their specialist certificate. If this kind of experience could be recognized as a part of their obstetrics training, it would be—
come easier for those who wish to return to work in Japan later. In this way, Japanese obstetricians could be more helpful in reaching the MDG around the world. Also, this system would be beneficial for both sides which helps it to be sustainable.

**P0072**

**EVALUATING ACCURACY OF LAST MENSTRUAL PERIOD (LMP) DATING IN A LOW RESOURCE SETTING**

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**Objectives:** According to the World Health Organization nearly 1 million children die annually as a result of preterm birth complications. An estimate of preterm delivery rates and appropriate management cannot be completed without accurate and reliable pregnancy dates. Accuracy of dating methods on maternal and neonatal outcomes has not been well studied in low resource, rural indigenous populations.

In this study we aim to assess the accuracy of dating by LMP as compared to ultrasound in a rural Guatemalan community, to validate whether or not it can be used as a reliable marker of gestational age (GA).

**Method:** In this cross-sectional study 65 pregnant women ages 14–42 were enrolled from rural communities near Lago Atitlan, Guatemala for 1 year. Patients were recruited at 3 main prenatal care centers: Centro de Salud, Hospitalito and community nursing-outposts. Ultrasounds were performed by six Saving Mothers physician volunteers. Dating was assigned using fetal biometrics and the Hadlock method of dating. Parameters measured included crown rump length, head circumference, biparietal diameter, abdominal circumference and femur length. Estimated date of confinement (EDC) by LMP was compared to EDC by ultrasound and the accuracy of menstrual based dating was analyzed using various statistical methods.

**Results:** Using ACOG guidelines 49% (n=65) of LMP based pregnancy dates were re-dated. Of these 28.1% (n=32) had an earlier ultrasound assigned EDC. The proportion of pregnancies with earlier ultrasound EDC varied with trimester. No ultrasound reassigned dates in the first trimester were earlier then the LMP EDC. 25% of ultrasound reassigned dates for pregnancies during 2nd trimester had an earlier EDC and 50% during the 3rd trimester and later had an earlier EDC. 12.5% (n=65) of women did not recall LMP dates and relied on ultrasound dating.

**Conclusions:** The results of this study show that LMP based EDC is not a reliable method of estimating GA in this rural indigenous setting. Accuracy appears to decline with advancing GA. Nearly half of LMP based EDCs were reassigned based on fetal biometrics. Because most women in this population present for prenatal care at a later GA, assessment of fetal biometrics by ultrasound should be used whenever possible to establish correct dating. Improved dating in this population would allow for appropriate transfer of women in preterm labor or at risk for preterm delivery to a higher level care facility, improving outcomes.

**P0073**

**LIFE-THREATENING POSTPARTUM HEMORRHAGE: TREATMENT WITH EMERGENCY TRANSCATHETER ARTERIAL EMBOLIZATION AT A TERTIARY REFERRAL CENTER**

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**Objectives:** Postpartum hemorrhage (PPH) remains a major factor of maternal morbidity and mortality despite of the advance of obstetrics. Transcatheter arterial embolization (TAE) has emerged in recent three decades and is considered a superior first-line alternative to surgery to control postpartum hemorrhage in nowadays. During a 85-month period, we collected 79 cases via our emergency transfer system. By analyzing these data, we would like to evaluate the efficacy and efficiency of TAE in life-threatening postpartum hemorrhage cases.

**Method:** This is a retrospective analysis of all patients with life-threatening postpartum hemorrhage, who were transferred via emergency transfer system to a tertiary referral center, then managed with TAE between from April 2004 to May 2011. Patient characteristics, details of embolization and clinical outcomes were collected by chart and telephone review. Embolization was considered successful when no further medication, surgery, or repeated embolization was required. Statistically significant associations between subject characteristics and clinical success were evaluated.

**Results:** TAE was successful for 75 patients (94.9%). Mean patient age was 31.5 years old (ranging from 26 to 38 years old). Of the 79 patients, 49 (62.1%) had a vaginal delivery, The other 30 (37.9%) had a caesarean section. Specific diagnoses included uterine atony (n=42), abnormal placenta implantation (n=24), laceration (n=10) and retained placenta (n=3). The average length of time for the procedure was 89.3 minutes. The mean stay of hospitalization was 8.1 days. There was no major complication or mortality related to this procedure; 74 patients (93.6%) returned to their normal mense after at least six.

**Conclusions:** According the experience during the last seven years, the “door-to-cath” time was under 30 minutes in our hospital. We believed that “Time is blood!” and the shorter duration it takes, the more chance of survival the patient gets. To sum up, TAE is an effective and less invasive method to resolve postpartum hemorrhage, and should be regarded as gold standard of the management for PPH if the patient is comparatively hemodynamically stable.

**P0074**

**ULTRASOUND USAGE IN OBSTETRICS AND GYNECOLOGY IN TERTIARY CARE HOSPITAL IN RWANDA**

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**Objectives:** WHO identifies ultrasound as an appropriate technology to improve maternal and perinatal health outcomes. Few studies, however, examine the impact of ultrasound in low resource settings. The nation is on target to reach the millennium development goals. One focus for improvement in maternal and perinatal mortality is the application of low cost, appropriate technology.

Every district hospital in Rwanda is equipped with an ultrasound and ultrasound training has been introduced as a key component of the residency curriculum. The objective of this study was to evaluate the use of ultrasound in obstetrics and gynecology acute care management.

**Method:** We evaluated the role of ultrasound in triage for all patients admitted to the University Teaching Hospital of Kigali (CHUK) from 11/2014 to 2/2015. CHUK is one of the two tertiary referral hospitals in Rwanda with a catchment of 29 district hospitals. It is one of two primary teaching hospitals in Rwanda. Residents in Obstetrics and Gynecology are the first line caregivers for all patients presenting to the obstetrics and gynecology triage area. We examined patient demographics, indications for triage evaluation, pre-ultrasound diagnoses, post ultrasound findings and post-ultrasound diagnoses. Impact of ultrasound on clinical management will be reported separately.

**Results:** During the study period, 386 patients were evaluated and admitted to the obstetrics unit. All patients received an ultrasound in triage unit prior to admission. The majority of patients (69%) were 18–34 years of age, primiparous (32%), and referred from district hospitals (52%). The majority (75%) were pregnant. Prior to the ul-
trasound, fetal well-being was the most frequent indication for ultrasound (39%). Other obstetric indications for ultrasound included: bleeding in pregnancy (13.2%) and postpartum infection/peritonitis (7%).

Conclusions: We report the point of care use of ultrasound in a large tertiary care hospital in Rwanda. In our setting, all patients received an ultrasound by an MD in the obgyn triage unit prior to hospital admission. The most frequent indication for ultrasound was fetal well-being, followed by bleeding and sepsis/peritonitis. Ultrasound is a key component of the obgyn assessment in this tertiary care setting.

P0075
EXPANDING ACCESS TO POST ABORTION CARE (PAC) SERVICES THROUGH STRENGTHENING THE PRIVATE SECTOR: EXPERIENCES OF THE WOMEN’S HEALTH PROJECT (WHP) NIGERIA, JANUARY 2013 TO DECEMBER 2014
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Objectives: To demonstrate the effect of WHP’s interventions on expanding access to PAC services in it’s operation sites in Nigeria.

Method: A retrospective analysis of routine service data from the franchise facilities for the period January 2011 to December 2014. Data was collected from 308 franchise facilities in 22 states in Nigeria. Key interventions included provider training on PAC, use of misoprostol for PAC (mPAC), and manual vacuum aspiration (MVA), routine support supervision and quality assurance, and supply of misoprostol and MVA kits.

Results: Overall, a total of 6,288 women accessed PAC services from 308 franchise facilities from January 2013 to December 2014. Of these, 4,057 (65%) had PAC using Misoprostol, while 2,270 (36%) had MVA.

Conclusions: Provision of mPAC increased from 932 between January and December 2013 to 5,356 between January and December 2014 (over five-fold increase). MVA services started in June 2014, and 2,270 women accessed the service between June and December 2014 from 43 facilities providing MVA services (average of 324 cases per month).

P0076
COMMUNITY PERCEPTIONS OF PRE-ECLAMPSIA IN RURAL KARNATAKA STATE, INDIA: A QUALITATIVE STUDY
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Objectives: The study was designed to contribute to the literature regarding community perceptions of pregnancy, particularly related to pre-eclampsia. This study explores community-based understanding of the conditions of pre-eclampsia and eclampsia in rural Karnataka State, India.

Method: The study was conducted in Belgaum and Bagalkot Districts, in rural Karnataka State, India, in 2012–2013. Fourteen convenience sample focus group discussions were held with community stakeholders: three with community leaders (N=27), two with male decision-makers (N=19), three with female decision-makers (N=41), and six with reproductive age women (N=132). Focus groups were facilitated by local researchers with clinical and research expertise. Discussions were audio-recorded, transcribed verbatim in Kannada and translated to English for thematic analysis using NVivo 10.

Results: There were no terms in the native language specific to pre-eclampsia or eclampsia. Participants explained the causes of seizures in pregnancy to be anaemia, poor medical adherence, lack of tetanus immunization, and gestational exposure to fire or water. Stress and poor diet were believed to be associated with pregnancy hypertension. The warning signs of seizures were poorly known, although sweating, fatigue, dizziness, swelling, and irritability were stated as signs of hypertension. Home remedies, such as the smell of an onion, placing an iron object in the hands, and squeezing the fingers and toes were used to manage seizures in pregnancy.

Conclusions: This study describes the knowledge and practices related to hypertension and seizures in pregnancy in rural communities in Karnataka. It is evident that “pre-eclampsia” and “eclampsia” are not well-known as disease entities; instead hypertension and seizures are perceived as conditions that may occur during or outside pregnancy. Improving community knowledge is crucial to early recognition and referral to avert maternal and perinatal morbidity and mortality. Advocacy and educational initiatives should be designed to target the identified knowledge gaps and potentially harmful practices, and respond to cultural understandings of disease.
responsible included provision of items needed for institutional delivery, mobilising resources, transport, undertaking home duties to support their wives during pregnancy and childbirth.

**Conclusions:** Male involvement enables husbands to support their wives utilise the maternal health services, prepare adequately for childbirth through emotional, logistical and financial support and impact on birth outcomes. Study results will assist in the design of effective policy for improving institutional deliveries and reduction of MMR that will reflect the cultural importance of positive male engagement.

**P0078**
**SHIFT IN CAUSES OF MATERNAL DEATH FROM DIRECT TO INDIRECT: A TEACHING HOSPITAL EXPERIENCE IN INDIA**

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**Objectives:** To study the causes of maternal mortality in our institution to plan preventive measures.

**Method:** Prospective Observational study on maternal deaths over a period of 6 years (2009–2014).

**Results:** There were 80 maternal deaths for 21,811 deliveries. All cases of maternal mortality were referred from peripheral hospitals and all had antenatal care. Direct causes like hemorrhage and sepsis accounted for 41% of maternal deaths while 51% were due to Indirect causes like medical disorders. Among the 33 direct causes, 21 were due to sepsis while hemorrhage accounted for 12. Two important indirect causes were ARDS and cardiac problems. ARDS was seen in 21 patients and 12 of them were due to H1N1. Most of them were very ill on arrival and despite intensive care support they didn’t survive.

**Conclusions:** Antenatal care and government sponsored programs have promoted hospital delivery thereby bringing down maternal deaths due to direct causes. Sepsis and non genital tract infective conditions are now the leading causes for maternal mortality. This is alarming because of emerging bacterial resistance & new epidemics proving fatal for vulnerable pregnant women. Tackling indirect causes will be more difficult compared to direct causes. Early referral from peripheral doctors, appropriate transfer, creating awareness regarding medical disorders in pregnant women may help to some extent.

**P0079**
**COMMUNITY PERCEPTIONS OF PRE-ECLAMPSIA AND ECLAMPSIA IN SELECTED COMMUNITIES OF SOUTHERN MOZAMBIQUE**

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**Objectives:** The objective of this study was to describe the community understanding of pre-eclampsia and eclampsia, as a crucial step to improve maternal and perinatal health in southern Mozambique.

**Method:** This qualitative study was conducted in Maputo and Gaza Provinces of southern Mozambique. Twenty focus groups were convened with pregnant women, partners and husbands, matrons, traditional birth attendants, mothers and mothers-in-law. In addition, ten interviews were conducted with traditional healers, matrons, and a traditional birth attendant. All discussions were audio-recorded, translated from local language (Changana) to Portuguese and transcribed verbatim prior to analysis with NVivo 10. A thematic analysis approach was taken.

**Results:** The conditions of “pre-eclampsia” and “eclampsia” were not known in these communities in southern Mozambique; however, they were familiar with hypertension and seizures in pregnancy. Terms linked with the biomedical concept of pre-eclampsia were “high blood pressure”, “fainting disease” and “illness of the heart”, whereas “illness of the moon”, “snake illness”, “falling disease”, “childhood illness”, “frightening illness” and “epilepsy” were used for eclampsia. The causes of hypertension in pregnancy were thought to include mistreatment by in-laws, marital problems, and excessive worrying. Seizures in pregnancy were believed to be caused by a snake inside the woman’s body.

**Conclusions:** Local beliefs in southern Mozambique, regarding the causes, presentation, outcomes and treatment of hypertension and seizures in pregnancy are not aligned with the biomedical perspective. The community is mostly unaware of the link between hypertension and seizures during pregnancy. The numerous widespread myths and misconceptions demonstrate a need for increased com-
Community education in southern Mozambique regarding pregnancy and associated complications.

P0081

TASK-SHIFTING THE IDENTIFICATION, EMERGENCY MANAGEMENT AND REFERRAL OF WOMEN WITH PRE-ECLAMPSIA IN MOZAMBIQUE, AND FACILITY CAPACITY TO RESPOND

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Objectives: Maternal mortality is an important public health problem in low-income countries. Delays in reaching health facilities and insufficient health care professionals calls for innovative community-level interventions. The study aimed to describe the possibility of task-shifting regarding initial screening and the initiation of obstetric emergency care for pre-eclampsia and eclampsia to community health care providers in Mozambique and to document facility readiness to respond to this task-shift.

Method: The study took place in Maputo and Gaza Provinces of southern Mozambique using qualitative and quantitative methods. The qualitative data were collected through focus group discussions and in-depth interviews with various community groups, health care providers, and policy makers. All discussions were audio-recorded and transcribed verbatim prior to thematic analysis using NVivo 10. Quantitative data were collected through self-administered questionnaires completed by community health workers and health facility assessment surveys, analysed using STATA version 13. Data collection was complemented by reviewing existing documents regarding maternal health and community health workers policies, guidelines, reports and manuals.

Results: Community health workers in Mozambique were skilled in identifying the danger signs of pregnancy; however, they were not able to manage emergencies, or effectively refer to the facility. Nurses at primary health centres were trained to manage eclampsia before referral. The necessary equipment for obstetric emergency care was not available in all primary level facilities: MgSO4 was available in 83% primary level facilities, and 96% had an ambulance for referrals. Although community health workers and patients supported task-shifting, other healthcare providers highlighted the need to first address current barriers: lack of equipment, shortage of supervisors, and irregular drug availability.

Conclusions: This study showed that task-shifting screening and pre-referral management of pre-eclampsia and eclampsia is possible and acceptable by the community, but an effort should be in place to remove barriers at the health system level that could affect the appropriate management of the emergency cases.

P0082

SEVERE ACUTE MATERNAL MORBIDITY (SAMM) IN METRO EAST, WESTERN CAPE, SOUTH AFRICA: “EVERY HUMAN BEING HAS THE RIGHT TO LIVE, EVERY CHILD NEEDS A MOTHER, MOTHERS SHOULD NOT DIE BECAUSE OF THEIR PREGNANCY.” HOW CAN WE IMPROVE THE QUALITY OF CARE IN THE EXISTING HEALTH SYSTEM?

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Objectives: The primary objective is to determine:

• The incidence of Severe Acute Maternal Morbidity (SAMM) and Maternal Deaths in Metro East in Capetown, South Africa, as well as the nature of these events, from 1st November 2014 and 31st January 2015 (data collection in total will be 6 months).

The secondary objectives include:

• Collection of demographic, obstetric, medical, antenatal, intrapartum and postpartum factors which may have contributed to the event.

• Assessment of maternal and neonatal outcomes until hospital discharge.

• Audit of avoidable factors which might have or would reasonably be expected to have made a difference to the outcome.

Method: This study will audit the Severe Acute Maternal Morbidity (SAMM) according to the “WHO defined universal organ system criteria” in Metro East in the Western cape.

The study population are all women who fulfill the WHO organ dysfunction based criteria for Severe Acute Maternal Morbidity in the governmental hospitals in Metro East between the 1 November 2014 and 31 January 2015. Metro East has a well functioning referral system, critical ill patients are supposed to be referred to the level 3 hospital Tygerberg Hospital, where the cases will be identified and datasheets are collected.

Results: Three months of data collection have been finished, a total number of 143 patients with SAMM have been collected in the population in Metro East within total number of 8300 deliveries. Most patients in this study were categorised in the haematological category (37), due to severe pre-eclampsia/HELLP or severe post partum haemorrhage PPH. The respiratory category contained 27 patients, mainly due to pulmonary edema in patients with pre eclampsia or underlying causes cardiomyopathy, pulm embolism, pneumonia. 14 patients needed a hysterectomy for sepsis or severe PPH.

Conclusions: The major causes of SAMM in Metro East are complications related to hypertension/pre eclampsia, haemorrhage and infection. One third of the cases contained avoidable factors. The majority of the substandard care factors are related to patients being unbooked/late bookers and incorrect recognition by healthcare workers. The results of this study are discussed in the monthly department meeting. This study leads to recommendations to improve the level of care that can prevent SAMM in Metro East in South Africa.

P0083

MULTI-COUNTRY MEASUREMENT OF MATERNAL MORBIDITY

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Objectives: The definition and measurement of maternal morbidity in a standardized method will contribute to reducing maternal deaths. In 2014, the World Health Organization (WHO) defined maternal morbidity as “any health condition attributed to and/or complicating pregnancy and childbirth that has a negative impact on the woman’s wellbeing and/or functioning”. At the time of writing there is no comprehensive, internationally recognised method to measure maternal morbidity consistently in different settings. The Centre of Maternal and Newborn Health (CMNH) has developed a new data
collection tool to measure maternal morbidity (both subjective and objective) in a low and middle income countries.

**Method:** A descriptive multi-country cross-sectional study to measure maternal morbidity in pregnant and postnatal women at five assessment points – early antenatal (less than 20 weeks), late antenatal (20–40 weeks), post-delivery (within 24–48 hours of childbirth), early postnatal (first week of childbirth) and late postnatal (1–12 weeks postnatal). The statistically derived sample size in each country is 2,880 giving a total of 11,520 women assessed over four countries: India, Malawi, Pakistan and Kenya. The maternal morbidity assessment tool involves a comprehensive questionnaire administered to women in a face-to-face interview. Clinical examination, basic urine and serological investigations are then performed.

**Results:** Pilot results demonstrate the data collection tool is acceptable to both women and their health care providers. It is feasible to use in the antenatal and postnatal stages of pregnancy and at different levels of health care facilities. Data collection has commenced in three countries - India (1,240 women) Malawi (1,400 women) and Pakistan (20 women). The project is due to begin in Kenya at the start of April 2015. Preliminary descriptive data analyses show that the data tool is capturing the necessary criteria to calculate global summary estimates of physical, psychological and social maternal morbidity.

**Conclusions:** We present a new data collection tool that is able to identify and measure maternal morbidity in a comprehensive, holistic and robust way. Preliminary analyses highlight that there are certain markers of morbidity that can be combined and used to provide a maternal morbidity “score” both in the antenatal and postnatal periods. We recommend this “morbidity score” can be used as an outcome measure to assess the effectiveness of interventions implemented, especially in the development of evidence based antenatal and postnatal care bundles in low and middle-income countries.

**P0084**

**POLICY REVIEW ON MANAGEMENT OF PRE-ECLAMPSIA AND ECLAMPSIA BY COMMUNITY HEALTH WORKERS IN MOZAMBIQUE**

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**Objectives:** Maternal mortality ratio (per 100,000 live births) in Mozambique has decreased from 500 in 2007, to 480 in 2013; however, this remains high. Hypertension in pregnancy is the third leading cause of maternal death in this region. The limited capacity of the Ministry of Health, low availability of emergency obstetric care, and insufficient skilled health care personnel, indicate a need for community level innovative interventions. Policies must be in place or adapted to accommodate such innovations. This study aimed to review policies related to the use of community health workers to manage pre-eclampsia or eclampsia in Mozambique.

**Method:** A variety of documents with information regarding the community health workers programme in Mozambique were reviewed. These documents included formal government and institutional policies and other relevant official documents, such as community involvement strategies, community health worker training programmes, monitoring and evaluation manuals, meeting minutes and reports. Both published and unpublished information was used for this analysis. This document review further involved the identification of the timeline of key events and consultations with stakeholders: staff and colleagues familiar with these events were approached to gain insight into the policy process.

**Results:** In 1976, Mozambique introduced policies to strengthen and extend primary health care. Subsequently in 1978, the community health worker programme was established for health promotion and prevention. The programme was then scaled back; prior to the resolution to revitalize it in 1995. In 2010, a new programme expanded the use of community health workers to manage common illnesses: malaria, diarrhoeal disease, and acute respiratory infections. Community health workers have provided limited services in pregnancy; simple health promotion, detection of warning signs, and referrals. Their role to date has not included care specific to the hypertensive disorders of pregnancy.

**Conclusions:** The policies regarding the provision of maternity care by community health workers in Mozambique focuses on health promotion and the detection of pregnancy risk. In order to strengthen community level response and reduce maternal and perinatal mortality, there is a need for task-shifting to community health workers. Recommendations for their utilisation in the provision of basic maternal health services should be broadened to include the detection and pre-referral management of pre-eclampsia and eclampsia.

**P0085**

**COMMUNITY PERCEPTIONS OF PRE-ECLAMPSIA AND ECLAMPSIA IN OGUN STATE, NIGERIA: A QUALITATIVE STUDY**

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**Objectives:** This study aimed to recognize the role of the socio-cultural environment to learn community-based perceptions of pre-eclampsia and eclampsia.

**Method:** The study was conducted in Ogun State, Nigeria in 2012. Data were obtained through twenty-eight focus group discussions; eight with pregnant women (N=94), eight with recently pregnant mothers (N=95), four with male decision-makers (N=47), five with community leaders (N=56), and three with traditional birth attendants (N=36). Interviews were also conducted with the heads of the local traditional birth attendants (N=4) and with community leaders (N=5). Data were transcribed verbatim and analysed in NVivo 10.

**Results:** There was no terminology reportedly used for pre-eclampsia in the native language – Yoruba; however, hypertension has several terms independent of pregnancy status. Conversely, “giri alobbayan” describes seizures specific to pregnancy. The cause of hypertension in pregnancy was thought to be due to depressive thoughts as a result of marital conflict and financial worries, while seizures in pregnancy were perceived to result from prolonged exposure to cold. There seemed to be no traditional treatment for hypertension; however, for seizures the use of herbs, concoctions, incisions, and topical application of black soap were widespread.

**Conclusions:** This study illustrates that knowledge of pre-eclampsia and eclampsia are limited amongst communities of Ogun State, Nigeria. Furthermore, findings reveal the existence of gap in knowledge regarding the aetiology and treatment of the conditions. A holistic approach is recommended for sensitization at the community level.

**P0086**

**FACTORS ASSOCIATED WITH MATERNAL NEAR MISS IN CHILDBIRTH AND POSTPARTUM: DATA FROM THE “BIRTH IN BRAZIL” STUDY**

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**Objectives:** The objectives of this study were to evaluate the factors
associated with Maternal Near Miss cases in childbirth and postpartum in Brazil.

**Method:** This was a national hospital-based study of 23,894 women that was conducted in 2011–2012. The data used came from interviews with the mothers during postpartum and from hospital medical files. Univariate and multivariable logistic regression were performed in order to investigate factors associated with the MNM with estimation of the crude and adjusted odds ratio and their respective 95% confidence intervals (95% CI).

**Results:** The estimated incidence of MNM was 10.16/1,000 live births (95% CI: 7.14–13.18). In the adjusted analyses MNM was associated with the absence of antenatal care (OR 4.65; 95% CI: 1.51–14.31), search for 2 or more services before admission to delivery care (OR 4.49; 95% CI: 2.12–9.52), obstetric complications (OR 9.29; 95% CI: 6.69–12.90) and type of birth: elective C-section (OR 2.54; 95% CI: 1.67–3.88) and forceps (OR 9.37; 95% CI: 4.01–21.91).

**Conclusions:** In Brazil, the high proportion of elective C-section is attenuating benefits that result from better prenatal care and access to delivery care services, mainly of women of better economic and social conditions. Strategies for reducing rates of MNM in Brazil should include investments in access to prenatal care and childbirth services, facilitating identification of pregnant women and ensuring the linkage of pregnant women to maternity care where labor and delivery will take place, specially for women with greater social vulnerability; and reduction of elective c-sections, specially for women in private services, where rates of caesarean reach 90% of total birth.

P0087

**PROGRESSION TO DEATH IN SEVERE PREGNANCY-RELATED SEPSIS: A UK POPULATION-BASED CASE-CONTROL ANALYSIS**

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**Objectives:** To identify factors the demographic, socio-economic, medical, obstetric and management factors associated with progression from pregnancy-associated severe sepsis to death in the UK.

**Method:** Cases and controls were identified using data from the UK Obstetric Surveillance System (UKOSS) and the UK Confidential Enquiry into Maternal Death (CEMD); respectively. All non-influenza sepsis-related maternal deaths (from January 2009 to December 2012) were included as cases, and all women who survived severe non-influenza sepsis in pregnancy (from June 2011 to May 2012) were included as controls. Univariable and multivariable logistic regression analyses were conducted. Of the 12 variables examined in the univariable analysis, only four were found to significantly affect the fit of the multivariable model (antibiotic delay, medical comorbidities, parity and employment status).

**Results:** Forty-three women who died from non-influenza sepsis and 358 women who survived severe non-influenza pregnancy-associated sepsis were identified. Women who died were significantly more likely to have not received antibiotics (aOR=22.7, 95% CI 3.64–141.6), to have medical comorbidities (aOR=2.53, 95% CI 1.23–5.23) and to be multiparous (aOR=3.57, 95% CI 1.62–7.89). Maternal anaemia (aOR=13.5, 95% CI 3.17–57.6) and immunosuppression (aOR=15.0, 95% CI 1.93–116.9) were the two most important factors driving the association with medical comorbidities.

**Conclusions:** There must be continued vigilance of the risks and consequences of infection in pregnant women with medical comorbidities. Improved adherence to international consensus guidelines on sepsis, alongside prompt recognition and rapid treatment with antibiotics, may reduce the burden from sepsis-related maternal deaths in the UK.

P0088

**COMMUNITY PERCEPTIONS OF PRE-ECLAMPSIA AND ECLAMPSIA IN RURAL PAKISTAN**

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**Objectives:** This study aimed to explore community perceptions, and traditional management practices for pre-eclampsia and eclampsia in rural Pakistan.

**Method:** A qualitative study was conducted in Mattiari and Hyderabad Districts of Sindh Province, Pakistan from February to July 2012. Twenty-six focus group discussions were conducted, with women of reproductive age and female decision-makers (N=173) and with male decision-makers (N=65). Focus groups were chosen because perceptions of disease and traditional practices were assumed to be intertwined with cultural beliefs and values. The data were transcribed verbatim in Sindhi and Urdu, then analyzed for emerging themes and sub-themes using NVivo 10.

**Results:** Hypertension in pregnancy was mainly recognized as severe headache by communities in rural Pakistan, and no names in the native languages were used to describe either this or the seizures of eclampsia. Most participants were aware that women can develop hypertension in pregnancy; however, the progression to seizures was poorly understood. It was widely believed that stress caused hypertension in pregnancy and that it could result in death. Very few believed hypertension-related complications could occur after birth. Seizures during pregnancy were thought to be caused by weakness, anaemia, and stress. Self-medication for the pre-eclampsia-related symptom, headache was common.

**Conclusions:** Community-based participatory health education strategies are recommended to dispel myths and misperceptions regarding pre-eclampsia and eclampsia. These educational initiatives should include information on the presentation, progression, and treatment of the conditions.

P0089

**POTENTIAL FOR TASK-SHIFTING TO LADY HEALTH WORKERS FOR IDENTIFICATION AND EMERGENCY MANAGEMENT OF PRE-ECLAMPSIA AND ECLAMPSIA AT COMMUNITY LEVEL IN PAKISTAN**

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**Objectives:** Annually around 40 million mothers give birth at home without a skilled provider. Most of the maternal, perinatal and neonatal mortalities occur at the community level due to a lack of quality care. This study aimed to explore the feasibility for task-shifting to Lady Health Workers for community level management of pre-eclampsia and eclampsia in Pakistan.

**Method:** A qualitative exploratory study was undertaken February-July 2012 in two districts, Hyderabad and Matiari, in the southern Province of Sindh, Pakistan. Altogether thirty-three focus group discussions were conducted, seven with Lady Health Workers, ten with Lady Health Supervisors, nine with women medical officers and seven with traditional birth attendants. The data were audio-recorded, then transcribed verbatim in Sindhi for thematic analysis using NVivo 10. The Lady Health Worker curriculum and training materials were also reviewed and a self-administered questionnaire was completed by 457 Lady Health Workers for further information regarding their obstetric skills and training.
**Results:** Findings suggested that Lady Health Workers were responsible for registering pregnant women and conducting episodic home visits; however, they did not carry blood pressure devices or antihypertensive agents. In cases of suspected or confirmed hypertension they referred to the nearest public facility. Ninety-four percent of Lady Health Workers reported that families accept their health advice or referrals. Around 44% of the Lady Health Workers mentioned receiving training to identify pregnancy complications while 56% mentioned receiving training to refer or manage pregnancy complication. These findings suggest a need for periodic training regarding patient triage and the management of pre-eclampsia and eclampsia.

**Conclusions:** There is potential for task-shifting to Lady Health Workers for the identification and management of pre-eclampsia in Pakistan; however, the implementation needs to be combined with appropriate training, equipment availability and supervision.

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**P0090 TREATMENT CHALLENGES FOR OBSTETRICIANS IN RURAL KARNATAKA, INDIA – A QUALITATIVE STUDY**

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**Objectives:** To identify challenges faced by obstetricians while providing care in Karnata State, India.

**Method:** This qualitative study was conducted in Belgaum and Bagalkot Districts of Karnataka State, India in 2012–2013. Data were collected by interview with obstetricians (N=6) from private, district and tertiary teaching facilities. A semi-structured interview guide was used, to allow the participants to express their views in-depth. All interviews were conducted in English. The interviewer collected field notes and audio recordings; audio was reviewed and transcribed verbatim with the incorporation of field notes. Interview data were analysed using NVivo10. Member checks with interview facilitators could do so within 30 minutes of decision.

**Results:** Obstetricians discussed the challenges faced in providing care in rural Karnataka, the most common challenge was the poor health status of women upon arrival to facility. Poor health status at arrival was thought to be due to delays in accessing care; which were reportedly associated with poor availability of 24-hour transport, significant distance to facility, low health-related knowledge, irregular antenatal care attendance, and poverty. Obstetricians were further challenged by unavailability of necessary materials in facility. Some obstetricians expressed a lack of adequate training and experience to safely and confidently manage pregnancy complications, particularly at district level facilities in rural communities.

**Conclusions:** Obstetricians continue to encounter pervasive challenges in providing high-quality care to women in pregnancy, labour and postpartum. These challenges include delayed arrival to facility, unavailability of materials, and insufficient training. To improve maternal outcomes in rural Karnataka efforts must be made to encourage women to access services in a timely manner, to ensure access to materials for comprehensive emergency obstetric care in all hospitals, and to provide additional targeted trainings for high-risk complications.

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**P0091 FACILITY PREPAREDNESS FOR ROUTINE AND EMERGENCY OBSTETRIC AND NEWBORN CARE IN NORTHERN KARNATAKA, INDIA**

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**Objectives:** This study aimed to assess the resources and services available for obstetric and newborn care at facilities in northern Karnataka. Furthermore, the study examined facility management of obstetric emergencies.

**Method:** This study was conducted in Belgaum and Bagalkot Districts of northern Karnataka, India in 2012–2013. Staff of six primary health centres (3 in each district) were asked to identify the facilities at which pregnant women in their community regularly accessed obstetric care. A total of 88 facilities were identified. The health care providers at these facilities were then interviewed to gauge the available resources and services. For the purpose of this study, only facilities higher than primary health centres offering inpatient care were considered. Eleven of these facilities were thus excluded. Data from remaining 77 were analysed.

**Results:** Most facilities assessed were private hospitals (n=56), and the remainder were public (n=21). Thirty-three facilities had adult intensive care units and 48 had neonatal intensive care units. All 77 provided emergency maternal care whereas only 47 provided emergency neonatal care. The availability of specialists was assessed; obstetricians, paediatricians, radiologists and anaesthesiologists; only 19 facilities had all four. Basic laboratory services were available in all facilities and 51 had capacity for haematologic, renal and hepatic parameters. Blood transfusions were available in 67 facilities. Sixty-nine facilities could perform caesarean sections; however, only 29 could do so within 30 minutes of decision.

**Conclusions:** This study highlights the vast differences in obstetric services provided by the facilities in northern Karnataka. Although the majority of facilities provided reasonably comprehensive obstetric services, many were lacking in the availability of newborn care. Basic investigations were available in all facilities; however, in order to manage complicated cases, a more elaborate setup is needed.

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**P0092 ADVANCE DISTRIBUTION OF MISOPROSTOL FOR PREVENTION OF POSTPARTUM HEMORRHAGE (PPH) AT HOME BIRTHS IN TWO DISTRICTS OF LIBERIA**


**Objectives:** To test the feasibility, acceptability, and effectiveness of postpartum hemorrhage prevention program to increase uterotonic coverage for home and facility births in two districts of Liberia.

**Method:** Eight facilities were strengthened to provide PPH prevention with oxytocin, PPH management and advance distribution of misoprostol during antenatal care (ANC). Trained traditional mid-
wives (TTMs) as volunteer community health workers (CHWs) provided education to pregnant women, and district reproductive health supervisors (DRHSs) distributed misoprostol during home visits. Data were collected through facility and DRHS registers. Postpartum interviews were conducted with a sample of 550 women who received advance distribution of misoprostol on place of delivery, knowledge, misoprostol use, and satisfaction.

Results: There were 1826 estimated deliveries during the seven-month implementation period. A total of 980 women (53.7%) were enrolled and provided misoprostol, primarily through ANC (78.2%). Uterotonic coverage rate of all deliveries was 53.5%, based on 97.7% oxytocin use at recorded facility vaginal births and 24.9% misoprostol use at home births. Among 550 women interviewed postpartum, 87.7% of those who received misoprostol and had a home birth took the drug. Sixty-three percent (63.0%) took it at the correct time, and 54.0% experienced at least one minor side effect. No serious adverse events reported among enrolled women.

Conclusions: The program was moderately effective at achieving high uterotonic coverage of all births. Coverage of home births was low despite the use of two channels of advance distribution of misoprostol. Although ANC reached a greater proportion of women in late pregnancy than home visits, 46.3% of expected deliveries did not receive education or advance distribution of misoprostol. A revised community-based strategy is needed to increase advance distribution rates and misoprostol coverage rates for home births. Misoprostol for PPH prevention appears acceptable to women in Liberia. Correct timing of misoprostol self-administration needs improved emphasis during counseling and education.

P0093 CHANGING TRENDS IN USING FAMILY PLANNING METHODS IN BAUCHI STATE, NIGERIA
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Objectives: Though, knowledge of family planning (FP) is widespread in Nigeria, only 15% of currently married women use a FP method with 10% using a modern method and unmet need of 16%. Injectable remain the most popular contraceptive method, used by 3% of currently married women (NDHS 2013). Household Survey using LQAS conducted in Bauchi in April 2014 found 7.2% of women use FP method with only 4.7% using modern contraception and 1.2% using injectables, and unmet need of 34.7%. The objective of this study is to assess any change of trends in use of FP methods in Bauchi state, Nigeria.

Method: Prospective cohort study design through SBM-R approach institutionalized in secondary health facilities of Bauchi state. Baseline and three follow-up assessments to assess compliance with FP standards were conducted between 2010 and 2013. Interventions that included facility improvement, capacity building, and provision of equipment and job aids were implemented to address gaps identified during the assessments.

Results: Baseline assessment conducted in 2010 showed performance scores of 12% for family planning (FP) service, 8% for health facility management (HFM), 27% for drug supply management (DSM), 9% for infection prevention (IP), and 6% for behavior change communication (BCC). Overall, the quality of services in 2013 has improved significantly with compliance with the set performance standards reaching an average of 88% in FP, 78% in HFM, 73% in DSM, 75% in BCC and 82% in IP respectively.

Conclusions: Use of SBM-R approach has led to significant improvements in compliance with set performance standards, resulting in improvement of quality of FP services. Further collaboration with government and agencies will be needed to scale the use of SBM-R to primary health facilities to improve quality of FP services.

P0094 IMPROVING THE QUALITY OF FAMILY PLANNING SERVICES IN BAUCHI STATE, NIGERIA
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Objectives: Bauchi State has maternal and child health outcomes that are among the least favorable in Nigeria. Use of modern contraception is as low as 4.7% with unmet need of 34.7% (LQAS April 2014). Health care services lack coordinated quality assurance systems. Innovative approaches to improve quality of family planning services are needed to increase access and utilization. The aim of this study is to assess whether use of Standard Based Management and Recognition (SBM-R) approach can improve compliance with set performance standards for the provision of family planning services in secondary health facilities of Bauchi state, Nigeria.

Method: Prospective cohort study design through SBM-R approach institutionalized in secondary health facilities of Bauchi state. Base-line and three follow-up assessments to assess compliance with FP standards were conducted between 2010 and 2013. Interventions that included facility improvement, capacity building, and provision of equipment and job aids were implemented to address gaps identified during the assessments.

Results: Baseline assessment conducted in 2010 showed performance scores of 12% for family planning (FP) service, 8% for health facility management (HFM), 27% for drug supply management (DSM), 9% for infection prevention (IP), and 6% for behavior change communication (BCC). Overall, the quality of services in 2013 has improved significantly with compliance with the set performance standards reaching an average of 88% in FP, 78% in HFM, 73% in DSM, 75% in BCC and 82% in IP respectively.

Conclusions: Use of SBM-R approach has led to significant improvements in compliance with set performance standards, resulting in improvement of quality of FP services. Further collaboration with government and agencies will be needed to scale the use of SBM-R to primary health facilities to improve quality of FP services.

P0095 ESTABLISHING EMERGENCY OBSTETRIC AND NEWBORN CARE CONTINUOUS MEDICAL EDUCATION PROGRAMMES IN COMPREHENSIVE EMOC HOSPITALS IN ABUJA NIGERIA
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Objectives: Following successful implementation of competency based Emergency Obstetric and Newborn Care (EmONC) training in Comprehensive EmONC hospitals from 2011–2014, under the “Making it Happen” programme, skills training rooms were established in 8 of 12 CEmONC hospitals in Abuja Nigeria to ensure that knowledge and skills are sustained.

Continuous medical education (CME) coordinators were trained and supported to conduct regular EmONC training sessions for health care providers (HCP). The frequency, content and participant satisfaction with CME sessions were monitored, lessons learnt in setting up skills training rooms and experience of the CME coordinators in organizing CME sessions were explored and documented.

Method: CME sessions were organized in the skills rooms each month for 10–15 skilled health workers per hospital. Topics from the EmONC training package were taught using short lectures, simulations, hands-on training workshops and videos. Each participant provided feedback through self-administered forms at the end of each CME session. CME activities in each hospital were monitored for 1 year. At the end of the follow-up period in-depth interviews and key in-
formant interviews (KII) were conducted with the Hospital Management Board (HMB) staff, CME coordinators and Medical Directors of the CEmONC facilities to explore their experience of the programme.

**Results:** 498 HCPs participated in 31 CME sessions. The most frequently skills taught were breech vaginal delivery, shoulder dystocia, twin delivery and cord prolapse. 110 (22%) completed feedback forms and found the sessions very useful (mean rating 4.6/5, SD 0.6). Participants associated the sessions with improved confidence in managing obstetric emergencies. Nine KI interviewed reported that participants acquired practical hands-on experience which contributed to improved confidence and responsiveness to obstetric emergencies. Heavy workload and frequent staff redeployment were common barrier to full participation. They recommended that allocation of CME points and refreshments will facilitate regular participation at CME sessions.

**Conclusions:** Functional EmONC skills rooms were successfully set-up in 8 CEmONC facilities in Abuja Nigeria. Health care providers found CME sessions very useful in improving and retaining skills. The skills rooms/CME sessions were highly appreciated by all stakeholders (hospital/labour ward managers and senior clinicians). Committed CME coordinators can sustain these with support from the HMB. Skills rooms can be used to update skills of newly deployed labour ward staff, thereby minimizing the impact of frequent staff transfer on the quality of EmONC provided. Hospital based mandatory EmONC CME sessions linked with CME points can potentially improve confidence and practice.

**P0096**

**KNOWLEDGE OF FAMILY PLANNING METHODS AND CURRENT USE AMONG WOMEN AND MEN IN BAUCHI STATE, NIGERIA**

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**Objectives:** The use of family planning (FP) is recognised as one of the strategies of reducing maternal mortality. Bauchi State has one of the highest maternal mortality ratios in Nigeria with a Total Fertility Rate of 8 and an unmet need for FP of 16%. The aim of this study is to determine association between knowledge of family planning methods and current use among women and men in Bauchi state, Nigeria.

**Method:** A community based cross-sectional study was conducted in April 2014 on a randomly selected sample of 380 women of reproductive age (15–49 years old) with a child 0–59 months old and 380 men aged 15–59 years old with a child 0–59 months old using Lot Quality Assurance Sampling (LQAS) technique in Bauchi State. Multistage sampling technique was employed to select the study participants. A pre-tested structured questionnaire was used to collect quantitative data. The statistical component was carried out using SPSS 17.0 statistical software.

**Results:** Overall, 87% (male 89%, female 84%) knew about the possible occurrence of complications. Respondents mentioned at least two danger signs during pregnancy in 63% of cases; during labor and delivery in 61%; and during postpartum in 47% respectively. The signs commonly reported were vaginal bleeding after delivery (56%), prolonged labor (43%). In total, 66% of respondents mentioned at least two newborn danger signs. Fever (54%) and difficulty or inability to suck (48%) were the most commonly mentioned signs. Male respondents were more likely to mention a health facility where to seek obstetric care than women (99% vs. 77%, p < 0.0001).

**Conclusions:** Knowledge about danger signs of pregnancy, delivery and postpartum is relatively low among women and men in Bauchi state. Male respondents were found to be more knowledgeable when compared with female respondents. Thus, provision of information, education and communication targeting women, men, family and the general community on danger signs of pregnancy and childbirth and associated factors is recommended.

**P0097**

**KNOWLEDGE ABOUT PREGNANCY, DELIVERY AND POSTPARTUM DANGER SIGNS AMONG WOMEN AND MEN IN BAUCHI STATE, NIGERIA**

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**Objectives:** In Nigeria, maternal mortality still pose substantial burden and progress towards the fifth Millennium Development Goal (MDG) remains slow. Raising awareness of women and men about danger signs of pregnancy and childbirth is a strategy aimed at enhancing utilization of skilled care and first essential step in accepting appropriate and timely referral to obstetric care. However, in Bauchi state, Nigeria little is known about the knowledge level of women and men about obstetric danger signs. The objective of this study was to assess knowledge of pregnancy, delivery and postpartum danger signs among women and men in Bauchi state, Nigeria.

**Method:** A Community based cross-sectional study was conducted in April 2014 on a randomly selected sample of 380 women of reproductive age (15–49 years old) with a child 0–59 months old and 380 men aged 15–59 years old with a child 0–59 months old using Lot Quality Assurance Sampling (LQAS) technique in Bauchi State. Multistage sampling technique was employed to select the study participants. A pre-tested structured questionnaire was used to collect quantitative data. The statistical component was carried out using SPSS 17.0 statistical software.

**Results:** Overall, 87% (male 89%, female 84%) knew about the possible occurrence of complications. Respondents mentioned at least two danger signs during pregnancy in 63% of cases; during labor and delivery in 61%; and during postpartum in 47% respectively. The signs commonly reported were vaginal bleeding after delivery (56%), prolonged labor (43%). In total, 66% of respondents mentioned at least two newborn danger signs. Fever (54%) and difficulty or inability to suck (48%) were the most commonly mentioned signs. Male respondents were more likely to mention a health facility where to seek obstetric care than women (99% vs. 77%, p < 0.0001).

**Conclusions:** Knowledge about danger signs of pregnancy, delivery and postpartum is relatively low among women and men in Bauchi state. Male respondents were found to be more knowledgeable when compared with female respondents. Thus, provision of information, education and communication targeting women, men, family and the general community on danger signs of pregnancy and childbirth and associated factors is recommended.

**P0098**

**ENQUIRY INTO THE SOCIO-CULTURAL BARRIERS ASSOCIATED WITH MATERNAL AND PERINATAL MORTALITY AND MORBIDITY FROM RUPTURED UTERUS IN ABAKALIKI NIGERIA**

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**Objectives:** To determine the incidence, morbidity and mortality, and the socio-cultural factors associated with rupture of the pregnant uterus.

**Method:** A 5 year retrospective review of cases of ruptured uterus and an enquiry into the socio-cultural factors. Data were collated and analyzed with Epi-info statistical software. P-value < 0.05 at 95% Confidence Interval (CI) was taken to be statistically significant.

**Results:** The incidence of uterine rupture was 1 in 83 deliveries. Occurrence was commonest among uneducated (78; 67.2%), unbooked women (110; 94.8%) that were para 2–4 (84; 72%). Major causes were prolonged obstructed labour (104; 89.7%) and injudicious use of oxy-
The maternal and perinatal case fatality was 18.1% and 96.6% respectively. Complications were mainly related to hemorrhage (116; 100%) and sepsis. Lack of a birth plan (97; 79.3%), unskilled birth attendant (110; 94.8%), delay in decision making (54; 46.6%) and transportation (114; 98.3%) were the main socio-cultural factors identified. Logistic regression showed significant association between ruptured uterus and socio-demographic characteristics.

Conclusions: Women and newborn babies in low income settings still face real threats of complications and deaths from ruptured uterus owing to preventable socio-cultural barriers of assessing specialized obstetric care during pregnancy and childbirth.

**PO099 RELEVANCE OF A STAGED INTRODUCTION OF NON PNEUMATIC ANTI-SHOCK GARMENT IN A DISTRICT HEALTH SYSTEM. EARLY LESSONS FROM SELECTED CASE STUDIES IN RURAL TANZANIA**

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Objectives: The Non-pneumatic Anti-Shock Garment (NASG) is an emerging technological device that can be used as a first aid tool for shock related to obstetric haemorrhages. NASG stabilizes the woman to survive transport to a facility where she can receive proper emergency treatment. This implementation research study aims to provide learning on how to introduce, implement and operationalize the use of NASG in rural Tanzania.

Method: Eight districts, already receiving maternal, newborn and child health (MNCH) interventions through Ifakara Health Institute’s EMPOWER maternal health project, were selected to also receive NASGs. 288 health facilities were involved of which 6 were district level referral hospitals, 12 were health centres, which provide comprehensive emergency obstetric care (CEmOC), and 270 dispensaries. A staged approach was used by first introducing NASGs only to district hospitals and CEmOC health centres for the first 3 months of programme before introducing NASGs to all facilities. All MNCH health providers were trained on the use of NASG (application, safety, removal, cleaning and folding).

Results: In the first three months, 24 women received the NASG. 20 women survived haemorrhage shock and 4 deaths were recorded. Analysis of the 4 deaths revealed no association with NASG application, but rather system-related factors and delays in applying NASG. Workplace relationships and trust were noted to cause delays in NASG application to patients. These findings were used to correct the situation and prepare the system to be ready for a massive implementation of NASG.

Conclusions: A staged introduction of NASG is important to provide contextual information to enhance implementing a new technology into a health system and to accelerate system responsiveness to implementation challenges when taking the innovation to scale in a district health system.

**PO100 THE TRANSPORT AND COMMUNICATION PUZZLE IN MANAGING OBSTETRIC COMPLICATIONS IN RURAL SETTINGS: THE CASE OF EIGHT RURAL DISTRICTS IN TANZANIA**

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Objectives: Obstetric emergencies are often unpredictable events during pregnancy and birth. Health facilities need to be well equipped with skilled health personnel, equipment and infrastructure to support obstetric emergency management. We conducted a study to determine availability of transport for emergency referral and mobile phone communication to support referrals and assist mid-level providers to seek clinical support from specialized health personnel during obstetric emergencies.

Method: A transport and communication assessment tool was developed and data collected from 269 health facilities from 8 rural districts in Tanzania. Information gathered included availability of different types of transport for emergency obstetric referrals, cost of transport, availability of phone communication, cost of phone communication, bearer of transport and communication cost and readiness of the referral system to manage obstetric emergencies.

Results: 84% of the study facilities are located in areas with mobile phone signal from at least one of the mobile phone service providers. About 94% of health facilities had at least one functioning phone, either mobile or landline. Of these phones, 75% were owned by health providers, and 75% of all phones have the talk time charged to the health providers themselves; while 21% were recharged by other non-government organizations. Only 6% of all health facilities had access to vehicles designated as ambulance. 4% and 5% of referral transport services relied on the use of normal motorcycles and bicycles respectively.

Conclusions: Despite efforts of government and health sector partners in Tanzania to improve quality of maternal and newborn care, management of obstetric emergencies continues to be hampered by a lack of transport and communication for obstetric referrals. As a result, preventable maternal deaths due to obstetric complications will continue to disproportionally contribute to overall maternal death in the country.

**PO101 DEMAND SIDE VERSUS SUPPLY SIDE INTERVENTIONS FOR IMPROVING MATERNAL HEALTH IN NORTHERN MOZAMBIQUE**

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Objectives: Maternal mortality ratios in Mozambique are high and stagnated at 405 deaths per 100 000 live births over two consecutive demographic health surveys (2003 and 2011). National Institutional Birth Rates (IBRs) and hence skilled birth attendance during labour are also low at 54.3%, in rural provinces reaching 35.3%. The need for successful maternal health interventions is clear.

The study objectives were: 1. To improve maternal health parameters through targeted MNH interventions in the study districts. 2. To compare outcomes of predominantly demand side interventions in one district with predominantly supply side interventions in a second district.

Method: A prospective cohort observational study design was conducted. Two rural districts with a combined population of 350738 and similar baseline MNH parameters were selected (Ancuabe and Chiure). The demand side intervention consisted of giving a baby package to every woman who had an institutional birth in the district. The supply side intervention consisted of the provision of a local district CEmONC centre providing quality services. The study ran from 2011 to 2014. Baseline data was collected using the NHS database system at the start and then yearly. Main outcomes were: IBRs, met need for EmOC and population based CS rates.

Results: There was a statistically significant increase in IBRs in both districts (>100% Ancuabe and 85% Chiure) although the increase in the district with the demand side intervention was greater and more sudden. Met need for EmOC improved in both districts though more so in the supply side district (25% vs 46% increase). Population based CS rates increased in both districts but in the district with the demand side intervention the increase stagnated at 1.68% after the first year whilst in the supply side intervention district a continual rise was evident to a record high of 2.77%.
Conclusions: In the demand side intervention (baby package) district the rapid increase in IBRs was accompanied by improvements in health outcomes implying that health services rose to the challenge, but these plateaued and the question of sustainability once the incentive is removed remains. In the supply side intervention (CE-MONC) district, increases in IBRs imply that when services improved more women used the HC for birth. Greater improvements in MNH outcomes and more sustainable capital investments favour the supply side intervention. Nevertheless, high initial costs may make this strategy prohibitively expensive for many developing countries.

P0102
FACTORS INFLUENCING FACILITY-BASED DELIVERY IN RURAL HAITI
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Objectives: Haiti has the poorest women’s health indicators in the western hemisphere, with a maternal mortality ratio of 380 per 100,000 live births according to WHO in 2013. A key strategy used to improve maternal health outcomes worldwide is to increase facility-based delivery. Yet despite the identification of this effective strategy, Haitian women continue to deliver at home, with facility-based delivery occurring in only 37% of births. Interventions often fail to adequately address the complex factors influencing location of delivery. We performed this study to understand factors influencing decision-making in location of delivery for Haitian women.

Method: Women in a health facility waiting area in Lascahobas, Haiti were randomly selected to participate. They were individually interviewed using a mixed-method semi-structured interview tool regarding pregnancy and delivery decision-making and experiences. Interviews were audiorecorded, transcribed, translated, and analyzed using Epi Info 7 and NVivo 10.1.

Results: Of eighty women interviewed, 57% of deliveries were facility-based. Limited education and insufficient income for medical care correlated with higher risk of home delivery (RR 1.53 and 1.60). Logistical barriers to institutional delivery included cost, transportation, and time. Other considerations included lack of doctors and supplies and disrespectful care. The greatest motivator for institutional delivery was complication risk. Health professionals were highly influential in delivery location decision-making, 86% desired facility-based delivery next pregnancy, and 75% who delivered at home thought it was a poor decision. Women recommended incentives, community education, adequate staffing, and respectful care as strategies for facility-based delivery.

Conclusions: Barriers to facility-based delivery in Haiti are multi-layered, including economic and infrastructural limitations, cultural and societal factors. Despite these, women express a widely shared desire to deliver in the safe environment of a health facility, suggesting that Haiti is in transition from traditional to modern birthing practices. There is a need for nuanced, targeted programming addressing tangible and intangible contributors in order to influence women’s delivery location in Haiti.

P0103
ADVANCE DISTRIBUTION OF MISOPROSTOL FOR THE PREVENTION OF POSTPARTUM HEMORRHAGE IN SOUTH SUDAN
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Objectives: To determine if high uterotonic coverage can be achieved in South Sudan through a facility- and community-focused postpartum hemorrhage (PPH) prevention program.

Method: The program was implemented from October 2012 to March 2013. At health facilities, active management of the third stage of labor (AMTLS) was emphasized. During prenatal care and home visits, misoprostol was distributed to pregnant women at approximately 32 weeks of pregnancy for the prevention of PPH at home births. Data on uterotonic coverage and other program outcomes were collected through facility registers, home visits, and postpartum interviews.

Results: In total, 533 home births and 394 facility-based births were reported. Misoprostol was distributed in advance in 787 (84.9%) pregnant women, of whom 652 (82.8%) received the drug during home visits. Among the women who delivered at home, 527 (98.9%) reported taking misoprostol. A uterotonic for PPH prevention was provided at 342 (86.8%) facility-based deliveries. Total uterotonic coverage was 93.7%. No adverse events were reported.

Conclusions: It is feasible to achieve high coverage of uterotonic use in a low-resource and postconflict setting with few skilled birth attendants through a combination of advance misoprostol distribution and AMTSL at facilities. Advance distribution through home visits was key to achieving high coverage of misoprostol use.

P0104
EVALUATION OF THE EFFECTS OF STANDARDS-BASED MANAGEMENT AND RECOGNITION (SBM-R) INTERVENTION ON THE QUALITY OF MATERNAL AND NEWBORN HEALTH CARE SERVICES IN ETHIOPIA
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Objectives: The aim of the study was to evaluate the effects of the SBM-R intervention on the quality and utilization of MNH services, including the provision of respectful maternity care, in health facilities in Ethiopia.

Method: The evaluation employed a post-only, quasi-experimental study design, intervention and comparison groups of health facilities, and used mixed (both qualitative and quantitative) methods. The study included 16 health centers and six hospitals for intervention and comparison with one two one ratio. Intervention and comparison sites are located in the same regions. A total of 241 Ante-natal care, 238 labor and delivery, 228 post natal provider client interactions equally distributed between intervention and comparison sites were observed.

Results: Skill in providing ANC, labor and postnatal care showed providers in the intervention sites demonstrated a higher performance in provision of ante-natal care compared to comparison sites as evidenced by conducting screening tests properly (93% vs. 67%), counseling on birth preparedness (58% vs. 46%), provision of preventative treatment (60% vs. 46%), care during labour (82% vs. 69%), and infection of prevention practices (92% vs. 89%). Appropriate utilization of partograph showed a smaller difference (78% vs. 73%). Providers
also performed significantly higher in 2 out of 3 routine post-partum care standards. In terms of facility readiness the SBM-R interventions sites fared better overall.

**Conclusions:** The evaluation showed providers in SBM-R implementing facilities demonstrated superior skills compared to those providers working in non-SBM-R implementing facilities. SBM-R supports and or complements government initiatives and other QI approaches. Majority of managers and supervisors mentioned SBMR can be scaled up with minimal or no support however they also pointed out that staff commitment, clear roles and responsibilities are crucial for a successful scale-up.

**P0105**

COMMUNITY-BASED DISTRIBUTION OF MISOPROSTOL FOR PREVENTION OF PPH AND EFFORTS TO SCALE UP IN BANGLADESH

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**Objectives:** (1) To access the effectiveness of using Government and NGO field workers at the community level in distribution misoprostol tablet. (2) Ensuring their appropriate use of misoprostol tablet by immediate postpartum women.

**Method:** Eight sub districts (Upazila) of Tangail district were selected for the distribution of misoprostol tablets. The project interventions included the following: orientation of the district- and upazila-level managers and facility-based service providers; training of the field workers and their supervisors; identification and registration of pregnant women at or after 32 weeks education of pregnant women, family members of the pregnant women, and community members; distribution of misoprostol tablets to the pregnant women; monitoring and supervision of the field workers; and follow-up by the field workers with clients who had received misoprostol tablets.

**Results:** Analysis of the project reports revealed that distribution of tablets across intervention areas throughout the project period was satisfactory. Among the 12,961 out of 19,497 registered pregnant women who received misoprostol tablets by June 2009, 11,764 women had given birth, and the remaining 1,197 pregnant women had not yet done so. Findings showed that 92% (9,228 out of 10,040) of pregnant women who received misoprostol tablets and had a home birth used the misoprostol tablets after delivery of the baby to prevent post delivery bleeding. The study found excellent compliance regarding use of the three tablets at the same time.

**Conclusions:**

- Most of the field workers and supervisors interviewed indicated that the nearby referral hospitals are ready (i.e., have trained providers, equipment, and supplies) to provide referral services in case any complications from misoprostol use arise.
- The misoprostol program should be continued and expanded to other parts of the country, to help achieve Millennium Development Goal (MDG) No. 5.
- The training curriculum, leaflet, stickers, and “insert” for the misoprostol tablets need to be reviewed, modified, and updated to address audience concerns.

**P0106**

CHAMAS FOR CHANGE: HOW A COMMUNITY-BASED MODEL OF PEER SUPPORT CAN IMPROVE MATERNAL AND INFANT OUTCOMES IN RURAL KENYA

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**Objectives:** Worldwide, women and children in poor and rural communities carry the challenges of pregnancy and infancy without supportive relationships in the home or community. Faced with the multiple stresses of violence, poverty, discrimination and rural isolation, it is no surprise that women struggle in the care of themselves and their children. To address this, the Academic Model Providing Access to Healthcare (AMPATH), with the Government of Kenya, launched Chama cha MamaToto, a community-based model of health education and microfinance that groups women together at the start of pregnancy to improve decision-making and behavior change. These groups are facilitated by CHWs.

**Method:** To evaluate the effect, acceptability, and sustainability of chamas, we compared data from a prospective cohort of women in chamas with a group of matched control women who did not belong to a chama matched for age, parity, and location of prenatal care. This prospective cohort study was carried out among women attending chamas from October 2012–October 2013.

**Results:** We analysed data for 211 chama women and 115 controls. Compared to controls, chama women were 73% more likely to attend 4 recommended prenatal visits (64% vs 37%, p < 0.001), 67% more likely to give birth in facility (84% vs 50%, p < 0.001), 75% more likely to breastfeed exclusively to 6 months (82% vs 47%, p < 0.001), and twice as likely to receive the recommended homevisit from a CHW < 48hrs of birth (76% vs 38%, p < 0.001). A trend towards fewer maternal deaths (1.0% vs 1.7%, p=0.542) and fewer stillborn or newborn deaths (2.4% vs 5.2%, p=0.083) among women attending chamas was noted.

**Conclusions:** Within its first year of operation, this community-based model of care in pregnancy has provided women with the peer-support necessary to increase their uptake of health services for themselves and their children. We have shown an increase in their attendance of 4 prenatal visits, facility delivery and exclusive breastfeeding. Women attending these groups led by CHWs are also more likely to receive a homevisit within 48 hours of birth. A trend towards few stillborn, newborn and maternal deaths was noted.

**P0107**

INTENTIONAL SEARCH FOR MATERNAL DEATHS IN MEXICO: SOCIO-DEMOGRAPHIC DISPARITIES BETWEEN INDIRECT AND DIRECT OBSTETRIC DEATHS

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**Objectives:** The purpose of this study is to describe the reclassification of maternal deaths using this approach, with particular attention to indirect obstetric deaths and socio-economic disparities as age, education level, and poverty at the municipality level.

**Method:** We used BIRMM data from 2006–2013. Investigators identified and reviewed supporting clinical and/or administrative documentation for all deaths in women of reproductive age whose deaths were coded to a subset of 46 codes suspected of “hiding” maternal deaths, as well as all deaths coded to the maternal chapter of the ICD-10. Deaths were reclassified as appropriate between four broad groups: direct, indirect, non-maternal, and late maternal (43–365 days). We also included data on poverty at the municipality level and the number of live births each year and used descriptive statistics to compare proportions, means and ratios.

**Results:** 9,043 suspected maternal deaths were subjected to the review process over the period 2006–2010, and 1,214 (13.4%) were reclassified. There was a 29.1% (from 7,003 to 9,043) increase in the number of live births each year and used descriptive statistics to compare proportions, means and ratios.
number of all maternal deaths identified. Over time, direct deaths are declining, but indirect are not. Direct deaths are concentrated in the women who live in the poorest municipalities. As compared to those dying of direct causes, women dying of indirect causes have fewer pregnancies (2.4 vs. 3.0), are slightly younger (24.7 vs. 28.7), are better educated, and are more likely to live in richer municipalities.

**Conclusions:** The BIRM approach can make correcting maternal death statistics more feasible in settings with limited resources. In Mexico, direct maternal deaths are declining, but remained concentrated among the poorest women. The health system needs to continue to respond to direct causes of maternal death. The growing importance of indirect maternal death is a new challenge and requires rethinking the health system response to maternal mortality and attention to the growing burden of chronic disease in women of reproductive age. In addition, preventive action, especially high-quality family planning, prenatal, and post-obstetric care, are urgently needed.

**P0108 SMALL BEGINNINGS, FIRM STRIDES: MATERNAL MORTALITY REVIEWS IN UGANDA**

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**Objectives:** In Uganda Maternal Death Reviews (MDR) are a cornerstone for quality improvement strategies in at health facilities. The Uganda Ministry of Health recommends all facilities providing comprehensive emergency obstetric services to conduct MDR and submit these completed forms to the national maternal and perinatal death review committee which would review and develop national recommendation or policy guidelines for action to improve care. The facility committees are expected to use the reports for improving maternity care at the local level. We assessed the uptake and adoption of MDR processes and reporting in Uganda hospitals from July 2013 to June 2014.

**Method:** All maternal death data are reported from three sources submitted to the Ministry of Health. These were Maternal death reviews forms, weekly death notification and Health Management Information System (HMIS) monthly reports. Reporting rates were estimated from the monthly HMIS records. The MDR form was entered on the National District Health Information system (DHIS2 platform) and analyzed using Stata to establish the common causes of death and factors associated with maternal death. We qualitatively assessed the appropriateness and feasibility of recommendations made by the health facility teams.

**Results:** Weekly reporting platform reported 468 “suspected maternal deaths”, up from 273 in 2013. Of 1072 maternal deaths reported in HMIS, 345 MDR forms were analysed by the MDR committee. Hemorrhage (41%), sepsis (12%), hypertensive disease (12%) infections unrelated to pregnancy (12%) and abortion (10%) were the major causes of death. Most mothers (48%) were under 25 years of age and Cesarean section births were high (32%). Five health system factors ranked higher than personal factors as contributory factors to maternal death. While most recommendations were non-specific and not action-oriented, they focused on health facility improvements and health worker skills improvement.

**Conclusions:** Maternal death reviews are steadily being conducted and reported to the National MPDR committee. Hospital committees recognized that identifying the health system factors is a positive step toward formulating a local response. There is need to improve on the development of actionable recommendations and completion of the whole MDR cycle.

**P0109 HEALTH PROVIDER EXPERIENCES WITH IMPROVISING CONDOM-CATHETER UTERINE BALLOON TAMPOONADE FOR THE MANAGEMENT OF UNCONTROLLED POSTPARTUM HEMORRHAGE**

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**Objectives:** Data from our multi-country trial, Every Second Matters for Mothers and Babies-Uterine Balloon Tamponade (ESM-UBT), demonstrated that 98% of woman with uncontrolled postpartum hemorrhage (PPH) survived their hemorrhage if they delivered in a facility with pre-packaged condom UBTs, checklists and UBT trained providers (e.g., “on-line” with ESM-UBT). However, woman with uncontrolled PPH that underwent placement of an improvised condom UBT at a facility not on-line with ESM-UBT had a 6-fold higher likelihood of dying than if delivering at an on-line facility. We sought to understand provider experiences with improvising a condom UBT in facilities not on-line with ESM-UBT.

**Method:** Interviews of providers who improvised condom UBTs for placement in women with uncontrolled PPH were conducted during November and December, 2014. Further interviews will be conducted in May and June, 2015. Interview transcripts were analyzed using standard qualitative methods (NVivo10 QSR International).

**Results:** 18 interviews, regarding 18 improvised UBT placements at facilities not on-line with ESM-UBT included 14 midwives, three doctors and one clinical officer. Six providers had learned about UBT through word of mouth and 12 described various amounts of prior UBT training. Nine of the 18 (50%) women with uncontrolled PPH were confused or unconscious at the time of UBT placement. Providers reported varying degrees of PPH facility readiness and described up to 20 minutes of delay caused by gathering materials to emergently assemble a condom UBT. Multiple additional challenges were described. Three of the 18 women died from their PPH.

**Conclusions:** Providers were able to use locally available materials to assemble condom-catheter uterine balloons in order to manage women with uncontrolled PPH, however delays in assembly at the time of critical need were common. Women with uncontrolled PPH may fare better at facilities that have undergone PPH and UBT training, and are equipped with checklists and pre-packaged UBT kits.

**P0110 INSIGHTS INTO MATERNAL MORTALITY IN GEORGIA**

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**Objectives:** Accurate information on the levels and causes of reproductive age mortality is required to improve maternal health, meet the targets set forth by the Millennium Development Goal 5 and ensure that its reduction remains a public health priority. The aim of the study was to study incidence, classification and quality of care of maternal deaths and determine the accuracy of reported maternal deaths for 2012 in Georgia.

**Method:** A reproductive-age mortality survey (RAMOS) was conducted to identify deaths of women aged 15–49 years from Georgia, in 2012. Sources included all available data from registers, death certificates, and medical records. Verbal autopsies were carried out to ascertain maternal deaths. Maternal deaths identified through the review were compared with the officially reported maternal deaths for the same period.

**Results:** A total of 23 (2.6%) maternal deaths were identified out of 881 female deaths of reproductive age. Fourteen of these were re-
ported by the official statistics giving an underreporting rate 39% due to deaths misclassification. The 23 cases consisted of 18 (78.2%) direct and 5 (21.7%) indirect maternal deaths. The most frequent causes of direct deaths were obstetric hemorrhage (25%) and puerperal sepsis (25%). Underreporting among late maternal deaths was high. Failures to recognize the severity of the problem at the community level, substandard management with lack of risk-appropriate obstetric care were identified as contributing factors to these maternal deaths.

Conclusions: The RAMOS provides solid epidemiological data on major causes of mortality of women of reproductive age. The present study showed that the number of maternal deaths in the civil registries is lower that found using multiple data sources. Evaluation of the quality of maternal mortality data in civil registries is of national importance to capture a full picture of the maternal mortality and improve public health decision-making. More can be done to improve the system of care for high-risk women at facility and population levels.

P0111 IDENTIFICATION AND OPPORTUNE TREATMENT OF THE SEPSIS IN PREGNANCY: SO EASY, BUT SO DIFFICULT

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Objectives: To identify the contributing factors and describe the characteristics of pregnant women who died for sepsis in Antioquia, Colombia in the period 2004–2012.

Method: Retrospective descriptive study, there were analyzed all cases of maternal death from sepsis in the department of Antioquia, Colombia, in the period from 2004 to 2012. Both cases of obstetric and non-obstetric sepsis were analyzed by a committee of gynecologists who have ten years of experience in the analysis of maternal deaths. The judgments regarding clinical care were based on the “Surviving Sepsis campaign” recommendations and other guidelines to treat sepsis in pregnancy. The evaluated critical interventions focused on early diagnosis, appropriate antibiotic treatment, management of septic shock and timely entry to the intensive care unit.

Results: 54 cases were included in the study; 43 women died from sepsis of non-obstetric origin and 11 as the result of pregnancy or postpartum infections. Pneumonia was the leading cause of death. In 100% of cases patient care was not timely. In 61% there was delay to transfer to a higher level of care. The most frequent errors were delay in time to make the correct diagnosis, initiate antibiotic therapy and initiate the management of septic shock.

Early termination of pregnancy as resuscitation strategy was delayed in 54% of patients in whom it was considered to be pertinent.

Conclusions:

• Nonadherence to guidelines management is a recognized problem in sepsis care in Antioquia and worldwide.
• The physiological changes of pregnancy induce alterations in clinical parameters, very close to the “normal” cutoff, probably contribute to the failure to recognize sepsis timely.
• The tools that will be designed for the management of sepsis in pregnancy should always include: elements for early recognition, early initiation of antibiotics, taking tests, clinical monitoring, and multidisciplinary teamwork.
• The gynecologists should lead the care for pregnant with sepsis and must have the knowledge and skills to do so. Always think in sepsis.
guarantees patients adequate monitoring and/or timely administration of immunization, medication, and hospitalization.

**P0114**

**ASSESSMENT OF KNOWLEDGE AND SKILLS OF SKILLED BIRTH ATTENDANTS IN HAITI**

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**Objectives:** To evaluate a cohort of graduates from a skilled birth attendant (SBA) training program in Haiti in order to make recommendations for improved training and clinical performance.

**Method:** We used a testing instrument that includes a 50-question, multiple-choice knowledge test and two emergency skills tests (postpartum hemorrhage and neonatal resuscitation) adopted from the United States Agency for International Development (USAID) Quality Assurance Project (Mutungi et al., 2008). We surveyed the local health facility and completed a 90-item checklist of the predominant working environment. A convenience sample of 30 nurse SBAs completed the knowledge test and, of this cohort, a random sample of 18 completed the skills test. Data collection took place in Hinche, Haiti in July, 2013.

**Results:** On average, participants displayed competencies in alignment with standards for (professional, qualified, registered) midwives for 59% of the knowledge questions, as 34% of the management skills for postpartum hemorrhage, and 39% of the skills required for neonatal resuscitation. The working environment was assessed to be severely impoverished.

**Conclusions:** The competency of a cohort of SBAs in Haiti was comparable to cohorts of maternal care providers assessed in other low resource countries. In the absence of sufficient numbers of professional, registered midwives, we recommend ongoing and expanded training of SBAs that includes skill enhancement utilizing simulation training and opportunities to refresh emergency skills annually. This research must be considered in the context of the Haitian health care system that is fraught with extreme poverty, lack of basic infrastructure, and a critical shortage of healthcare workers.

**P0115**

**MATERNAL MORTALITY RATIO 2003–2012**

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**Objectives:** The objective of this work is to verify the Maternal Mortality Ratio in the period of 2003 to 2012 in the following regions: the North, the Northeast, the Midwest, the Southeast and the South of Brazil, as well as check the main causes of maternal death according to the International Statistical Classification of Diseases and Related Health Problems – ICD of reported deaths.

**Method:** The work is a transversal retrospective study of consultations of data from the Informatics Department of the Brazilian Health System (DATASUS) from the Brazilian Ministry of Health. The Maternal Mortality Ratio (MMR) was analyzed for the North, the Northeast, the Midwest, the Southeast and the South regions of Brazil as well as the main causes of maternal death according to the ICD of reported deaths in the period of 2003 to 2012, that is, in a period of ten years.

**Results:** In North there was increase MMR that went from 57.17 in 2003 to 62.58 in 2012, in Northeast, MMR in 2003 was 63 and also had increase, moving to 65.57 in 2012. In Southeast, MMR in 2003 was 42.16 and rose to 45.88 in 2012, while in Midwest MMR was 53.54 in 2003 and moved to 57.32 in 2012. Eclampsia was main cause of deaths in these ten years in North and Northeast. In all regions in 2012, eclampsia was main cause of maternal death in Brazil. In whole of Brazil, MMR was 52.19 in 2003 and went up to 54.47 in 2012.

**Conclusions:** Eclampsia continues to be the principal cause of maternal death in Brazil, demonstrating, perhaps, prenatal care of inadequate quality. The fact that reports of maternal deaths are being better analyzed may be the cause of the rise in the MMR.

**P0116**

**CRITICAL HELP EARLY FOR WOMEN IN AFRICA – THE CHEWA SYSTEM. THE NEED FOR CRITICAL CARE IN AFRICA**


**Objectives:** To demonstrate why there is a need for critical care (CCU) in Women’s Health in Africa to tackle maternal mortality. And how the CheWA training system achieved this within 4 days within a central hospital in Africa. The CheWA system including documentation charts will be presented.

**Method:** The CheWA system was introduced within 4 days in November 2013 in a central Malawian Hospital. 19 midwives and clinical officers were trained in the system and learnt bedside to define critical care within their context and manage key conditions with the ethos of prevention, assessment, recognition – and crucially making decisions. This was layered with advanced training in pathophysiology and design of their own guidelines and documentation including a take on the early warning score called ChEWA.

**Conclusions:** There is a need for critical care facilities and training in central units across Africa to help mothers pushed to the brink of their physiology in 3 major conditions – sepsis, haemorrhage and pre-/eclampsia. And this can be achieved easily with little resources. Challenges will be staffing and the political will in-house.

**P0117**

**BIOETHICS OF A MORBID AND ADVANCED AGE MOTHERHOOD – HEALTHCARE GONE TOO FAR?**

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**Objectives:** Although modern medicine has brought solutions to many complex clinical problems, technological advances have allowed people to accept some high-risk health behaviours. Women with life-threatening medical conditions and advancing age now choose to become pregnant, leaving them at a substantial risk of dying as a direct consequence or an accentuation of their condition. Babies, as a result of these pregnancies, are not only at high health risk, often due to prematurity, but are also likely to be brought up without biological mothers. We present 3 cases from our maternity services to highlight morbid and advanced maternal age motherhood.

**Method:** Case One – Fredreich’s Ataxia. A 26-year old with Fredreich’s ataxia, wheelchair-bound, on parental nutrition with complete dystrophy of all four limbs.

Case two – Cystic Fibrosis. A 36 year old with end stage cyctic fibrosis, Post-caesarean section developed worsening shortness of breath, severe left ventricular hypertrophy and commenced on non-invasive ventilation.

Case three – Advanced maternal age. A 58 year old, background of egg donor IVF pregnancy in Europe, had a previous history of myocardial infarction, hypertension, diabetes. She presented at 27 weeks with preterm rupture of membranes, developed sub-clinical chorioamnionitis and had a caesarean section.

**Results:** Case one. Due to dystrophy of all four limbs, her husband and carer were responsible for looking after all the baby’s needs. Case two. Her prognosis was poor and would require a heart and lung transplant to improve. Since delivery she did not spend any time with the baby and had to be transferred to a specialist centre. Case three. Post-operatively she developed uncontrolled hypertension and was commenced on triple anti-hypertensive regime. Due to her age and co-morbidities she was not very mobile, requiring an extended care package to look after her baby at home.
Conclusions: Decisions about women with high-risk co-morbidities conceiving are driven by the concept of “Informed Choices”, originating from principles of autonomy. A debate must open on withholding treatment to morbid and older mothers, when questions of who raises the children rises. When a fetus has a congenital abnormality, mothers get a choice of termination—but who chooses for them if the mother cannot fulfill her duties due to her co-morbidities?

The bioethics of morbid/older motherhood need to be explored at length and medical ethicists must debate this ethical dilemma, keeping in view sociological and moral impacts on families and the society.

P0118 IMPACT OF COMPREHENSIVE EMERGENCY OBSTETRIC CARE (CEMOC) AVAILABILITY ON INSTITUTIONAL DELIVERY IN RURAL NEPAL

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Objectives: For this prospective quasi-experimental study on the impact of comprehensive emergency obstetric care (cEmOC) expansion in rural Nepal, we employed a pre/post-expansion survey with a convenience sample of postpartum women in the hospital’s catchment area. Our specific aims:

1. Assess the impact of cEmOC implementation on institutional delivery rate through quantitative analysis of delivery locations.
2. Assess the impact of cEmOC implementation on drivers of institutional delivery through quantitative analysis of decisional factors, costs, knowledge of services, and perceived safety and quality of facility-based care.
3. Understand social and contextual factors affecting institutional delivery through qualitative analysis of birth stories.

Method: A convenience sample of women who gave birth in the prior 6 weeks in the catchment area of a hospital in rural Nepal were surveyed before and after expansion to cEmOC. Quantitative results were analyzed using bivariate analysis to identify factors that changed across periods as well as those associated with institutional delivery in both years. We then used backward selection into a group based on her expected date of delivery, and provided monthly appointment dates until her infant’s fourth month of life. Family support, transport and gendered responsibilities remained important in both periods.

Conclusions: Institutional delivery rates vastly improved after cEmOC implementation. Perceptions of hospital safety and prioritization of safety increased after cEmOC expansion. Coupled with increased income, these attitudinal changes helped more women achieve institutional delivery through increased birth planning and awareness of higher-level services, suggesting that demand is sensitive to service availability. Changes in perceived importance of institutional delivery also may have increased family support, which qualitatively contributed to institutional delivery in both time periods. Expanding obstetric services may thus increase demand for institutional birth by changing perceptions and in turn influencing behaviors at individual and societal levels.

P0119 ASSESSMENT OF QUALITY OF OBSTETRIC CARE IN PATIENTS WITH SEVERE MATERNAL MORBIDITY, UNIVERSITY REGIONAL HOSPITAL, TRUJILLO, PERU

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Objectives: To assess quality of obstetric care in patients with severe maternal morbidity.

Method: This is a descriptive, retrospective, and cross-sectional study. From 16,448 deliveries, there were 487 cases of severe maternal morbidity, with a prevalence of 2.96% and a ratio of 29/1000 nv. A sample of 183 cases were used for quality assessment by reviewing clinical records and audits of patients, included maternal deaths, attended at University Regional Hospital-Trujillo, Peru, from 2010 to 2014. Quality of obstetric care were assessed by using three methods: the four-delay approach, audits and managerial approach. The last one included three indicators: attitude, aptitude and available resources.

Results: Delay in receiving timely and proper management was found in 43% of medical records. The first and second delay accounted for 29% of patients, and the third delay for 28%, respectively. Suboptimal care was identified in 41% of medical records. But, in the managerial approach, we found 38% cases related to attitude deficiencies, 33% due to inadequate health staff skills, and 28% in relationship with availability of resources.

Conclusions: Quality of obstetric care is suboptimal in a high proportion of cases of severe maternal morbidity. The human factor seems to be the most important for this situation.

P0120 AFYA JAMII: INTRODUCING A GROUP PRENATAL AND POSTNATAL CARE MODEL IN KENYA

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Objectives: Focused Antenatal Care (ANC) is a pillar of Safe Motherhood strategies worldwide. Endorsed by the WHO in 2002, its focus on 4 ANC visits was introduced in Kenya as a strategy to improve the uptake and quality of health services. Although 92% of women report receiving skilled ANC in their pregnancy, fewer than half attend the 4 visits (47%). The very focussed way in which focused ANC is delivered, without attention to the challenges faced by health centers, became the focus for change in 2013. We designed and implemented a Group Prenatal and Postnatal Care Model called AfyaJamii-Community Health.

Method: Each woman attending her first ANC appointment is registered into a group based on her expected date of delivery, and provided monthly appointment dates until her infant’s fourth month of life. To provide care jointly to 15–20 women, health providers part-
ner with local CHWs to ensure that women and infants receive comprehensive antenatal, postnatal, well-childcare during their 2-hour appointments.

To evaluate the impact, acceptability and sustainability of AfyaJamii, we used a mixed-methods evaluation strategy comparing data from 5 intervention sites and 10 control sites in Busia county pre/post implementation of this program, in addition to interviews with providers and clients.

Results: Between January 2013–2014, 1000 mother-child pairs participated in this new model of care. Preliminary pre and post-intervention data show a 28% increase in monthly facility deliveries at the 3 centers providing maternity care: 27% increase at Kocholya District Hospital (92 vs 117, p=0.004); 42% increase at Angurai Health Centre (19 vs 27, p=0.38); 17% Moding Health Centre (18 vs 21, p=0.20). Furthermore, providers and CHWs have expressed greater job satisfaction, as they report less congestion in the antenatal clinic the rest of the week (full analysis to be presented).

Conclusions: We have shown that group antenatal and postnatal care is possible within a low resource setting where maternal mortality is high. We have demonstrated an increase in facility deliveries within the first year. Harmonizing the postnatal visit schedule with immunization schedule has been the source of poor attendance postnatally. As a result, we have restructured the visits to 3 prenatal visits and 1 postnatal visit. This is the first published report of group care within African setting.

P0121
FROM STOP-GAP TO MAINSTREAM: INTEGRATING ASSOCIATE CLINICIANS INTO THE HEALTH SYSTEM

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Objectives: Many countries struggling with human resource shortages adopted “stop-gap” solutions that continued for decades. Often these “solutions” involved ramping up in-service training programs for existing clinical providers to take on more complex clinical tasks such as surgeries. Because these solutions were perceived as temporary, countries failed to fully integrate these “non-physician” associate clinician cadres into the existing health system with often negative impacts on the cadres. This research sought to answer “what are the components and implementation processes core to integrating a new cadre into an existing health system?”, through case studies in Zambia and Kenya.

Method: A mixed methods approach was employed. In Kenya and Zambia Key Informant Interviews (KIs) were conducted with a diverse set of informants identified using snowball sampling to understand implementation of the programs over time. In Zambia 61 KIs were conducted in 3 provinces and in Kenya 37 KIs were conducted in 3 regions. Both data sets were analyzed by the researchers in country and Columbia University staff using NVivo 10.

Self-administered surveys were sent to all practicing MLs to measure levels of burnout, job satisfaction, and motivation and assess the clinical work actually being conducted (76.4% response rate). SPSS was used for analysis.

Results: The roles of both MLs and CORHs compared to other health professionals in their respective health systems remain undefined, incomplete policies prevent full practice for both cadres, limited career progression opportunities existed and inadequate or inequitable incentive options are available.

However, the provider survey data showed that in Zambia despite these challenges, flexibility at district levels addressed multiple challenges, based on the perceived value of the ML cadre. Data showed improved efficiencies as MLs reduced referral rates, had low attrition rates, were fairly evenly distributed throughout the rural areas, and reported high motivation levels.

Conclusions: Both ML and CORH cadres faced similar challenges to countries in the region. However, in Zambia several components of integration worked to create a highly motivated, locally valued and understood cadre. The mechanisms driving these positive outcomes were a strong training institution, diverse set of “champions”, an ML association, and a regional network. In Kenya, CORHs seemed to struggle to perform c-sections in hospitals as they lacked legal protections and understanding of their new skill set by fellow clinicians. However, their other newly acquired RH skills were highly appreciated and utilized. Lessons from the research should be shared with countries looking to implement a new cadre.

Antenatal and Postnatal Care

P0122
MATERNAL RHD ALLOIMMUNIZATION: A NEW ANTENAL ANTI-D PROPHYLAXIS

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Objectives: This work provides the prevalence of maternal alloimmunization and the knowledge, attitude and practice with health professionals who assist RhD negative pregnant women during pregnancy and childbirth. We propose routine antenatal anti-D prophylaxis for countries in development at least for the clinical situations where is found high amounts of cell-free fetal DNA to reduce the chance for alloimmunization during pregnancy.

Method: We performed a cross-sectional retrospective study to determine the prevalence of maternal alloimmunization and a subsequent inquiry about knowledge, attitude and practice with professionals in the outpatient pregnancy center of the Instituto de Medicina Integral Professor Fernando Figueira (IMIP), Brazil. The knowledge was considered according the score in three categories: >80% adequate knowledge; 60–79%, inadequate knowledge and <60% poor knowledge. The statistical analysis was performed via Epi-Info 3.5.3 for Windows 7. Data are presented as mean ± standard deviation if normally distributed or median (range) as appropriate.

Results: A total of 38052 women were assisted in four years and 3652 (9.6%) were blood type RhD negative. The prevalence of alloimmunization was 2% in 2007 and 5.5% in 2010. Most professionals 89.47% recognized the indirect antiglobulin test as the best test to identify alloimmunization during pregnancy and postpartum. The score of knowledge in the practice of health professionals, about childbirth care of a pregnant woman at risk of RhD alloimmunization where less than 80% (inadequate knowledge).

Conclusions: Is important to develop a national clinical guideline based in best practices to improve patient care. This could increase the obstetricians knowledge on RhD prophylaxis and help to recognize risk factors in the medical and obstetric history and properly analyze and request additional tests. A better understanding and education for RhD pregnant women during antenatal care, enhancing the adherence to prophylaxis. We propose RAADP at least for the clinical situations where is found high amounts of Cff-DNA so, more chance for antenatal alloimmunization like multiple pregnancies, cromossomopaties, hypertensive syndromes, molar pregnancy, placenta acrera and others.

P0123
EVALUATION OF IMMUNOLOGICAL PARAMETERS IN BRAZILIAN PREGNANT WOMEN: LOW LEVELS OF B AND NK CELLS

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Objectives: To determine the hematological count and a im-
munophenotyping of TCD3-, TCD4-, TCD8-, B cells and NK cells of the peripheral blood of low risk pregnant women.

Method: We performed a translational study at outpatient pregnancy clinic (OPC) and the Translational Research Laboratory of the Instituto de Medicina Integral Professor Fernando Figueira (IMIP). Maternal blood was collected for the automated blood count. Four-color flow cytometric immunophenotyping of peripheral blood was performed on a FACSVERSE®. The following monoclonal antibodies were used: anti-CD3, anti-CD4, anti-CD8, anti-CD16, anti-CD56, anti-CD19 and anti-CD20 (BD Biosciences, CA, USA).

Results: We evaluated 80 low risk single pregnant women at the antenatal care in the 2nd and 3rd trimester. High median values of red cell count, hematocrit and hemoglobin in the last trimester. The 10th and 90th percentiles of the absolute values of neutrophils, lymphocytes and platelets were found lower in 3rd trimester. Decrease absolute values of TCD4+, TCD3+ and TCD8+ was found in both groups. All mothers had very low levels of NK and B cells in peripheral blood when compared to reference parameters of healthy Brazilian adults.

Conclusions: It is suggested that decreased peripheral B and NK cells could be associated the migration of these cells to human decidua during normal pregnancy and represent normal values for the mother, and should not be confused with some pathologies of the immune system, such as immunodeficiencies. Reference values of hematological parameters and cellular components of the immune system are important to differentiate between healthy and sick people and to compare with worldwide results. This work also improves adequate antenatal attention and translational researches.

P0124
TWIN PREGNANCIES: NICE OR OTHERWISE? AN AUDIT OF TWIN PREGNANCIES IN A SMALL DISTRICT HOSPITAL AGAINST THE NICE GUIDELINES 2012–2014

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Objectives: To assess how well the management of multiple pregnancy in the University Hospital of Hartlepool observed the new guidelines.

Method: Retrospective study of electronic records and hospital notes of all multiple pregnancies (n=60) booked at Hartlepool who delivered between 11/06/2012 and 31/05/2014. Some women delivered elsewhere/miscarried and so some data was not available; however where data was available for these patients it was included. Adequate data was not available for some parts of the guideline and so only at- tended 28 week clinic visit to Base Hospital, Galgamuwa, Sri Lanka.

Results: Of the 60 cases, there were 44 DC/DA, 12 MC/DA and 3 triplets. 1 was transferred before chorionicity was established. Of the scans (given within the recommended timeframe):

- Dating scan: 83% (equal between DC/DA and MC/DA)
- Nuchal scan: 15.2%
- 20 week scan: 100% (DC/DA) 81% (MC/DA)
- Follow-up scans: 94% (DC/DA) 63% (MC/DA).

Of the deliveries:

- DC/DA twins: 38% delivered between 37 and 38 weeks
- MC/DA twins: 8% delivered between 36 and 38 weeks
- Method: 58% born by C-section, 25% normal vaginal delivery.

Conclusions:

- MC/DA scan attendance is not as high as DC/DA
- Many mothers do not receive nuchal screening since it is not offered locally
- There are many more C-section deliveries than vaginal births
- Some pregnancies have been allowed to proceed past 38 weeks, increasing risk to mother and child.
P0127
EXPANDING THE USE OF MANUAL VACUUM ASPIRATION FOR INCOMPLETE ABORTION IN SELECTED HEALTH INSTITUTIONS IN YAOUNDE, CAMEROON
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Method: Both a retrospective and prospective study. Five tertiary hospitals were selected and the use of manual vacuum aspiration was evaluated to fine out which professional were using this method compared to other method, current, misuse, misoprostol, in the management of incomplete abortion. Manual vacuum aspirators were then given to each of this centres and a six months after, a survey was carried out to fine out the preference of this method compared to others in the management of incomplete abortion.

Results: Dramatic increase of the use of manual vacuum aspiration.

Conclusions: This dramatic increase of the use of manual vacuum aspiration further strengthens its expansion for the management of incomplete abortion.

P0128
STUDY OF RISK FACTORS AND MATERNAL AND FETAL OUTCOME IN PATIENTS WITH ABRUPTIO PLACENTAE
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Objectives: Abruptio placentae is a major cause of maternal morbidity and perinatal mortality globally though of most serious concern in the developing world. We hypothesized that in our scenario the rate of abruption is still quite high and also to observe the fetal and maternal outcomes of abruptio placentae. The data generated will help to improve maternal and fetal morbidity and mortality by planning prompt management of future cases of placental abruption.

Method: The present study was undertaken at a tertiary care centre with an attached medical college, from Sept 2008 to August 2012. Patients of abruption placentae were selected from all cases of 28 weeks or greater gestation, presenting with ante partum hemorrhage during the study period. Patients underwent a complete obstetrical clinical history and examination and relevant investigations were performed. Patients were managed according to maternal and fetal condition. Any maternal and/or fetal complications were noted and recorded.

Results: We had 318 cases of abruption placentae during the study period and incidence being 4.4%. Most of cases were unbooked. Average age was 34.5 years and nearly two third of our patients came from lower socio economic class. Anemia was seen in 96% of patients. There was a 3.5% incidence of maternal deaths and fetal mortality was high at 68%.

Conclusions: A higher than expected frequency of abruptio placentae exists in our setting and the consequences of abruptio placentae for neonatal mortality outcome are alarmingly high. Mass information regarding the importance of antenatal care of pregnant women in a nearby health.

P0129
VITAMIN D DEFICIENCY IN PREGNANCY AND PREGNANCY OUTCOME
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Objectives: The aim of this study is to determine the vitamin D status in pregnancy and to evaluate the effects of daily vitamin D supplementation.

Method: A prospective randomized study at Royal Care International Hospital from 2012 to 2014.

Results: A total of 88 women were recruited at different gestational age, the incidence of vitamin D deficiency about 66%. A single daily dose ranging from 1000IU to 2000IU according to the level of deficiency were given to the patient for six weeks. In our study 34.1% of women had a level below 10 ng/ml.

Conclusions: The maternal vitamin D were significantly higher in the supplemented group. However, even with supplementation, only a small percentage of women and babies were vitamin D sufficient. Further research is required to determine the optimal time and dosing of vitamin D in pregnancy.

P0130
WOMEN’S KNOWLEDGE AND ATTITUDE TOWARDS PREGNANCY IN A HIGH-INCOME DEVELOPING COUNTRY
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Objectives: To determine the knowledge and attitudes among women in a high income developing country regarding pregnancy and antenatal care.

Method: Women who participated in the study were asked to complete a questionnaire. The questionnaire enquired about age, level of education, internet use, marital status, and employment. It also included questions regarding their knowledge of ultrasound, the effects of sexual activity and other exercise during pregnancy, breast feeding and premature delivery. The collected data was subjected to statistical analysis using SPSS.

Results: The total number of women included in this study was 205. 115 (56.1%) women thought that the most important benefit of ultrasound was to discover child abnormalities. Only 75 (36.6%) women thought that regular exercise was not harmful during pregnancy. Of the total respondents 116/205 (56.6%) women thought that sex during pregnancy was harmful to the fetus or did not know. Age (p=0.001), marital status (p=0.001) and working status (p=0.005) were found to significantly affect their knowledge.

Conclusions: The presence of free easy accessible antenatal care facilities does not seem to ensure adequate knowledge about pregnancy among pregnant women. There is need for effective prenatal classes that focus on educating women about issues related to pregnancy and antenatal care.

P0131
PATTERN OF WEIGHT GAIN IN PREGNANCY AS SEEN IN URBAN POPULATION OF A DEVELOPING COUNTRY
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Objectives: To determine the pattern of weight gain in pregnancy as seen in an urban population of pregnant women in Nigeria and assess its impact on neonatal birth weight.

Method: This was a longitudinal study of pregnant women attending antenatal care in Enugu, Nigeria.
The initial weight measurement and body mass index (BMI) was at gestational age of <14 weeks, and this was assumed to be equivalent to the pre-pregnancy weight and BMI. Thereafter, measurements were taken at each visit until 37–38 weeks gestation. The outcome measures were maternal weight gain and infants' birth weight.

**Results:** Primigravidae gained more weight in pregnancy than multiparous women (11.4±3.2kg vs. 10.2±3.5kg, p=0.02). The overall maternal mean weight gain was 10.7±3.4kg and the mean birth weight of the infants was 3.3±0.6kg. Weight gain in pregnancy decreased as BMI increased. There is a positive correlation between the weight gain in second trimester and neonatal birth weight (r=0.164, p=0.02).

**Conclusions:** The pattern of weight gain as seen in urban population of pregnant women in Enugu Nigeria is varied. Gestational weight gain especially in the second trimester in addition to the maternal age and number of antenatal visits has positive correlation with the birth weight of infants.

**P0132**

**SEROLOGICAL SURVEY OF SYPHILIS IN AN AFRICAN OBSTETRIC POPULATION: IS IT TIME FOR REAPPRAISAL OF UNIVERSAL ANTE NATAL SCREENING FOR SYPHILIS?**

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**Objectives:** To determine the seroprevalence of syphilis in pregnancy in an African obstetrics population.

**Method:** A cross-sectional survey of 1030 consecutive and consenting antenatal clinic attendees at Aba, Southeastern Nigeria, was carried out over the period 5 June–5 September, 2013. A structured pretested questionnaire was used to collect and record data of the socio-demographic characteristics of the subjects. Blood samples were collected from the subjects and tested for syphilis using Reactive Rapid Plasma Reagin (RPR) test (Teco Diagnostics, USA) and confirmed with a modified Treponema Pallidum Haemaggulitation test (TPHA) (Acon Laboratories, USA).

**Results:** Of the 1030 women tested for syphilis, 15 were RPR reactive and 12 (1.2%) confirmed by TPHA test. Maternal age, parity, educational level attained, marital status and Human Immunodeficiency Virus seropositivity did not show any association with syphilis seropositivity.

**Conclusions:** Our findings confirm reports that suggest a reduction in the prevalence of syphilis but not its complete elimination in our obstetric population. All our pregnant women should continue to be screened and treated for syphilis despite calls for a reappraisal of the practice of universal antenatal screening for syphilis by some researchers.

**P0133**

**FACTORS ASSOCIATED WITH ANTE NAL DEPRESSION IN PREGNANT KOREAN FEMALES: THE EFFECT OF BIPOLARITY ON DEPRESSIVE SYMPTOMS**

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**Objectives:** This cross-sectional study sought to identify factors associated with antenatal depression in pregnant Korean females, including sociodemographic parameters, social support, social conflict, and bipolarity.

**Method:** Eighty-four pregnant women were recruited to complete questionnaires on sociodemographic factors, obstetric history, depressive symptoms, and bipolarity. Depressive symptoms were assessed using the Korean version of the Edinburgh Postnatal Depression Scale. Bipolarity was assessed using the Korean version of the Mood Disorder Questionnaire.

**Results:** Nineteen participants (22.6%) had positive Mood Disorder Questionnaire scores, suggesting the presence of bipolarity, and were significantly more likely to score high on the Edinburgh Postnatal Depression Scale. Antenatal depression was associated with bad marital communication and marital dissatisfaction.

**Conclusions:** These results suggest that spousal interactions play a significant role in antenatal depression, and pregnant women with bipolarity may be more depressed than those without bipolarity.

**P0134**

**PREGNANCY OUTCOMES IN NURSES AND NURSING ASSISTANTS**

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**Objectives:** To assess whether work as nurses and nursing assistants during pregnancy increases the risk of adverse pregnancy outcomes.

**Method:** This study was prospectively carried out between June 2013 and August 2014. All nurses and nursing assistants who worked at Srinagarind Hospital during the study time frame were approached for recruitment. Data were collected by a self-administered questionnaire. Detailed information elicited from participants included baseline characteristics and underlying disease, occupational characteristics during pregnancy, and pregnancy outcomes. Logistic regression was used as a multivariate analysis to estimate an adjusted odds ratio (OR) and 95% confidence interval (CI) of factors associated with preterm delivery.

**Results:** This study included 572 pregnancies occurring in 361 participants. Mean age at pregnancy was 29.1 years. Approximately 19.0% of pregnancies had underlying disease. Cesarean section rate was 29.3%. Preterm delivery was reported in 121 pregnancies, accounting for the rate of 21.1%. Pregnancies those complicated with underlying diseases and had rotating shift work carried a higher rate of preterm delivery (30.6% and 22.7%, respectively).

**Conclusions:** The rate of self-reported preterm delivery among nurses and nursing assistants in this was approximately 20%. Preterm delivery trended to be more common among pregnancies those complicated by underlying diseases and had rotating shift work.

**P0135**

**PREDICTORS AND OUTCOMES OF LOW BIRTHWEIGHT INFANTS IN LUSAKA, ZAMBIA**

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**Objectives:** Low birthweight infants (<2,500g) are at increased risk of severe morbidity and early mortality. Data on maternal and obstetric risk factors associated with low birthweight and outcomes for these infants in sub-Saharan African settings are limited. We sought to determine predictors of low birthweight in an urban African cohort and to quantify the degree to which low birthweight infants are at increased risk of adverse outcomes, including stillbirth, Apgar score <7, admission to the neonatal intensive care unit (NICU), very early neonatal death (NND), and perinatal HIV transmission.

**Method:** Our retrospective cohort included singleton and twin pregnancies delivered in Lusaka’s public health system between February 2006 and December 2012. The primary outcome was low birthweight (<2,500g). We investigated the association between low birthweight and maternal age, obstetric history, medical history, components of routine antenatal care, multiplicity, and gestational age at delivery using generalized estimating equations (GEE). We also investigated the risk of stillbirth, Apgar score <7, NICU admission, very early neonatal death, and perinatal HIV transmission in low birthweight...
infants compared with infants weighing 2.500g or more. Once again GEE modeling was used to account for clustering.

**Results:** Between February 2006 and December 2012, 200,557 eligible infants were included in our cohort. 21,125 infants <2,500g. Characteristics associated with low birthweight included twin pregnancy (AOR 34.4, 95% CI 28.9–41.0), placental abruption (AOR 5.2, 95% CI: 2.8–9.4), early preterm birth (AOR 6.3, 95% CI: 4.3–9.4), and late preterm birth (AOR 2.2, 95% CI: 1.8–2.7). Low birthweight infants had higher odds of stillbirth (AOR 8.6, 95% CI: 6.5–11.5), low Apgar scores (AOR 5.7, 95% CI: 4.6–7.2), NICU admission (AOR 7.30, 95% CI: 5.11–10.44), and very early NND (AOR 6.2, 95% CI: 3.7–10.3).

**Conclusions:** Approximately 1 in 10 pregnancies in our setting resulted in a low birthweight infant, many of whom are born preterm. These infants are at substantial risk of adverse perinatal outcomes, such as stillbirth, NICU admission, and very early neonatal death. Our results suggest an urgent need for early, comprehensive, and high quality antenatal care, including growth monitoring. Improved perinatal management addressing the complications of preterm birth may also improve outcomes for low birthweight infants in setting such as Zambia.

**P0136**

**TRAJECTORIES OF DEPRESSIVE AND ANXIETY SYMPTOMS IN PERINATAL POPULATION**

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**Objectives:** Literature supports the heterogeneity of depressive symptoms across the perinatal period. However evidence is mostly based on studies composed of women at high risk for experiencing poor mental health. Research on trajectories of maternal anxiety is scarce. The aim of this study is to examine trajectories of depressive and anxiety symptoms in a large community sample of women and to compare demographic, psychosocial, and obstetric characteristics of women across trajectory groups.

**Method:** This is a secondary analysis of the All Our Babies cohort, a longitudinal pregnancy cohort in Alberta, Canada. Participants completed questionnaires from 2nd trimester of pregnancy through to 12 months postpartum were selected (N=1445). Anxiety and depressive symptoms were measured at 4 time points using the Spielberger State Trait Anxiety Inventory and the Edinburgh Postnatal Depression Scale, respectively. Semiparametric group-based mixed modeling was performed to identify the optimal shape of the trajectory, group numbers and the proportion of each group. Models fit were evaluated using the Bayesian Information Criterion. Multinomial logistic regression analysis was conducted to compare characteristics across groups.

**Results:** Five distinct trajectory groups were identified for both depressive and anxiety symptoms including Minimal (consistently low levels of symptoms), Mild (consistently mild levels of symptoms), Antepartum (symptomatic only in antepartum), Postpartum (symptomatic only in postpartum), and Chronic groups (consistently high levels of symptoms). Overlaps between anxiety and depressive symptoms varied from 45% to 67% (p<0.001). Numerous psychosocial and demographic characteristics differed among trajectories of depressive and anxiety symptoms including maternal age, marital status, income, being a recent immigrant, unplanned pregnancy, and a history of infertility.

**Conclusions:** In our community sample, fewer women reported experiencing chronic depression in the perinatal period and patterns and intensity of postpartum depression were different than those seen in high risk populations. This is the first study examining trajectories of anxiety in a large cohort of perinatal population. Future research is needed to confirm the trajectories of anxiety as well as the characteristics of women associated with each trajectory. This information can assist with identification of women who may benefit from more vigilant assessment or early intervention to address and ameliorate mental health symptoms for the benefit of mothers and children.

**P0137**

**RELIABILITY AND VALIDITY OF THREE SHORTENED VERSIONS OF THE STATE ANXIETY INVENTORY SCALE DURING THE PERINATAL PERIOD**

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**Objectives:** The screening for anxiety in obstetric settings has been challenging due to time and knowledge constraints. Brief, valid, and reliable instruments can provide health care professionals with a quick and easy method to assess anxiety. Three six-item forms of the State Anxiety Inventory scale have been constructed. The purpose of this study was to evaluate and compare the psychometric properties of these short versions in the perinatal period.

**Method:** Data were drawn from a longitudinal pregnancy cohort in Alberta, Canada. Internal consistency of the shortened versions was assessed. Confirmatory factor analysis was conducted to estimate and compare indicators of fit during pregnancy and at 4 and 12 months postpartum.

**Results:** All shortened scales demonstrated high internal consistency and reliability, with alphas ranging from 0.81 to 0.85. All fit indices were greater than 0.93, implying a good fit between each model and our data. In the model comparisons, the Marteau and Bekker scale provided a more robust fit to data obtained during pregnancy and the early postpartum period. At 12 months postpartum, the Chian et al. form demonstrated the best fit of the three versions.

**Conclusions:** The shortened scales appear to have acceptable psychometric properties. Brief scales have the potential to provide an economical means of assessing perinatal anxiety and can be considered as equivalent alternatives to the full-scale version.

**P0138**

**ON THE TRAIL OF MISOPROSTOL IN THE COMMUNITY: A SECONDARY ANALYSIS OF SELF-ADMINISTERED MISOPROSTOL FOR THE PREVENTION OF POSTPARTUM HEMORRHAGE IN UGANDA**

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**Objectives:** Advance misoprostol provision to pregnant women for self-administration has been identified as a promising approach to reduce postpartum hemorrhage (PPH), particularly in home births without skilled birth assistance. This descriptive analysis provides a snapshot of the results when pills are provided for unsupervised self-administration in the community.

**Method:** Using data from a randomized controlled trial of self-administered misoprostol to prevent PPH in Mbale, Uganda, we conducted an analysis of the frequency, location, and timing of study medicine use. In the main trial, misoprostol (600µg) or matching placebo was given to 748 consenting women during antenatal care after the 34th week of gestation. Women were instructed to take the medicine orally for PPH prevention in the event of a home birth. Information on the circumstances of study medicine use was collected during postnatal follow-up, and study medication packets were tracked.

**Results:** Follow-up information was obtained for 94% (700/748) of women enrolled and 77% of medicine packets were accounted for.
Study medicine was used for 291/299 home births and 106/401 facility births, contributing to a total "uterotonic coverage" (including facility births with oxytocin) of 93%. Among facility users (n=106), nearly half reported taking the tablets instead of routine injectables, citing supply shortages, cost, and preference. Reports of therapeutic use of the study medicine to control heavy bleeding were also documented in both home and facility births. Mistimed administration of tablets before delivery was rare (n=2) and did not result in adverse events.

Conclusions: An in-depth exploration of how antenatally distributed medicine is used in the community suggests this approach may potentially lead to higher uterotropic coverage in home births as well as in facilities. A range of factors (oxytocin availability, cost, provider knowledge, urgency) appear to influence decisions and behaviors surrounding self-use of the medicine. Reported therapeutic use of the study medicine for excess bleeding highlights another niche at the community level, deserving of further research.

P0139
SERVICE EVALUATION AUDIT OF SMALL FOR GESTATIONAL AGE INFANTS BORN AT UNIVERSITY HOSPITALS OF LEICESTER NHS TRUST: DOES THE USE OF THE NEW UK NATIONAL GUIDANCE IMPROVE IDENTIFICATION OF INTRAUTERINE FETAL GROWTH RESTRICTION?
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Objectives: Small for gestational age (SGA) refers to infants born with birthweight less than the tenth centile. Both constitutionally and pathologically SGA fetuses are at increased risk of perinatal and neonatal morbidity and mortality. It is therefore important to identify this group of infants antenatally to reduce potential complications. Our aim was to ascertain whether using the Royal College of Obstetricians and Gynaecologists (RCOG) risk stratification as recommended in the new RCOG SGA guideline, published in March 2013, will improve detection of fetal growth restriction. We also wanted to evaluate adherence to our trust guidelines on symphysis-fundal height (SFH) measurement.

Method: We performed a retrospective service evaluation audit of 192 pregnant women who had blood test of D-dimer at 35 or 36 weeks of gestation and delivered within 14 days from hospital admission. CAM was diagnosed by the presence of CAM disease criteria and FIRS by the presence of FIRS disease criteria. We used a medical record search database to identify pregnant women who were tested for D-dimer at 35 or 36 weeks of gestation and delivered within 14 days from hospital admission. We defined CAM as present if the patient met the criteria for CAM disease, and FIRS as present if the patient met the criteria for FIRS disease. We collected data on the number of women who received CAM, FIRS, and non-CAM, non-FIRS diagnoses, and compared the results with the RCOG guideline.

Results: CAM was present in 9 cases (stage II: 7 cases, stage III: 2 cases). FIRS was detected in 6 cases. A statistically higher umbilical cord blood PCT concentration was found in CAM and FIRS (p<0.01). The cut-off value for umbilical cord blood PCT concentration in CAM was 250 pg/ml, with a sensitivity of 66.7%, specificity of 80.7% and positive predictive value (PPV) of 66.7%. The cut-off value of umbilical cord blood PCT concentration in FIRS was 300 pg/ml, with a sensitivity of 83.3%, specificity of 86.2% and PPV of 83.3%. Amniotic fluid PCT concentration was not significantly associated with CAM and FIRS.

Conclusions: Umbilical cord blood PCT concentration can be a reliable marker in the diagnosis of CAM and FIRS. The quicker diagnosis of CAM and FIRS may contribute to improved neonatal prognosis. So the aim of this study is to investigate the usefulness of PCT measurement from umbilical cord blood and amniotic fluid for early diagnosis of CAM and FIRS.

P0140
PROCALCITONIN MEASUREMENT AS THE QUICK DIAGNOSTIC TOOL OF CAM AND FIRS

Objectives: Symptomatic chorioamnionitis (CAM) and fetal inflammatory response syndrome (FIRS) are serious neonatal conditions. However, the diagnoses of CAM by histological study and FIRS by interleukin (IL)-6 measurements are still time consuming. Procalcitonin (PCT) is a useful marker for sepsis and the early diagnosis of CAM or FIRS may contribute to improve neonatal prognosis. So the aim of this study is to investigate the usefulness of PCT measurement from umbilical cord blood and amniotic fluid for early diagnosis of CAM and FIRS.

Method: Samples are collected from 35 newborns who delivered between 22 and 37 weeks of gestation due to preterm labor or PROM. Written informed consents are obtained. Amniotic fluid sampling was performed just before delivery. Umbilical cord blood was collected from the umbilical cord after delivery. CAM was diagnosed by the presence of CAM disease criteria and FIRS by the presence of FIRS disease criteria.

Results: CAM was present in 9 cases (stage II: 7 cases, stage III: 2 cases). FIRS was detected in 6 cases. A statistically higher umbilical cord blood PCT concentration was found in CAM and FIRS (p<0.01). The cut-off value for umbilical cord blood PCT concentration in CAM was 250 pg/ml, with a sensitivity of 66.7%, specificity of 80.7% and positive predictive value (PPV) of 66.7%. The cut-off value of umbilical cord blood PCT concentration in FIRS was 300 pg/ml, with a sensitivity of 83.3%, specificity of 86.2% and PPV of 83.3%. Amniotic fluid PCT concentration was not significantly associated with CAM and FIRS.

Conclusions: Umbilical cord blood PCT concentration can be a reliable marker in the diagnosis of CAM and FIRS. The quicker diagnosis of CAM and FIRS can be obtained by PCT concentration measurement than histological examinations or IL-6 measurement. However, amniotic fluid PCT concentration was not an indicator of CAM and FIRS.
related positively with placental weight in Control group (R = 0.40, p<0.01), and FGR group (R = 0.41, p<0.01), but did not in Twins group.

Conclusions: The relationships between the serum levels of D-dimer and weight of placenta in the late pregnancy suggest that D-dimer is produced in the placenta. The produced D-dimer in the placenta may affect to serum levels of D-dimer.

P0142
BLOOD LOSS AT DELIVERY AND DIFFERENT DIMENSIONS OF FATIGUE
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Objectives: The objective was to compare five different dimensions of fatigue during the first 12 weeks postpartum in women who had blood loss less than and greater than 700 ml at delivery.

Method: We conducted a single centre prospective longitudinal study of healthy women with a singleton pregnancy in May 2013 - September 2014. Women were included within 48 hours after delivery, and completed the physical fatigue subscale of the Multidimensional Fatigue Inventory (MFI) at inclusion. All follow-up visits after three days, and one, three, eight, and 12 weeks postpartum, they completed the full MFI covering general fatigue, physical fatigue, reduced activity, reduced motivation and mental fatigue.

Results: A total of 182 women completed 12 weeks follow-up: 96 with blood loss greater than and 86 with blood loss less than 700 ml. Physical and mental fatigue scores were significantly higher within the first week postpartum in women with blood loss greater than 700 ml. At three, eight and 12 weeks there was no significant difference. General fatigue, reduced activity and reduced motivation scores showed no significant differences at any given point in the groups.

Conclusions: Heavy blood loss at delivery is associated with increased physical and mental fatigue in the early postpartum period, but after three weeks there is no longer any influence. Heavy blood loss does not cause an increased general fatigue nor does it cause reduced activity and motivation.

P0143
AN AUDIT TO ASSESS THE EFFECTIVENESS OF THE TONGUE-TIE SERVICE AT SUNDERLAND ROYAL HOSPITAL (SRH)
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Objectives: ~10% of babies are born with some degree of tongue-tie – an abnormally short lingual frenulum that may restrict mobility of the tongue. ~13% of cases presenting with breastfeeding difficulties have tongue-tie as a contributing factor. Frenulotomy is a safe effective procedure that can be performed to relieve symptoms affecting mother and baby. SRH launched a new service to assess and treat tongue-tie in 2014.

The clinic referrals and outcome were assessed to facilitate development of local and regional guidelines and services: particularly as current NICE guidance (2005) is non-specific and requests continuous audit of current services.

Method: Current guideline used to create six standards: 100% compliance with each standard anticipated. 66 post-procedure questionnaires were collected from 12 SRH outpatient clinics 1/10/14–22/12/14 and used to assess service. Frenulotomy was performed in all patients as part of a structured intervention plan including multiple feeding assessments. Compliance with the standards was determined. To assist the service evaluation the mothers were encouraged to complete free text comments.

Results: All patients had presented with feeding difficulties.

1. Infants aged less than 16 weeks – 100% of cases.
2. Resolution of latch difficulties – improvement in 77% of women presenting with problems; 88% improvement in cohort.
3. Resolution of breastfeeding discomfort - 86% improvement in women presenting with symptoms; 77% improvement in cohort.
5. Improvement in weight gain – 8/11 cases with poor weight gain a presenting feature had a positive response to the intervention.
6. Questionnaire completion – response rate 61%.

Free text comments: “support amazing”, “quick easy good service”, “very happy”.

Conclusions: SRH offers a midwife-led holistic service incorporating tongue-tie treatment with immediate breast-feeding support and advice, ensuring follow up and support. The standards were ambitious, but this can be used as a baseline for re-audits with more appropriate standards and enhanced pre- and post-assessment of this service and increased sample size.

Circulating service standards can encourage the increase of regional services and enhanced mother and baby care during tongue-tie management with the ultimate aim to facilitate increased breastfeeding rates. This audit can provide a baseline to monitor improvement, refine current guidelines, and emphasises the importance of audit form completion.

P0144
VAGINAL DELIVERY OF LATE ABORTION AND IUD BY MISOPROSTOL AND ANXIETY RELIEF
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Objectives: a. Saving expense in gynecological & Obstetric practice. We are suffering from so many scarcities in our day to day practice like – 1. Expert Manpower; 2. Money; 3. Time & also 4. Religious obstacle.

b. Misoprostol has the advantage over other previous method. It requires no anaesthesia require only nurses and instruction. Patient remain ambulant with daily activities, only require hemoglobin, ABO & Rh- typing and coagulation profile for patients fitness. Some prefer cesarean section in dead fetus also.

Aims of our study was to see easy vaginal delivery of dead fetus by misoprostol.

Method: It is a retrospective study, was done in the department of Gynaec & Obs. General Hospital Sirajanj from 12th May 2012 to 11th April 2013. Patient no. 92 of which 88 were delivered with misoprostol 50 µg start vaginally some required again same dose after 6 hours, and some require higher dose according to parity, duration & response of patient.

Results: A p-value of <0.05 was considered as significant. Patient parameters like pulse, heart rate, blood pressure & hemoglobin status were not statistically significant between groups. Patient’s satisfaction was significantly high about 100% by misoprostol.

Conclusions: With misoprostol patient’s satisfaction were 100% without affecting haemo-dynamic stability and vaginal delivery. Misoprostol, Late Abortion & IUD Delivery, anxiety & psychological upset relief, 100% patient’s satisfaction.

P0145
AUDIT OF USE OF ANTI-D IN RHESUS NEGATIVE PREGNANT WOMEN AT NOBLE’S HOSPITAL, ISLE OF MAN
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Objectives: The audit was conducted to evaluate the use of Anti-D
immunoglobulin in non-sensitised RhD-negative pregnant women in following categories: post-suffering of potentially sensitising events, during routine antenatal Anti-D prophylaxis (RAADP) at 28-week gestation and post-delivery of Rh-positive baby.

Method: A retrospective review of case notes from all patients with Rh-D antigen negative was used to collect data. All case notes were documented between January 2012 and December 2012 inclusive at Noble's Hospital, Isle of Man, United Kingdom. Audit was standardised as per RCOG and NICE guidelines, which state that RAADP should be offered to all non-sensitised RhD-negative women. Patients who suffered from miscarriage, ectopic pregnancy and had pregnancy terminated were excluded from the study.

Results: Out of 840 delivery cases analysed, 134 (16%) cases were found to be Rhesus-negative: 127 (95%) of these patients received anti-D prophylaxis during the antenatal period, with only 106 patients receiving anti-D injection at recommended 28–30 week time-point. 108 (85%) patients have BMI <30 with only 59 (46%) cases documented for consenting for RAADP. 35 patients were exposed to potentially sensitising events, with 22 cases of antepartum-haemorrhage. Post-delivery, 68 babies out of 127 delivered by Rh-negative mothers have RhD-positive blood group and 3 of these mothers had received an extra dose of anti-D due to excess fetomaternal haemorrhage.

Conclusions: 95% (127/134) of non-sensitised RhD-negative pregnant women had received Anti-D Ig, and 83% (106/127) of them had received Anti-D Ig between 28–30 weeks gestation. 15% (19/127) RhD-negative pregnant women who received Anti-D Ig are BMI >30. For women with BMI >30, intravenous administration of Anti-D is recommended. RhD-negative women in whom cell salvage have been used should receive at least 1500 IU anti-D and sample collected for estimation of FMH 30–45 minutes after reinfusion in case more anti-D is indicated. Documentation of verbal consent for anti-D injection needs improving and the local guideline of Anti-D prophylaxis needs to be updated.

P0146

UTILIZATION OF MATERNAL HEALTH CARE SERVICES AND THEIR DETERMINANTS IN RURAL KARNATAKA STATE, INDIA

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Objectives: This study aimed to describe the patterns and determinants of routine and emergency maternal health care utilization in rural Karnataka State, India.

Method: Twenty three focus groups and twelve interviews were conducted in rural Karnataka State in 2012–2013. Four focus groups were held with Auxiliary Nurse Midwives and staff nurses, four with Accredited Social Health Activists, three with community leaders, two with male decision-makers, three with female decision-makers, six with women of reproductive age, and one with medical officers. One-to-one interviews were held with medical officers (N=2), private health care providers (N=2), health administrators (N=2), district health officers (N=2), and obstetricians (N=4). All discussions were audio recorded, transcribed verbatim, and translated for thematic analysis using NVivo 10.

Results: Most women in the focus groups reported attending routine antenatal care, for an average of three visits during pregnancy, and more frequently if high-risk. Antenatal care was typically delivered at the periphery by non-specialised community-based providers.

Women reported that they sought care if they experienced any danger signs in pregnancy. Postpartum care was reportedly rare and was mainly sought for purpose of neonatal services. Factors that influenced women’s care-seeking in pregnancy and postpartum included their limited autonomy within the family and society, poor access to transport services, perceived poor quality of health care services and providers, and low socio-economic status.

Conclusions: South Indian communities reported regular use of health care services during pregnancy; however, barriers to access were prominent. Postpartum care continued to be rare. In spite of new government programmes and increased availability of maternity care services, some women still delayed or deferred accessing health services. More efforts should be made to address the reported barriers that persist to maternity care services for women in rural Karnataka.

P0147

DOUBLE BLIND PLACEBO CONTROLLED RANDOMIZED CLINICAL TRIAL OF LOW DOSE MISOPROSTOL ORAL VERSUS VAGINAL ROUTE FOR INDUCTION OF LABOUR

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Objectives: 1. To compare the efficacy & safety of Misoprostol through oral versus vaginal route for induction of labour at term. 2. To compare the induction delivery interval in these two groups.


Results:
- Vaginal route of administration of the drug proved to have statistically significant successful induction compared to oral route (75.4% vs 56.9%, p value = 0.026).
- The mean induction delivery interval in two groups is statistically insignificant.
- The rate of vaginal delivery within 24 hrs was higher (76.5%) in the vaginal group.
- The caesarean rate was statistically significantly higher in the oral group (40% vs 21.5%, p value 0.02) and the commonest causes for intervention was labour dystocia, foetal distress.
- No adverse maternal & neonatal outcome in either of the groups.

Conclusions: Misoprostol appears to be an important addition to the labour induction armamentarium when used judiciously in appropriate dosages and routes. Low dose misoprostol (25 mcg) through vaginal route that used for induction of labour offer an additional statistically significant clinical advantages in successful vaginal delivery and lower incidence of Caesarean section in comparison to oral route.
**P0148**

**BARRIERS AND FACILITATORS TO HEALTH CARE SEEKING BEHAVIOURS IN PREGNANCY IN RURAL COMMUNITIES IN SOUTHERN MOZAMBIQUE**

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**Objectives:** In countries such as Mozambique, where maternal mortality remains high, the greatest contribution to mortality comes from the poor and vulnerable communities in remote and rural areas with limited access to health care services. This study aimed to describe women's health care seeking practices during pregnancy, as well as barriers to accessing timely appropriate care, in Maputo and Gaza provinces, southern Mozambique.

**Method:** The study followed an ethnographic design. Qualitative data were collected through in-depth interviews and focus group discussions with women of reproductive age, including pregnant women, household-level decision makers (partners, mothers and mothers-in-law), traditional healers, primary health care providers (both facility and community-based), and community leaders. Data analysis was performed by thematic analysis using NVivo 10.

**Results:** Antenatal care was often sought for the purpose of opening the antenatal record; women without an antenatal card fear mistreatment during labour. Antenatal care was also sought when women experienced discomfort or complications: headache, flu-like symptoms, and body pain. Male partners consider lower abdominal pain as the only symptoms requiring care. In addition, husbands discouraged women from revealing their pregnancy early in gestation. The decision-making process can be complex and time-consuming in the absence of a matron or family member. Traditional healers provided services in the community, but they were highly discouraged particularly when treatment involves bitter medication.

**Conclusions:** Women do seek antenatal care at health facilities; however, there are additional factors that prevent prompt care-seeking for obstetric emergencies and delivery, namely unfamiliarity with warning signs among pregnant women and partners, discouragement from revealing pregnancy early in gestation, and complex and timely decision-making processes in the advent of an emergency. Ensuring that pregnant women are followed up by matrons and community health workers as well as regular antenatal care could enhance the likelihood of prompt referrals due to their decision-making power and authority in these communities.

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**P0149**

**RANDOMIZED CONTROLLED STUDY OF NUTRITIONAL SUPPLEMENT BEVERAGES WITH AND WITHOUT PROBIOTICS TAKEN DURING THE THIRD TRIMESTER OF PREGNANCY: EFFECTS ON MATERNAL AND FETAL OUTCOMES AND FETAL IMMUNE STATUS**

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**Objectives:** Adequate nutrition during pregnancy is essential for a healthy pregnancy and to reduce the risk of adverse fetal outcomes. Nutritional supplements during pregnancy may have positive effects on maternal and birth outcomes and the infant's developing immune system. The objective of this study was to evaluate the effects of third-trimester use of maternal nutritional supplement beverages formulated both with and without a probiotic mixture of *Lactobacillus rhamnosus* (CGMCC 1.3724) and *Bifidobacterium lactis* (CNCC 1-3446) on maternal health, fetal/infant growth and health.

**Method:** Healthy, women in the third trimester of pregnancy were enrolled in this double-blind, randomized controlled study conducted at the Community Hospital of Muntinlupa City, Philippines. Women were randomly assigned to receive a daily nutritional supplement (S, n=78); the same supplement with probiotics (S pro, n=78), or no supplement (no-S, n=77) for the duration of their pregnancy. Maternal health outcomes (physical exam, weight gain, GI tolerance, morbidity) were assessed at gestational months 6, 7, 8, and delivery; fetal health and development was assessed by fetal ultrasound, birthweight, APGAR scores, immune status, at delivery. Infant growth was measured for 1 year.

**Results:** 233 women (80%) completed the study. Maternal mean weight gains in the third trimester were in S: 5.00±2.69, S pro: 4.55±2.25 and no-S: 4.62±2.16 kg. Infants were born at approximately 39 weeks gestation, healthy with normal APGAR scores. Mean birthweights ranged from no-S: 2.88±0.44 kg to S: 2.93±0.47 kg. No statistically significant differences were found between S and S pro for maternal morbidity, fetal biparietal diameter and cord blood immune status. Infant mean weight at 12 months was similar between S and S pro; weight was higher in the combined supplement groups compared with the non-supplemented group (P<0.001).

**Conclusions:** Nutritional supplement beverages with and without probiotics taken during the last trimester of pregnancy were well tolerated and did not adversely affect pregnancy outcomes or fetal growth and development. Supplementation with probiotics did not affect neonatal innate immunity. Additionally, beneficial effect of maternal supplementation on infant growth lasted along the first year of life. Future studies are needed to examine the potential benefits of nutritional supplements given preconception, earlier in pregnancy, and in high risk pregnancies.

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**P0150**

**PHYSICAL EXERCISE PATTERNS AND FACTORS RELATED TO EXERCISE AMONG PREGNANT WOMEN IN BRAZIL**

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**Objectives:** The aims of this study were to assess the level of physical exercise of pregnant women and to examine the factors associated with the practice of exercise during pregnancy.

**Method:** This is a cross-sectional study held in Campinas - São Paulo, Brazil from October 2011 to February 2014. 1,279 postpartum women who lived in Campinas and had a hospital birth, single pregnancy, and live newborn were recruited within 12 to 72 hours postpartum. They were interviewed about their socio-demographic data and obstetric history and were administered self-report questionnaires about physical exercise during pregnancy. Data on the maternal and newborn outcomes were collected from medical records. To analyze factors related to the practice of exercise a multiple logistic regression was used with odds ratio (OR) and corresponding 95% confidence interval (CI).

**Results:** Prevalence of physical activity during pregnancy was 20.1%. Half of the women interrupted practicing physical exercise particularly when treatment involves bitter medication.

**Conclusions:** Women do seek antenatal care at health facilities; however, there are additional factors that prevent prompt care-seeking for obstetric emergencies and delivery, namely unfamiliarity with warning signs among pregnant women and partners, discouragement from revealing pregnancy early in gestation, and complex and timely decision-making processes in the advent of an emergency. Ensuring that pregnant women are followed up by matrons and community health workers as well as regular antenatal care could enhance the likelihood of prompt referrals due to their decision-making power and authority in these communities.
6.45; CI 95% 4.64–8.96), and exercise guidance during prenatal care (OR=2.54; CI 95% 1.80–3.57).

Conclusions: The findings show that despite physical activity benefits for mother and fetus health are well known, a low proportion of women are active throughout pregnancy. It indicates that promoting physical activity remains a priority in public health policy, and women of childbearing age, especially those planning a pregnancy, should be encouraged to adopt an exercise routine or maintain an active lifestyle during pregnancy in order to avoid sedentary- and obesity-associated risks.

P0151
HEALTH CARE SEEKING FOR PREGNANCY COMPLICATIONS IN OGUN STATE, NIGERIA
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Objectives: This qualitative study aimed to describe the health care seeking behaviour of women in Ogun State, Nigeria.

Method: The study was conducted in four Local Government Areas of Ogun State, in south-western Nigeria. Data were collected through focus group discussions with pregnant women, recently pregnant mothers, male decision-makers, opinion leaders, traditional birth attendants, health workers, and health administrators. A thematic analysis approach was used with NVivo 10.

Results: Findings showed that women utilized more than one type of provider in pregnancy; with a preference for traditional providers. There was a strong sense of trust in traditional providers with long-term residence in the communities. The patriarchal nature of these communities influenced health-seeking behaviour in pregnancy. Economic factors contributed to the delay in access to appropriate services. There was a consistent concern regarding the cost of accessing health services. The challenges of accessing services were well recognised and these were greater when referral was to higher level of care which most times attracted unaffordable costs.

Conclusions: While high cost of care is a deterrent to health seeking behaviour, the cost of death of a woman or a child to the family and community is immeasurable. To reduce deaths from pregnancy complications, all stakeholders including policy makers, opinion leaders, health care consumers and providers are crucial in shaping the health care seeking behaviour. The use of innovative mechanisms for health care financing may be beneficial for women in these communities to reduce the barrier of high cost services.

P0152
INFLUENCE OF BREAST FEEDING SUPPORT ON THE TENDENCIES OF BREAST FEEDING RATES IN THE HOSPITAL ESTADUAL DA MÃE, BAIXADA FLUMINENSE, RIO DE JANEIRO, BRAZIL
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Objectives: To assess the rate of breast feeding in a group of patients supported by a special team.

Method: A special team, named “Breast Feeding Support and Incentive Commission – Mesquita Regional Complex - Maternity and Women’s Clinics”, including obstetrician, nurse, pediatrician, physiotherapist, nutritionist, phonologist and psychologist was constituted to support the patients that delivered in the Hospital Estadual da Mãe, Mesquita, Rio de Janeiro, RJ, Brazil. The place is a very large region, with 3,500,000 inhabitants and 11 counties. The maternity is reference for low risk pregnancy and has 70 beds for the patients and 10 bed for intermediate intensive neonatal care.

Results: In February 2015, 387 patients delivered, including 79 cesarean sections (20%). Three of them were excluded, one for twin pregnancy and two for insufficient milk production. All the remaining (384, 99.22%), were discharged in a regime of exclusive breast feeding.

Conclusions: A multiprofessional team was able to support and encourage exclusive breast feeding in almost all the patients, a fundamental starting point to keep breast feeding for at least 6 months.

P0153
AN INVESTIGATION INTO THE PERSONAL BARRIERS FACED BY SUDANESE WOMEN WHEN ATTENDING ANTENATAL CARE (ANC) AND THEIR PERCEPTIONS
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Objectives: The general objective of this study is to investigate why Sudanese women do not attend adequate ANC. More specifically:

• To investigate whether socio-demographic factors affect the likelihood of a woman to attend ANC in Khartoum.
• To understand the personal maternal factors of the women interviewed that act as barriers to accessing ANC.
• To gain a greater understanding of the expectations and perceptions of that Sudanese women have of ANC.
• To investigate women’s satisfaction with maternal health care services in the Khartoum state.
• To elicit whether the use of maternal health text services would be beneficial to women.

Method: This is going to be an exploratory qualitative study into women’s perceptions of ANC and reasons why they may or may not continue to attend ANC sessions. Six focus groups for women who have recently delivered will be conducted at health centres, where women will be bringing their newborns for vaccinations. These focus groups will be conducted in three of the localities of the Khartoum state; Omdurman, Bahri and Khartoum, with one rural and one urban. Purposeful sampling will be used and further focus groups will be conducted if saturation is not reached.

Results: To be discussed at conference.

Conclusions: To be discussed at conference.

P0154
HEALTH CARE SEEKING BEHAVIOURS IN PREGNANCY IN RURAL SINDH, PAKISTAN: A QUALITATIVE STUDY
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Objectives: Pakistan has alarmingly high numbers of maternal deaths along with sub-optimal care-seeking behaviour. It is essential to identify the barriers and facilitators women encountered when they sought antenatal care. The aim of this study is to understand health-seeking patterns of pregnant women in rural Sindh, Pakistan.

Method: A qualitative study was undertaken in rural Sindh, Pakistan as part of a large multi-country feasibility study in 2012. Twenty six focus group discussions and in-depth interviews were arranged with mothers (n=174), male decision-makers (n=64), Lady Health Workers (n=64), Lady Health Supervisors (n=10), Women Medical Officers (n=9) and Traditional Birth Attendants (n=7) in Hyderabad and Mattari Districts. A set of priori themes regarding care seeking during pregnancy and its complications as well as additional themes as they emerged from the data were used for analysis. Qualitative analysis used NVivo 10.
**Objectives:** The purpose of the study was to propose the proper weight gain during pregnancy based on the World Health Organization prepregnancy BMI definitions for Asian populations.

**Method:** We retrospectively reviewed the medical records of 1,482 singleton term pregnant women who had delivered babies at Seoul St. Mary’s Hospital and Uijeongbu St. Mary’s Hospital from January 2010 to December 2010. We used World Health Organization definitions for Asian populations of underweight (BMI <18.5), normal (18.5 ≤ BMI <23), overweight (23 ≤ BMI <25), and obese (25 ≤ BMI). We analyzed the influences of gestational weight gain on perinatal outcomes based on the prepregnancy, and these were analyzed on the basis of maternal and neonatal complications.

**Results:** The mean prepregnancy BMI was 21.03±4.03 kg/m²; 174 subjects (11.7%) were underweight, 848 (57.2%) were normal, 194 (13.1%) were overweight, and 266 (18.0%) were obese. In normal weight group, the incidences of perinatal outcomes were significantly increased with excessively less or weight gain. The lower and upper cut-off values for weight gain were 13 kg (OR 2.15; 95% CI=1.306–3.536) and 17 kg (OR 1.875; 95% CI=1.919–3.628), respectively. Other groups didn’t show statistically significant cut-off values for weight gain.

**Conclusions:** This study shows proper gestational weight gain for normal weight women based on the WHO BMI definitions for Asian populations. New guideline for gestational weight gain for Korean women is needed because IOM recommendation for gestational gain does not consider BMI definition for Asian population. Further researches including larger number of study populations are required to propose the gestational weight gain guidelines for underweight, overweight, and obese groups.

**P0157 Patterns of antenatal attendance in women with a prior caesarean section**

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**Objectives:** Women with a prior caesarean delivery (CD) carry a higher risk of intrapartum complications in subsequent pregnancies. Antenatal care provides the opportunity to identify risk factors for delivery complications in women with prior CD and an opportunity for counselling about delivery options. We sought to describe patterns of antenatal attendance by a cohort of women with a prior caesarean section (CS) in an urban West African setting.

**Method:** This was a one year retrospective cohort of women with one prior CD delivering at a single tertiary teaching hospital, the Korle Bu Teaching Hospital (KBTH) in Accra, Ghana, during 2011. Information on the frequency of prenatal visits, whether the woman was referred to KBTH, planned mode of delivery on hospital arrival, actual mode of delivery, and complications were available for analysis. If referred for delivery, we also determined the proportion of women who attended antenatal care at KBTH prior to 37 weeks gestation and prior to the onset of labour.

**Results:** During 2011, 1264 women with a prior CD delivered at KBTH. 428 (34%) underwent a trial of labour (TOL); of these 349 (81.5%) had a successful vaginal birth. On average, women had 6.7 (± 2.7) prenatal visits and 87.6% had >4 visits. Only a minority (15.6%) of these women were seen for routine antenatal care at KBTH. The remainder (84.6%) were referred for delivery; of these, 33% were referred prior to 37 weeks. Only 20.5% of women referred to KBTH were seen prior to the onset of labour.

**Conclusions:** Most women with a prior CD undergoing a TOL at this large teaching hospital in urban Africa successfully delivered vaginally. Our findings demonstrate that most women delivering at KBTH arrive as referrals and after the onset of labour. These findings point to the importance of antenatal counselling and delivery planning at referring facilities. Education of providers at outlying facilities to identify good TOL candidates and provide appropriate counselling may be an outreach opportunity for tertiary institutions. Additionally, these findings highlight the need for effective communication between referring facilities and tertiary institutions to maintain links between antenatal planning and intrapartum management.

**P0156 Increasing utilization of maternal health and family planning services through community engagement approaches in rural Uganda**

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**Objectives:** To improve utilization of maternal health and family planning services in rural Uganda through community engagement.

**Method:** Baseline facility data on utilization of delivery, antenatal and family planning services was collected and analyzed. A site walk through was conducted in which 61 community representatives and district health officials were taken on a guided tour of tKarambi Health Centre to learn about maternal and FP services available, utilization levels, barriers to use of services. Seventy four village health workers (VHTs) also identified from underserved areas were trained and supported to conduct home visits and community discussions aimed at addressing key barriers to service use.

**Results:** Between October 2012 and June 2013, VHTs sensitized 42,194 people (28,123 females, 14,071 males) about family planning and maternal health issues. HMSIS data showed a marked increase in utilization of maternal health and family planning services with average monthly ANC attendance being 32% higher compared to the previous year. Similarly, delivery and postnatal care services increased by 23% whereas family planning use doubled during the same period, for both short-acting methods and long-acting methods. Met demand for short-acting methods increased from an estimated 24% to 56%, whereas met demand for long-acting methods of family planning almost tripled.

**Conclusions:** Engaging communities through VHTs contributed to increased utilization of antenatal, delivery, postnatal and family planning services at Karambi HC III. Interventions aimed at increasing uptake of maternal health services should address both the demand and supply of quality services.
**P0158**  
**OUTCOME OF TWIN PREGNANCY IN BOOKED VERSUS NON-BOOKED CASES IN A TERTIARY CARE HOSPITAL IN PAKISTAN**  
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**Objectives:** To document the perinatal outcome in twin pregnancy. To compare the perinatal outcome among booked and non-booked patients with twin pregnancy.  
**Method:** This is a cross-sectional study carried out at Obstetrics and Gynecology Department of Holy Family Hospital, Rawalpindi. It was carried out from 12th April 2011 till 12th October 2011. One hundred and twenty eight (128) patients of twin pregnancy were included in the study; 64 booked and 64 non-booked patients. Patients data including age, gestational age, parity and mode of delivery were recorded. Information about the twins including their gender, birth weight, perinatal mortality and NICU admission due to prematurity were also recorded. The two groups were compared.  
**Results:** The mean age of the patients was 26.22±3.67 years. The mean gestational age was 36.75±2.4 weeks. The mean weight of both twin I and II was significantly higher among the booked as compared to non-booked patients; p=0.00. Mortality rate was significantly higher among the non-booked patients both for twin I and II; p=0.00. Rate of shifting to NICU due to prematurity was significantly higher among the non-booked patients.  
**Conclusions:** Non-booked patients have poor perinatal outcome in terms of shifting to NICU due to prematurity, neonatal weight and perinatal mortality as compared to booked group.

**P0159**  
**EXPERIENCE OF A NEW SCREENING TOOL ON PERINATAL MENTAL HEALTH: ENCOURAGING RESULTS FROM A RE-AUDIT**  
**Objectives:** It is estimated that about 1 in 10 pregnant women suffer from perinatal mental health (PMH) problems. Every maternity unit therefore requires a screening tool at the pregnancy booking visit. There are no agreed validated screening tools available for use in the UK and therefore, no uniformity of the screening process. We devised a screening questionnaire based on the current NICE guideline (2014). We audited before the introduction of the tool and then compared the results of a re-audit after it was implemented.  
**Method:** During the initial audit period of 3 months (May-July 2014), it was found that 53% of women with PMH problems, could not be identified at the booking. It was recommended that a new screening tool should be introduced. After a period of consultation, a new screening questionnaire was devised and implemented for a period of 3 months (December 2014 – February 2015). A re-audit was carried out and the results were compared.  
**Results:** It was confirmed in the re-audit that the detection rate was 100% with the use of screening tool. After the early detection, we used the data to triage screen positive women according to their mental health condition/s into high, medium and low risk category. This helped us to prioritise patients in clinic appointment allocation. Early detection also helped us in Clinical Coding and appropriate payment from Clinical Commissioning Groups (CCG).  
**Conclusions:** We found this new screening tool was very helpful for early screening of women with PMH problems. This in turn has been beneficial in the triaging and Clinical Coding (for allocation into appropriate Maternity Tariff). Early detection has ensured early intervention, treatment and reduction of clinical risk (prevention of puerperal psychosis and suicide). Considering all these benefits, we feel that the screening tool could be safely used at booking. A multicentre trial is being proposed to evaluate the effectiveness of the tool.

**P0160**  
**SUCCESSFUL DEVELOPMENT OF A LOW-COST CARE PATHWAY FOR PERINATAL MENTAL HEALTH: “THE BARNET MODEL”**  
**Objectives:** It is estimated that 1 in 10 pregnant women have perinatal mental health (PMH) problems. The Confidential Enquiry into the Maternal Deaths (2014) in the UK has revealed that suicide is still a leading cause of late maternal death. Therefore all maternity units in the country should have a clear pathway for the detection and management of women with PMH. Lack of adequate funding is often mentioned as the obstacle to this. We describe a useful model to develop a care pathway on PMH with optimum utilisation of the existing resources.  
**Method:** We developed and ran this pathway successfully over a period of 8 months (June 2014 – February 2015) and assessed the impact of care. First we identified a named Consultant Obstetrician and a named Midwife responsible for PMH. Then we allocated these patients to a designated Antenatal Clinic. We also clarified the referral system to the local Psychiatry and counselling services. We developed clear pathways to deal with any mental health crisis. Postnatal follow up and care was also revised. Database of all the patients were maintained for audit purposes and to ensure continuity of care.  
**Results:** We noted that minimal modification of the job descriptions were required for both the Obstetrician and the Midwife. No additional funding was required to support the care pathway as this only utilised the existing resources in a more structured way. This also improved patient safety as no puerperal psychosis or suicide noted in women cared for in the pathway. The quality of care also improved as reflected in patient feedback.  
**Conclusions:** This model reflects that a low cost care pathway in PMH can be successfully developed if medical and midwifery staff have motivation and willingness. Obviously this needs support from the maternity management staff. We firmly believe that this model can be replicated in other Maternity Units to improve patient safety and satisfaction.

**P0161**  
**CASSAVA FLOUR SLURRY AS A LOW-COST ALTERNATIVE TO COMMERCIAL ULTRASOUND GEL FOR OBSTETRICAL ULTRASOUND IN LOW-RESOURCE SETTINGS: A NON-INFERIORITY STUDY OF IMAGE QUALITY**  
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**Objectives:** This non-inferiority study compares the quality of ultrasound images obtained with commercially-produced gel versus a low-cost locally-produced cassava flour slurry (CFS). Portable ultrasoundography is a useful diagnostic tool in resource-limited settings. One key barrier to its use is the high cost and limited availability of ultrasound gel. Researchers have examined gel alternatives but most have issues with availability, practicality, cost, and image quality. Using human-centered design in eastern Democratic Republic of Congo (DRC) we determined that CFS could be a viable gel alternative that would be economical and readily available throughout Africa, Asia, and Latin America.  
**Method:** We are conducting a blinded randomized controlled non-inferiority trial comparing the quality of ultrasound images obtained with commercially-produced gel versus CFS. Pregnant women undergoing routine second-trimester anatomy scans have been recruited. Each participant undergoes standard imaging with commercial gel followed by biometry images with CFS. Images are compared...
side-by-side in random order by blinded ultrasound-trained radiologists and rated for resolution, detail, and total image quality using 100mm visual analogue scales. Clinical equivalence was set at a difference $\leq 10$mm in total image quality. We also assessed participant satisfaction and ultrasound technician comfort with CFS use.

**Results:** Thirty participants are providing 360 images for comparison. Results will be presented at the FIGO World Congress.

**Conclusions:** We developed and have been using CFS in eastern DRC for the past year out of necessity because of the high-cost and limited availability of commercial ultrasound gel. CFS is inexpensive and easy to produce using only local resources. If our study demonstrates that cassava flour slurry produces ultrasound images that are non-inferior to commercial gel, we can disseminate this information to help decrease cost and therefore increase access to ultrasound screening, monitoring, and diagnosis for pregnant women in low-resource settings.

**P0162**
**PRENATAL TELBIVUDINE EXPOSURE MAY IMPAIR EXERCISE CAPACITY OF OFFSPRING**

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**Objectives:** Telbivudine is an orally bioavailable I-nucleoside with potent and specific anti-HBV activity and have been reported of the efficacy of blocking mother-to-infant transmission of HBV. However, few studies focus on the safety of prenatal exposure and offspring development.

**Method:** Participants were neonate enrolled in women hospital, school of medical, Zhejiang University between Jan. 2012 to Sep. 2013. Mother's venous blood and Fetal umbilical vein blood was collected immediately after delivery. After 12–24 month later, offspring were extracted venous blood and the Bayley Scales of Infant Development-II (BSID) was used to assess motor and cognitive function. HBV-DNA copy number, alanine aminotransferase (ALT), creatine kinase (CK), creatinine (Cre) and blood urea nitrogen (BUN) were detected in all blood samples.

**Results:** Total 103 neonates born from chronic hepatitis B (CHB) mother treated with Telbivudine (n=30), CHB mother without Telbivudine treatment (n=30) and normal pregnant women (n=43) were included in this study and 101 neonates completed the follow-up evaluations after 12–24 month. Compare with no telbivudine treatment group, telbivudine treatment significantly decrease copy of HBV-DNA and defend HBV infection in neonates. However, creatine Kinase in fetal umbilical vein blood was significantly increasing in telbivudine treatment group. After 12–24 month, offspring with prenatal telbivudine exposure have lower BSID-motor scale than normal and no telbivudine treatment group, but no differences in BSID-mental scale.

**Conclusions:** Prenatal telbivudine exposure increase CK in fetal umbilical vein blood, and may impair exercise capacity of offspring.

**P0163**
**A RANDOMIZED CONTROLLED TRIAL TO EVALUATE THE EFFECTIVENESS OF THE NEW WHO MODEL OF ANTENATAL CARE VERSUS THE STANDARD MODEL OF ANTENATAL CARE IN A TERTIARY GOVERNMENT HOSPITAL**

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**Objectives:** To compare the standard model of antenatal care with a new WHO model that limits the number of visits to the clinic and restricts the tests, clinical procedures and follow up actions to those that have been shown to improve outcomes for women and newborn.

**Method:** Single blind randomized controlled trial was done to answer the question of whether a model with a lower number of antenatal visits is as effective in improving maternal or neonatal outcomes as the standard model. The participants were pregnant women attending antenatal care in the Out Patient Department of the Department of Obstetrics and Gynecology in Mandaluyong City Medical Center from January 1, 2014 to February 28, 2014. Subjects were randomly assigned to either the new WHO model or the standard model by using a pre-sealed envelope containing numbers. The occurrence of maternal and fetal morbidity and mortality were noted.

**Results:** Out of 34 subjects, 47% was included in the new WHO model and 53% in the standard model. Patients in the new model had a median of four visits while those in the standard model had a median of eight visits. Uti rates were almost similar between the two groups. One preeclampsia case was noted in the new model group while no case was reported in the standard model group. 20% of patients in the new model had postpartum anemia while 13% occurred in the standard model. The rate of low birth weight was very similar between the two groups.

**Conclusions:** Based on the results of this trial, it was concluded that models with a reduced number of antenatal visits could be introduced especially in developing countries like the Philippine into clinical practice without any risk of adverse consequences to the woman or the fetus.

**P0164**
**PSEUDOANEURYSM FOLLOWING VAGINAL DELIVERY: A COMPLICATED CASE OF CONCEALED SECONDARY POST PARTUM HAEMORRHAGE**

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**Objectives:** To present a case of secondary post partum haemorrhage, attributed to an uterine artery pseudoaneurysm following spontaneous vaginal delivery. In contrast to other case reports of pseudoaneurysm, this case demonstrated concealed haemorrhage resulting in haemodynamic collapse and subsequent management with interventional radiology, and a conservative approach.

**Method:** Following spontaneous vaginal delivery, this 31 year old patient was readmitted on day 18 post nataly with abdominal pain, pyrexia and pain on defaecation. Investigations revealed a haemoglobin of 74 and ultrasound (CT) suggested a pelvic haematoma. There was no reported significant vaginal bleeding. Repeat imaging 48 hours later (CT angiogram) suggested a left sided pseudoaneurysm, within a haematoma, arising from a distal branch of the internal iliac artery. Prior to planned interventional radiology, hypovolaemic shock ensued. Resuscitation, stabilization, and prompt embolization of a branch of the left internal iliac artery was carried out.

**Results:** This patient spent 5 days in ITU. The large haematoma and thrombosed pseudoaneurysm were subsequently conservatively managed, avoiding surgical evacuation. At 8 weeks, re-imaging showed the haematoma to have reduced significantly in size. Her recovery was complicated by a groin haematoma from the femoral artery cannulation, and eight days after her embolization procedure, she developed pleuritic chest pain and despite prophylactic LMWH, was diagnosed with multiple bilateral segmental pulmonary emboli. This was managed with therapeutic LMWH and eventually Warfarin.

**Conclusions:** Uterine artery pseudoaneurysm remains a rare but important cause of secondary PPH, which can result in rapid hypovolaemic shock, illustrated in this case, as an acute abdomen, rather than vaginal bleeding. Accurate diagnosis by ultrasonography or CT scan is vital. Prompt interventional radiology as soon as diagnosis is made would be prudent, and of paramount importance, differentiation between pseudoaneurysm and simple haematoma is essential in
avoiding unnecessary surgery, with resolution demonstrated following embolization.

**P0165**

**DEMOGRAPHIC, DIETARY, BIOMETRIC AND HORMONAL CORRELATES OF CURRENTLY PREGNANT WOMEN IN THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY (NHANES)**

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**Objectives:** To evaluate associations of pregnant women with demographic factors, dietary intake patterns, and select biometric, cardiovascular and hormonal factors.

**Method:** This cross-section study used data from the National Health and Nutrition Examination Survey for the years 2000–2010, which included 661 pregnant and 3514 non pregnant women. The database included all dietary intakes, vitamin intakes (A,B1, B12, B6, Folate, niacin, C, E, K), trace metal intakes (calcium, phosphorus, magnesium, zinc, iron, selenium, copper, potassium), alcohol, caffeine, and theobromine intakes. HOMA IR (insulin resistance) was calculated. Categorical variables were analyzed using Pearson's Chi-square tests. Continuous variables were examined using Wilcoxon rank sum tests.

**Results:** Pregnant women compared to non-pregnant women were younger, nonsmokers, had lower blood pressures, smaller household, lower income, more likely married, less likely black ethnicity; had smaller measurements of skin fold and arm circumference; larger waist circumference; no difference in BMI. Pregnant women had 24% increase in caloric intake, consuming more lipids, sugars, protein, fiber, vitamins and trace minerals, but lower intake of caffeine and alcohol. They had significantly lower plasma glucose levels with no significant differences in glucose or HOMA IR. Free T4 and free T3 were lower in pregnant women with no difference in TSH and TPO antibodies.

**Conclusions:** The findings demonstrate a distinct demographic profile in pregnancy with lower blood pressures and lower free thyroid hormone levels. The nutrition findings suggest that pregnant women eat more and have a better nutritional intake. The biometric profile may suggest differences in adipose deposits in pregnancy.

**P0166**

**AN INNOVATIVE TRAINING PROGRAM ON PREVENTION, IDENTIFICATION, AND REPAIR OF ACUTE OBSTETRIC TEARS AT THE COMMUNITY LEVEL INCLUDING USE OF A CUSTOMIZED COW-TONGUE SIMULATOR**

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**Objectives:** Recent investigation revealed that 31% of women that underwent surgical repair for obstetric fistula at two large fistula camps in Kenya were afflicted with un repaired third- and fourth-degree obstetric tears. Additionally, midwives, clinical officers and doctors have been shown to be lacking in the knowledge and skills necessary to prevent, identify, and secure access to timely repair of third and fourth degree tears. We sought to develop a best evidence training module designed to train midwives, clinical officers, and doctors in obstetric tear prevention, proper postpartum examination, identification of pathology, and repair of acute third and fourth degree tears.

**Method:** A comprehensive review of the world’s literature on fistula and obstetrical tears was conducted. Additionally, international experts in midwifery, leaders from the Kenya Nursing Council, and world leaders in fistula and urogynecological surgery were interviewed. A best evidence and contextually appropriate training module for midwives, clinical officers and doctors at the community level, on the prevention, diagnosis and repair of acute third and fourth degree tears was designed with the goal of rapid knowledge and skills transfer. Anatomical models were developed using locally sourced low-cost materials.

**Results:** A pre- and post-test assessment tool was developed, improved, and eventually validated via trial runs with OB/GYN and non-OB/GYN maternal health providers. Knowledge of perineal anatomy and ability to identify various obstetrical tears was assessed via a series of pictures with attached questions. Repair skills were evaluated via a customized cow-tongue simulator (CTS). The one-day training program includes a detailed review of anatomy, tear prevention strategies, video presentations of proper exam and repair techniques, and hands on skills development via the CTS.

**Conclusions:** We developed a best evidence one-day training program including a customized cow-tongue simulator designed to train midwives, clinical officers, and doctors at the community level on the prevention, diagnosis and repair of acute third and fourth degree obstetric tears. Although preliminary support has been gained from the Kenya Nursing Council and the Kenya Medical Association for implementation, future efforts will need to include further development of political will, monitoring impact and quality of provider performance, and training module optimization. Successful scaling of this intervention could potentially reduce up to 31% of the burden of obstetric fistula.

**P0167**

**INTEGRATION OF ANTENATAL CARE SERVICES WITH HEALTH PROGRAMMES: SYSTEMATIC REVIEW**

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**Objectives:** Antenatal care (ANC) presents a potentially valuable platform for integrated delivery of additional health services for pregnant women, vital to reduce the persistently high rates of maternal and neonatal mortality in low- and middle-income countries. However, there is limited evidence to guide policy on integration of health services with ANC. This systematic review assesses the impact of integration of postnatal and other health services with ANC on health services uptake and utilisation, health outcomes and user experience of care for women and children, and considers how integration influences healthcare provision (such as processes, outputs, service quality).

**Method:** Randomised or non-randomised studies that compared delivery of health services integrated with ANC to non-integrated models of delivery were eligible for inclusion. Integration was defined as co-location of services using a single point of access; collaboration between multiple healthcare providers; or a well-organised referral system with follow-up and feedback among different providers. Cochrane Library, Medline, Embase, CINAHL Plus, POPLINE and Global Health were searched for relevant studies. Risk of bias was assessed using the EPOC criteria and the Newcastle-Ottawa Scale, depending on the study design. High heterogeneity was also assessed using meta-analysis and the Newcastle-Ottawa Scale.

**Results:** 6416 unique citations were retrieved from the search. 12 studies were included in the review. Nine studies focused on integration of HIV-related services with ANC, two studies discussed the integration of syphilis screening and treatment, and one study described the integration of postnatal care services with ANC. Only two studies were randomised controlled trials. Limited evidence suggests that integrated delivery results in improved uptake of essential health services for women, earlier initiation of treatment, and better
health outcomes. Women also reported improved satisfaction with integrated services.

**Conclusions:** The reported evidence is largely based on non-randomised studies with moderate to high risk of bias, and therefore offers very limited policy guidance. More rigorously conducted studies, ideally involving comparison between different service delivery models with random allocation, are needed to better ascertain and quantify the health and economic benefits of integrating health services with ANC. The content and complexity of such an integrated service package should also be informed by the local health system capacity and epidemiological context, with careful consideration of potential adverse effects on available capacity and service quality.

**P0168**

**WOMEN'S INTERPRETATION OF BIOMEDICAL SPEECH AND ITS INFLUENCE IN LACTATION. QUALITATIVE STUDY CONDUCTED IN QUITO**

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**Objectives:** Analyze women's interpretation of related information to lactation provided by public health practitioners during prenatal, childbirth and puerperium.

**Method:** A qualitative study was conducted using focus groups and in-depth interviews to 16 - 36 years old women residents in Quito, who have given birth after a normal pregnancy and delivery, and users of public primary health care services. A narrative content analysis of the results was conducted.

**Results:** Most women asserted they never received any information about breast-feeding during prenatal care appointments or after delivery. Interviewed women agreed they have several doubts and questions about breast feeding that have not been addressed to health practitioners for fear or embarrassment and mostly because of the authoritarian relationship with their physicians. Participants said they preferred to ask for advice and information to other women close to them.

Most frequent doubts about breast feeding were related to the importance and benefits of breastfeeding, mother's nutrition, frequency of nursing, milk supply and prevention of nipple soreness.

**Conclusions:** This study shows that women need to receive prenatal information about breast feeding and professional support during and after pregnancy in order to increase the probability of nursing and to promote their self-confidence regarding to motherhood.

**P0169**

**DELAYED INTERVAL DELIVERY OF TWIN TWO IN DCDA PREGNANCIES**

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**Objectives:** Delayed interval delivery (DID) is delivery of the second fetus after premature delivery of the first fetus in multiple pregnancies. It is a controversial topic, with increasing number of case reports describing it. Increasing maternal age and assisted reproductive techniques, increases the incidence of multiple pregnancies which is associated with increased risk of preterm delivery and therefore increased risk of neonatal morbidity/mortality. DID of the second fetus could potentially prolong pregnancy and achieve good prognosis. However it could increase risk of sepsis and maternal/neonatal morbidity. We present two cases with good and bad outcomes from DID in DCDA pregnancies.

**Case reports:** Case one. A 41-year old presented at 22-weeks with PROM, followed by miscarriage of twin 1. Umbilical cord was ligated, patient was discharged with regular follow-up. She was re-admitted at 27-weeks with chorio-amnionitis, delivered by c-section and mother and baby made uncomplicated recovery.

Case two. A 40-year old presented with PROM at 23 weeks, followed by a spontaneous vaginal delivery of twin 1. Cord was ligated, close monitoring of inflammatory markers commenced. At 24 weeks developed sepsis, labour was induced and SVD of twin 2 followed. Twin 1 made good progress but twin 2 deteriorated secondary to sepsis and died.

**Results:** As above.

**Conclusions:** Most case reports of DID demonstrate improved fetal outcomes for twin 2, however there is an absence of agreement regarding the best management of these pregnancies. Majority describe antibiotics and regular monitoring, however tocolysis, progesterone and cerclage may aid prolonging the interval between delivery of twins 1+2. There is a continuing debate on how to manage these patients due to increased risks of ascending infection after delivery of twin one. Therefore, care must be individualised and obstetricians must be reminded the success of DID of twin 2 cannot be predicted, nor easily achieved, as demonstrated by our two contrasting cases.

**P0170**

**USE OF A PRE-TERM CLINIC AND STRATEGIES FOR IDENTIFYING WOMEN AT RISK OF PRE-TERM BIRTH [PTB] AT WEST MIDDLESEX UNIVERSITY HOSPITAL [WMUH]**

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**Objectives:** PTB is defined as delivery <37+0 weeks gestation and is a significant cause of infant mortality and morbidity, exceeding the annual costs of smoking-related disease. In December 2010, WMUH introduced a multidisciplinary antenatal prematurity clinic [PTC] identifying women at high-risk of PTB. Referral criteria included previous PTB, second trimester loss, cervical excision and cervical shortening. Current PTB prediction tools: clinical history, cervical length assessment and fetal fibronectin are imperfect. We sought to establish if current referral criteria to PTC are being followed and reviewed women with PTB not attending PTC, to enhance PTC attendance. Outcome of PTC are reported elsewhere.

**Method:** Using the hospital computer software systems we identified women who delivered pre-term between 1st January 2012 and 31st December 2013 at WMUH and assessed their risk factors for PTB including previous PTB, current medical [e.g. diabetes; sepsis] or obstetric [antenapartum haemorrhage, obstetric cholestasis, pre-eclampsia] risk factors and “lifestyle” risk factors [RFs], which included body mass index [BMI] ≤18 or >35, age <20 or ≥40, current smokers, domestic violence and substance abuse. A prospective database is maintained of women attending PTC: 260 women attended in the same time frame, of whom 44 [17%] delivered preterm: they were excluded from further analysis.

**Results:** There were 9715 births in our maternity unit during the study period. 588 women delivered <37 weeks’ gestation, giving a PTB rate of 6%. 44 [7.5%] of these women attended PTC and were excluded, alongside 88 multiple pregnancies. Amongst the remaining 544, 30 met current PTC criteria but were not referred and therefore excluded. 252 had a planned pre-term Caesarean-section or induction of labour. Thus 262 [43%] of all PTB were non-iatrogenic and unpredictable pre-term births. We assessed lifestyle risk factors [RFs] of the 262 women: 203 [77%] had none, 48 [18%] had one, 10 [4%] had two and only 1 [0.4%] had three.

**Conclusions:** PTC selection at WMUH identified the majority of women with predictable PTB risks. However, 43% of PTB in our unit is iatrogenic and 45% is unheralded by pre-existing obstetric factors. Of those with PTB but not attending PTC, 81% of multiparous women had no PTB history -a major RF in PTC selection. The number of lifestyle RFs in women delivering preterm is not high enough for use in the selection process for PTC attendance and suggests that lifestyle factors...
have a poor predictive role. In summary, PTB remains highly unpredictable with a huge burden on the healthcare economy.

**P0171**

**RE-EMERGING FULMINANT POSTPARTUM STREPTOCOCCAL SEPSIS – KEY CONCERNS AND RECOMMENDATIONS**

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**Objectives:** Puerperal sepsis remains a leading cause of maternal mortality throughout the world. Group A streptococcal (GAS) infections are relatively rare with an incidence of 0.5 cases per 10,000 deliveries. The diagnosis can be elusive due to the varied and atypical presentation. This delay could be fatal due to the rapid, aggressive nature of invasive disease. Progression is associated with streptococcal toxic shock syndrome where mortality rates approach 40–60%. Postpartum women have a 20-fold increased incidence of GAS disease compared with non-pregnant women, most of them follow vaginal delivery and occur within the first 4 days postpartum.

**Method:** We present a 27 year old Omani lady who presented 2 days following a vaginal delivery with unremitting abdominal pain, septicaemia, shock, thrombocytopenia and deranged coagulation. Multiorgan involvement followed. After aggressive fluid replacement, IV broad spectrum antibiotics, resuscitation and correction of coagulation parameters, a subtotal hysterectomy, bilateral salpingectomy and partial resection of necrotic areas of both ovaries with thorough peritoneal lavage was performed. All cultures grew GAS. A stormy postoperative period followed. She was discharged home 19 days later.

**Results:** A stormy postoperative period followed. She was discharged home 19 days later. She has recovered completely and both mother and baby are healthy and well 9 months later.

**Conclusions:** GAS related invasive infections in the form of endometritis, necrotizing fascitis or streptococcal toxic shock syndrome. Toxins released spread along tissue planes causing necrosis. Awareness, early diagnosis, aggressive emergent management with fluid resuscitation and broad spectrum antibiotics (IV Benzyl Penicillin and Clindamycin) can be life-saving. A review of management issues, published guidelines and current protocols will be presented.

**P0172**

**ENDOTHELIEL AT THE PHYSIOLOGICAL FLOW OF PREGNANCY**

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**Objectives:** Study products of endothelial factors at the physiological flow of pregnancy.

**Method:** The study level of endothelial factors is conducted in the whey of blood for 200 healthy patients during physiological pregnancy.

**Results:** A change the products of endothelial factors is begun with the early terms of pregnancy, that possible to bind to influencing factors implantation and it is directed on maintenance of formed bloodflow in the system mother - chorion - embryo. There is stimulation function of endothelium of the formed feto - placental complex in the trimester of pregnancy, that shows up in multiplying the level of constantly appearing endothelial factors. Since the period of the second wave invasion of trophoblast maintenance forming syndrome endothelial dysfunction in a feto - placental complex even at the physiological flow of pregnancy.

**Conclusions:** Physiological pregnancy is characterized stimulation and activating endothelium of feto - placental complex. Changes the products of endothelial factors at the physiological flow of pregnancy are characterized predominance of vasodilatation substances. Growth level markers damage of endothelium is characteristic with multiplying the term of pregnancy, which talks about development of syndrome endothelial dysfunction even at the physiological flow of pregnancy.
Results: From umbilical artery.

decreases: this due to changes in concentration of electrolytes inside a base line −10 mV, as in hypoxia: the variability and beat to beat condition. (normal BD 4 mMol/L).
tect chronic fetal asphyxia: a BD. of 6 mMol/L. or higher, signals this

A pCO2: 40 mmHg).

A pO2 of 10 mmHg, or lower, is seen in early cases of utero placenta mmHg.

−40 mV to 0 mV, produced the normal variability and beat to beat volts (mV) between both spaces. The oxygen releases the energy for and the ICF, this resulting in a different electric power of −40 milli-. pumps maintain a different concentration of electrolytes in the ECF and the ICF, which was mistaken for a live anomalous singleton fetus, dis-

Objectives: Aim of this report was to present a case of acardius ane-

pH and maternal serum erythromycin concentrations after intravenous drug administration. Erythromycin is still present in Polish Gynecological Society recommendations for the prevention of perinatal GBS disease.

Method: The study covered 42 women who delivered naturally or by elective Caesarean section between 17th April 2013 and 22nd July 2013. The inclusion criteria were as follows: mothers with GBS-positive screening and mothers whose laboratory screening was not available. The women were given 600mg of erythromycin lactobionate intravenously. Serum erythromycin concentrations were evaluated using enzyme-linked immunosorbent assay (ELISA) kit. The percentage and correlation between umbilical artery and maternal serum erythromycin concentration were calculated. Based on regression function parameters selected factors, presumably related to the umbilical artery serum erythromycin concentration, were investigated. Statistical analysis was performed using Statistica software version 10.0. A p-value of <0.05 was considered significant.

Results: The average maternal drug concentration in the sample was 2373.98 ng/ml (median 2449.20 ng/ml). The mean umbilical artery serum concentration was 50.85 ng/ml (median 51.63 ng/ml). The mean umbilical artery - maternal serum erythromycin concentration percentage was 2.62%. There was a high correlation between umbilical artery serum and maternal serum erythromycin concentration (r=0.67; 0.5 ≤r<0.7), the correlation was statistically significant. Selected variables characterizing mothers (maternal age, maternal body weight, gestational age at delivery) had no impact on the umbilical artery serum erythromycin concentration.

Conclusions: Intravenous application of erythromycin at a dose of 600 mg, allowed to achieve therapeutic concentration in maternal serum (MIC90=63ng/ml; MIC90=125ng/ml). However, when it comes to placental transfer of erythromycin, the lack of therapeutic concentration in umbilical artery serum was observed. The limited transplacental transfer of erythromycin, which was approximately 2.6%, suggests compromised efficacy in the treatment of intrauterine fetal infections. On the other hand, the placenta seems to produce an effective barrier reducing the fetal exposure when erythromycin is used exclusively to treat maternal infections.

Conclusions: Though TRAP is a rare event diagnosis is aided by ultrasound scan. Early referral to feto maternal unit will improve perinatal outcome.

P0175

TWIN REVERSE ARTERIAL PERFUSION (TRAP) – A CASE REPORT AND LITERATURE REVIEW

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Objectives: Aim of this report was to present a case of acardius anej-

pH. The CO2 speed of diffusion is 20 times faster than O2. The Buffer Base read as Base Deficit (BD) is the best parameter to de-

decreases: this due to changes in concentration of electrolytes inside the cells, and outside the cell: both changes controlled by the potas-

sium and sodium pumps.

The pumps use energy from oxygen: so during hypoxia, the mem-

brane electric power decreases to less than −40 mV, and the variabil-

ity & beat to beat decreases. A straight line on the EFM means: the depolarization is 0, and the pumps are gone.

We must develop techniques to evaluate all the parameters of the Acid Base Balance.

P0176

THE FETAL MONITOR OF THE FUTURE: THE BIOCHEMICAL FETAL MONITOR: BFM

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Objectives: The Fetal monitor, a mechanical instrument, is been used to make biochemical diagnosis. At the level of the fetal cellular membrane a sodium and potassium pumps maintain a different concentration of electrolytes in the ECF and the ICF, this resulting in a different electric power of −40 milli-volts (mV) between both spaces. The oxygen releases the energy for both pumps. The depolarization of the fetal cellular membrane from −40 mV to 0 mV, produced the normal variability and beat to beat seen on the fetal monitor (EFM).


Interpretation of neonatal EKG, and fetal monitor recordings.

Results: Evaluation of fetal monitor against fetal blood gases: Decreased variability and beat to beat, is seen in hypoxia: pO2 10 mmHg.

A pO2 of 10 mmHg, or lower, is seen in early cases of utero placenta sufficiency: Stage I (normal pO2: 16 mmHg).

Steady hypercapnia a pCO2 of 50 mmHg signal: Stage II, UPI (normal pCO2: 40 mmHg).

As a gas, the CO2 speed of diffusion is 20 times faster than O2. The Buffer Base read as Base Deficit (BD) is the best parameter to de-

tect chronic fetal asphyxia: a BD. of 6 mMol/L. or higher, signals this condition. (normal BD 4 mMol/L).

Conclusions: Should initial electric power, decrease from −40 mV to a base line −10 mV, as in hypoxia: the variability and beat to beat decreases: this due to changes in concentration of electrolytes inside the cells, and outside the cell: both changes controlled by the potas-

sium and sodium pumps.

The pumps use energy from oxygen: so during hypoxia, the mem-

brane electric power decreases to less than −40 mV, and the variabil-

ity & beat to beat decreases. A straight line on the EFM means: the depolarization is 0, and the pumps are gone.
P0178
THE PLACENTAL TRANSFER OF ERYTHROMYCIN – EVALUATION OF ERYTHROMYCIN CONCENTRATION IN THE UMBILICAL VEIN SERUM

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Objectives: The aim of this study was to investigate the effectiveness of erythromycin – which is still present in Polish Gynecological Society recommendations – in preventing intrauterine infections caused by Group B Streptococcus (GBS).

Method: The study subjects were 20 pregnant women, with GBS-positive screening or whose laboratory screening was not available, who delivered between 17th April 2013 and 22nd July 2013. The women were given 600 mg of erythromycin lactobionate intravenously. Serum erythromycin concentrations were evaluated using enzyme-linked immunosorbent assay (ELISA) kit. Statistical analysis was performed using Statistica software version 10.0. A p-value of <0.05 was considered significant.

Results: The average maternal drug concentration in the sample was 2403.79 ng/ml (median 2202.40 ng/ml). The mean umbilical vein serum concentration was 54.59 ng/ml (median 56.13 ng/ml). There was a strong correlation between umbilical vein serum and maternal serum erythromycin concentration (r=0.59579; 0.5<r<0.7), the correlation was statistically significant (p=0.006<0.05). Selected variables characterizing mothers (measurable and non-measurable) had no impact on the umbilical vein serum erythromycin concentration.

Conclusions: Intravenous application of erythromycin at a dose of 600 mg allowed to achieve the value of MIC₅₀ and MIC₉₀ for erythromycin against strains S. agalactiae in maternal serum. Nevertheless, transplacental transfer of erythromycin is limited (2.67%) and intravenous application of erythromycin at a dose of 600 mg do not allow to achieve the value of MIC₅₀ and MIC₉₀ for erythromycin against strains S. agalactiae in umbilical vein serum. This suggests a compromised efficacy in the treatment of intrauterine fetal infections. At the same time, placenta seems to be an effective barrier reducing the fetal exposure when this macrolide is used to treat maternal infections.

P0179
DETERMINANTS OF PERINATAL MORTALITY AT GHANDI MEMORIAL MATERNITY HOSPITAL, A CASE CONTROL STUDY, IN ETHIOPIA

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Objectives: To assess determinants of perinatal mortality in Ghandi Memorial hospital and to determine the probable causes of death.

Method: Unmatched case control study was conducted to compare the multiple risk factors between perinatal deaths and their sampled live birth controls in Ghandi Memorial Hospital between September 2007 and August 2009 based on information obtained from register books and patient charts. The sample size for cases was 220 while for controls 440. Important variables were maternal age, parity, booking status, GA, birth weight and others.

Results: In this study PNM was found to be 50.8/1000 live births. Preterm delivery was 35%, LBW was 45% and malpresentation 24.6% among cases and these were significantly higher than the controls. Maternal booking status, malpresentation, vaginal route delivery, prematurity and LBW were important determinants of PNM. Most of the deaths didn’t have explainable cause of death. Of the known causes congenital malformation and mechanical cause are the most common. Maternal age. Parity and multiple gestations were not found to be predictors of perinatal deaths.

Conclusions: LBW and preterm deliveries were important determinants of PNM. Thus the delivery unit in the hospital should make improvements in the neonatal care services. Improved documentation of obstetric information is important to reduce the number of unexplained causes of death. Improved ANC and intrapartum care can play important role to reduce PNM in GMH.

P0180
EVALUATION OF CAUSES OF STILLBIRTH IN A TERTIARY CARE CENTRE IN NORTH INDIA

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Objectives: To study the causes of stillbirth in a tertiary care teaching centre of north India.

Method: The study was conducted over a period of 1 year from June 2013 to May 2014 in the department of Obstetrics & Gynecology, King George’s medical University Lucknow, Uttar Pradesh, India (one of the most resource constrained state of India). All the stillbirths in the time period were evaluated for the possible causes and a predesigned structured proforma was filled.

Results: There were a total of 7.024 deliveries and 550 stillbirths in 1 year making stillbirth rate of 78.30 per 1000 total births. 536 women (97.5%) were admitted with intrauterine death. Antepartum haemorrhage (22.3%), Preeclampsia and eclampsia (19.2%), Fetal growth restriction (15.2%) were the most contributing causes of antepartum stillbirth. Malpresentation (9.6%), rupture uterus (9%) and obstructed labour (6.3%) were the prominent intrapartum causes of stillbirth. Causes of intrapartum still birth showed statistical significant correlation with place of residence (rural—urban), distance of health centre, time taken to reach first point of contact (p), Congenital anomalies were seen in 32 (5.8%) births. Incidence of still births is very high as compared to developed nations (78.3 vs. 3.1 per 1000 total births). Haemorrhage, hypertensive disorders of pregnancy and neglected labour were the leading causes of stillbirth. Better antepartum and intrapartum supervision, rapid transportation to health centre can prevent a large percentage of still births.

P0182
CAN UTERINE ARTERY DOPPLER VELOCIMETRY PREDICT PERINATAL OUTCOME? A COMPARATIVE STUDY OF BOTH HYPERTENSIVE AND NORMOTENSIVE PREGNANT PATIENTS AT THE LAGOS UNIVERSITY TEACHING HOSPITAL (LUTH)

O. Adejuwon, A. Oluwole, B. Oye-Adeniran, Lagos University Teaching Hospital, Ibi Araba/Lagos, Nigeria

Objectives: To evaluate the role of uterine artery Doppler in identifying fetuses at increased risk of adverse perinatal outcome in both hypertensive and normotensive gravidae.

Method: Forty one patients each of the two groups were selected as consecutive consenting subjects recruited from the antenatal clinic, labour ward, antenatal ward and the gynaecologic emergency section of the Lagos University Teaching Hospital and were subjected to both uterine artery Doppler and also biometric fetal parameters taken, then followed up till delivery. Uterine artery score (UAS) ≥ 2 is described as abnormal in which case there were 2 or more abnor-
mal Doppler parameters on either or both uterine arteries. Data were analysed using the EPI-INFO Version 6.4D (Centre for Disease Control and Prevention, Atlanta, GA, USA). P-value < 0.05 shows significance.

**Results:** The mean age was 31±4.72 years and 29.66±4.69 years for the hypertensive and normotensive groups respectively. The mean parity was 1.7±1.36 and 1.3±1.15 (P=0.038) was for the hypertensive and normotensive groups respectively. Most of the subjects were nulliparous (58.5%), mean gestational age at Doppler was 25.95±6.009 weeks. As high as 43.9% of the hypertensive group had abnormal uterine artery score (UAS). 38.9% of the patients with abnormal UAS had babies that needed NICU care (P=0.02).

**Conclusions:** The results suggest that the UAS shows a good correlation with the perinatal outcome of complicated pregnancies and may as well be incorporated routinely in the evaluation of high risk women in this part of the world.

Proper training of ObGyn residents and radiologists on Doppler scan monitoring of fetuses at risk for better surveillance and prompt intervention is absolutely necessary.

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**P0183**

**DEVELOPMENT OF SYMPHYSIO FUNDAL HEIGHT CHART/CURVE**

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**Objectives:** To develop a symphysio fundal height of pregnant women from 20 weeks of pregnancy onwards; and to find out the relationship of fundal height with different variables.

**Method:** A cross-sectional hospital based study was conducted on 159 patients with gestation age less than 20 weeks at entry in the Department of Obstetric and Gynaecology, Shaheed Suhrawardy Medical College & Hospital, Shere-e Bangla Nagar, Dhaka, Bangladesh.

**Results:** Majority of the patients belongs to of 20–30 years age groups where nearly 31.2% of the pregnant women didn’t received any antenatal checkup.Multiparous was predominant and more than one third (34.6%) of the study patients height belonged to 1.51–1.60 meters. The mean SD gestational age was 39.2±1.4 weeks with range from 28 to 41 weeks. Low birth was found 17.0% and the mean± SD height was 2.8±0.4 kg with range from 1.9 to 3.8 kg. The rate of growth of SFH was approximately 0.5 cm per week from 24 weeks to 36 weeks and thereafter 5–6 mm per week till 40 weeks.

**Conclusions:** Patients with higher socio-economic class had higher symphysio fundal height. SFH is less in younger subjects. SFH increases with increased height, weight, gestational age, gravidity of mothers and birth weight of the baby.

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**P0184**

**FETAL DEATH – A PILOT STUDY OF 31 CASES OBSERVED IN BAIXADA FLUMINENSE, RIO DE JANEIRO, BRAZIL**

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**Objectives:** Assess the profile of fetal death in Baixada Fluminense – Rio de Janeiro – Brazil.

**Method:** A pilot study with a cross sectional design. The population is a sample from 97 fetal death observed in 2014 at the Hospital Estadual da Mãe, Mesquita, Rio de Janeiro – Brazil. The unit is a low risk maternity with a rate of 1.3% of fetal death. The assisted population is a low-income and low-schooling. The prenatal care is provided most in primary care units related to the maternity. The data were collected from medical records and typed into a database built using the Epinfor program, which was used to analyse them.

**Results:** 31 cases. 32% adolescent, 55% between 20–34 years, and 13% 35+ years. The schooling was fundamental in 48% and high school in 52%. 78% had no steady partner. Not access to prenatal care in 13%. Gestational age was from 22–27 weeks in 10% and 90% from 28–41 weeks. Syphilis was present in 29%, 89% of them were not treated. Pre eclampsia in 10%, diabetes in 3% and urinary infection in 13%. 15% of PROM, 13% were in labour. Vaginal delivery in 81% and cesarean section in 19%. The ethiology of fetal deaths was 51% undetermined, 39% maternal.

**Conclusions:** Although the unit care is a low risk maternity, the population is a high-risk one, due its low-schooling, low-income and not optimal prenatal care. Most of this fetal deaths could be avoided with a better quality prenatal care. There was no identification of fetal causes due to small sample size. We regret the unavailability of pathology lab for palcenta and fetal tests.

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**P0185**

**ASSESSMENT OF LABOR USING A NEW TYPE PARTOGRAM COMPARED TO THE CLASSICAL FISHER PARTOGRAM**

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**Objectives:** To assess the quality of a new type partogram used to monitor labor.

**Method:** We compared efficacy using two types of partograms. The first was the classical WHO partogram (group A) and the second a new type in which we estimated and reported the sub of cervical dilatation and the position of the descending head (group B).

**Results:** It was noted that there was a decrease of the duration between the initiation of active phase (a.p.) of labor (l)and the delivery time (p<0.001, A: mean:318±4.04 minutes, B: 246.5±8.28 minutes), and observed initiation in the acceleration stage (a.s.) of (p<0.001, A: 108.73±5.29 minutes, B: 96.9±4.99 minutes), shorter duration of the a.s. of the a.p. in the (f.p.) of I (p<0.001, A: 136.93±4.79 minutes, B: 91.89±4.04 minutes) and early initiation in the second phase of I in Group B.

**Conclusions:** The new partogram is more helpful in the recognition of the initiation of the acceleration stage during the active phase of labor and in the timely use of appropriate actions in order to achieve a safer delivery.
outcome measures not different from control. There was positive correlation between MPI and RI in umbilical artery, negative correlation between MPI and RI in middle cerebral artery. Also the MPI was found to have higher performance than BPP as regard sensitivity, specificity, positive predictive value, negative predictive value.

**Conclusions:** The fetal MPI was found to have slightly higher diagnostic accuracy than BPP in predicting neonatal outcome in pregnancies complicated by IUGR. It is easy, simple, take short time. But in pre-eclamptic patients without IUGR, the MPI was not elevated than the control and has no relation to neonatal outcome.

**P0187**

**EVALUATION OF THE REPRODUCIBILITY OF THE REVISED FIGO GUIDELINES FOR INTRAPARTUM FETAL MONITORING**

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**Objectives:** Visual analysis of cardiotocographic (CTG) tracings is subject to a well-known poor reproducibility. The aim of this study was to evaluate interobserver agreement on CTG interpretation when using the 2015 revised FIGO guidelines for intrapartum fetal monitoring.

**Method:** A pre-existing database was used to sequentially select 151 intrapartum tracings acquired with a fetal electrode, with more than 60 minutes duration, and less than 15% signal loss. These tracings were presented to six clinicians, three with more than 5 years and three with 5 or less years of experience in the labour ward. Observers were asked to evaluate basic CTG features: baseline, variability, accelerations, decelerations, sinusoidal pattern, tachysystole, and to classify tracings as normal, suspicious or pathologic, according to the revised FIGO guidelines. Agreement was evaluated by the proportions of agreement (Pa) with 95% confidence intervals (95% CI [in brackets]).

**Results:** Pa values for baseline were 0.85 [0.82–0.90], for variability 0.82 [0.77–0.85], accelerations 0.72 [0.68–0.75], tachysystole 0.77 [0.74–0.81], overall decelerations 0.92 [0.90–0.95], variable decelerations 0.62 [0.58–0.65], late deceleration 0.63 [0.59–0.66], repetitive decelerations 0.73 [0.69–0.78], and prolonged decelerations 0.81 [0.77–0.85]. For overall agreement on CTG classification Pa was 0.60 [0.56–0.64], for the normal classification 0.67 [0.61–0.72], for suspicious 0.54 [0.48–0.60] and for pathologic 0.59 [0.51–0.66]. There were no statistically significant differences in interobserver agreement according to the level of expertise, except for the identification of accelerations where agreement was better in the more experienced group.

**Conclusions:** A good interobserver agreement was found with the revised FIGO guidelines, both in identification of the majority of CTG features, and in overall tracing classification. Observer experience did not play a major role in interobserver agreement.

**P0188**

**QUANTITATIVE COMPARISON OF ENTROPY ANALYSIS OF FETAL HEART RATE VARIABILITY RELATED TO THE DIFFERENT STAGES OF LABOR**


**Objectives:** To evaluate whether the entropy indices of FHR are different according to labor progression.

**Method:** A retrospective comparative study of FHR recordings in three groups: 280 recordings in the second stage of labor before vaginal delivery, 31 recordings in the first stage of labor before emergency cesarean delivery and 23 recordings in the pre-labor before elective cesarean delivery. Approximate entropy (ApEn) and sample entropy (SampEn) for the final 2000 RR intervals.

**Results:** The median ApEn and SampEn for the 2000 RR intervals showed the lowest values in the second stage of labor, followed by the emergency cesarean group and the elective cesarean group for all time segments (all P < 0.001). Also, in the second stage of labor, the final 5 min of 2000 RR intervals had a significantly lower median ApEn (0.49 vs. 0.44, P<0.001) and lower median SampEn (0.34 vs. 0.29, P b 0.001) than the initial 5 min of 2000 RR intervals.

**Conclusions:** Entropy indices of FHR were significantly different according to labor progression. This result supports the necessity of considering labor progression when developing intrapartum fetal monitoring using the entropy indices of FHR.
cental insufficiency. In 75% during pregnancy laboratory markers of the DIC chronic syndrome were detected, in 43.7% - antiphospholipid syndrome, in 30.6% - infections.

Method: The comprehensive study of the state of vaginal biocenosis was conducted. The investigation of the blood coagulation system, prenatal screening study, echographic and Doppler study fetoplacental system, Doppler study, CTG-monitoring, measurement of VEGF-R1 were performed.

Results: According to the results of the autopsy stillborn and morphological study of placentas revealed: chronic placental insufficiency (PI) – 92%, inflammatory changes in the future – 34% of umbilical cord pathology – 22.6%, fetal malformations – 19.4%, IUGR – in 48.8%. Differentiated approach to the prevention of complications of pregnancy and can significantly reduce the incidence of complications of pregnancy. Placental insufficiency occurred in 1.33 times less likely (40% vs. 53.3%), only in the form of compensated (100%).

Conclusions: According to the developed algorithm of pregnancy timely surgical delivery by cesarean section was performed 1.6 times more likely to routinely (96.3% vs. 60%). Thus, good timing and mode of delivery in pregnant women undergoing AFD, can reduce the risk of recurrent reproductive losses and perinatal morbidity.

P0191
ANTENATAL METABOLIC PROGRAMMING DURING THE HIGH-RISK PREGNANCY
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Objectives: Aim of the study was to determine the endocrine status of the fetus in uncomplicated pregnancy and placental insufficiency of varying severity. Complex examination (clinical, echographic, Doppler, hormonal) 90 pregnant women with uncomplicated pregnancies and 230 – with placental insufficiency of varying severity.

Method: We studied the ultrasound morphology (size of shares, circumference, echostucture, echogenicity) and peculiarities of organ blood flow of fetal thyroid and adrenal glands of the fetus during uncomplicated pregnancy and with placental insufficiency of varying severity.

Results: In uncomplicated pregnancy observed a linear increase in fetal thyroid: a circle with 21.35±2.9 mm up to 61.32±5.37 mm, width – from 8.89±1.5 to 26.11±3.48 mm. The severity of deflection depends on severity of PI: with compensated PI the circle of the thyroid decreased only 34–36 weeks, 10.8%; subcompensated in 34–36 weeks – circumference decreased by 30.9%. When there is compensated PI adrenal growth rate was slow compared to the control group at 17.9–21.3% width, % height 16.7–27.6% and at the PI subcompensated – 23.8–25.3% for width, height 9.7–35.2% and 24–33.4% in thickness.

Conclusions: All pregnant women who are at risk for the development of PI should be carried out complex dynamic ultrasound and Doppler examination, including measurement of the size of the thyroid gland of the fetus and Doppler study of blood flow in the inferior thyroid arteries of the fetus, as well as evaluating the size and characteristics of hemodynamic fetal adrenal glands. Newborns of mothers with pregnancy which flow phenomena PI, IUGR have congenital hypothyroidism they should be carried out additional inspection and correction of violations.

P0192
MATERNAL AGE AND CONGENITAL ANOMALIES IN PROF. KANDOU GENERAL HOSPITAL MANADO, NORTH SULAWESI (4 YEARS REVIEW)
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Objectives: To determine the incidence of congenital anomalies and the correlation between maternal age and the type of congenital anomaly.

Method: This is an analytic retrospective study. The research data derived from the medical records of patients underwent labor at the Prof. Dr. R. D. Kandou General Hospital Manado from January 01, 2011 until December 31, 2014. Statistical analysis using Chi Square method.

Results: The incidence of congenital anomalies was 1.85% from 354 cases (19.169 labors). It was mostly found in the cardiothoracal system (29.3%) and the most found was VSD (14.41%), whereas multiple anomaly was seen in 40 cases. The maternal age group giving birth to newborns with congenital anomalies, <20 years old (10.73%), 20–35 years old (66.38%) and >35 years old (22.88%). The majority of congenital anomaly found in the group age <20 years old is VSD and >35 years old is Down syndrome (13.58%). There were a correlation between the maternal age and the incidence of congenital anomalies (p <0.05).

Conclusions: Congenital anomaly had a correlation with maternal age and it mostly found in the cardiothoracal system.

Assisted Reproduction

P0193
FRESH VERSUS FROZEN EMBRYO TRANSFER AS REGARDS PREGNANCY OUTCOME: A RETROSPECTIVE STUDY
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Objectives: To compare implantation rates and pregnancy rates following fresh versus frozen embryo transfer.

Background: Human embryo cryopreservation had become very important part of assisted reproductive technology program as it maximize utilization rate of single IVF cycle we compare the fresh embryo transfer to frozen thawed embryo transfer as regards pregnancy rate, implantation rate.

Method: Statistical analysis of retrospective date of 200 women undergone general ivf program from first of January 2009 to end of December 2011, women divided into two groups each group include 100 women, first group (GI) received fresh embryo transfer, second group (GII) received frozen–thawed embryo transfer. Comparison between the chemical pregnancy rate, clinical pregnancy rate and implantation rate in both groups was done.

Results: The chemical pregnancy rate was insignificant different among both groups, the first group (GI) 57.1%, while in the second group (GII) 42.9%, p-value 0.09 (> 0.05). Rate of single pregnancy was significantly higher in the first group 64.5% than in the second group 35.1%. Rate of twins was significantly higher in the second group (GII) 75%, than in the first group 25% (GI). Rate of triplets was 10% in first group while there was no reported triplets in second group. (P value 0.001). Implantation rate was (24.8%,20%) in first group (GI) and second group (GII) respectively.

Conclusions: A program of embryo freezing and performing frozen embryo transfer is cost effective and should be adopted by all ivf center to improve utilization rate of single cycle, as the pregnancy rate and implantation rate is almost equal to fresh embryo transfer.
P0194
EFFECTS OF REDUCED TRACE ELEMENTS CONCENTRATIONS IN FOLLICULAR FLUID AND EXTENDED LIPID PEROXIDATION ON FEMALE INFERTILITY AND THE OUTCOME OF IN VITRO FERTILIZATION

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Objectives: The purpose of this study was to (1) determine the follicular fluid zinc, selenium and malondialdehyde acid (MDA) concentrations of IVF patients and to (2) evaluate their impact on the early embryonic development.

Method: Follicular fluid samples were recruited form 190 female partners (24–44 years) of couples undergoing IVF. Patients were divided into four groups. Group I consisted of women with idiopathic infertility and they were considered as controls (n=35). Group II consisted of patients with tubal disease (n=50), group III consisted of 50 women with endometriosis and group IV contained 55 patients from couples with male factor of infertility. For all the experiment, flame and furnace atomic absorption spectrophotometry were adopted for zinc and selenium determination respectively. The index of lipid peroxidation was measured by thiobarbituric acid reaction method.

Results: In comparison between controls (group I) and patients groups (III, IV), zinc concentration showed significant increase (P<0.001) in controls groups. Selenium concentrations were significantly higher (P<0.001) in control group compared to others groups. However, women with endometriosis showed highly significant decrease for all fecundity parameters. Correlations between non-enzymatic antioxidants and IVF outcome were positive and strongly significant. Meanwhile, there are significant and negative correlations noted between MDA levels and the lipid peroxidation in the follicular microenvironment may play a role in the process of gametogenesis and fertilization and they would be the best predictors of IVF outcome. Future research may include the studies using oxidative markers and antioxidant system on the large scale.

Conclusions: It has been shown in this study that the non-enzymatic antioxidants and IVF outcome were positive and strongly significant. Meanwhile, there are significant and negative correlations noted between MDA levels and the lipid peroxidation in the follicular microenvironment may play a role in the process of gametogenesis and fertilization and they would be the best predictors of IVF outcome. Future research may include the studies using oxidative markers and antioxidant system on the large scale.

P0195
COMPARISON BETWEEN INTRAUTERINE INSEMINATION WITH OVULATION INDUCTION VERSUS NATURAL OVULATORY CYCLE IN MALE FACTOR OF INFERTILITY

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Objectives: To compare between intrauterine insemination with natural ovulatory cycle and intrauterine insemination with controlled ovarian hyperstimulation in cases of male factor of infertility and its effect on clinical pregnancy rate.

Method: Forty eight women undergoing intrauterine insemination and fulfilling the required criteria was devised into two groups: Group I: 24 women underwent intrauterine insemination and subjected to insemination after natural cycle with no ovarian hyperstimulation with detection of ovulation using urinary LH detection kit daily from 11th day of cycle and insemination done the next day after positive test. Group II: 24 women underwent intrauterine insemination were subjected to controlled ovarian hyperstimulation with HMG using step down protocol and insemination done 36 h after HCG. The primary outcome is clinical pregnancy rate.

Results: The clinical pregnancy rate was higher in ovulation induction with intrauterine insemination group (25%) than natural cycle intrauterine insemination group (16.7%) in case of mild to moderate male factor of subfertility but this difference was not statistically significant.

Conclusions: In case of mild to moderate male factor of subfertility, there is no statistically significant difference regarding clinical pregnancy rate between ovulation induction with intrauterine insemination group and natural cycle intrauterine insemination group.

P0196
DOES PSYCHOTHERAPY IMPROVE SUCCESS RATES OF IN VITRO FERTILISATION? SYSTEMATIC REVIEW

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Objectives: In vitro fertilisation (IVF) success rates have improved but livebirth rates remain less than 50% even in patients who are young, are of proven fertility and have a normal ovarian reserve. Alternative therapies such as Acupuncture have been advocated as means of improving outcome but in 2010 the British Fertility Society revised their view on this intervention following a systematic review which indicated no benefit in IVF. Psychotherapy is distinctly different but has been subject to less scrutiny and we sought to review the published literature in this area. Could psychotherapy be beneficial in improving the IVF success rates?

Method: The databases AMED, CINAHL, PsychINFO, Cochrane, Medline via Pubmed, NHS Evidence, NICE, UpToDate were searched systematically for papers in English between 1978 and 2014. The participants were women undergoing IVF who received psychotherapeutic intervention of any sort. The outcome measure was the success rate of IVF treatment. A total of 2068 studies were identified and 5 constituted the material for the review.

Results: 3 randomised control trials showed (1) CBT significantly improving the success rate, (2) non-significant but positive effect of harr therapy and (3) no effect of hypnosis compared to diazepam on IVF success rate. 1 poorly designed controlled study (4) showed that hypnosis significantly improves the success rate and 1 cohort study (5) showed that psychotherapy does not influence pregnancy rate.

Conclusions: The findings from this review do not offer any evidence of psychotherapy increasing IVF success rate. This is mostly attributed to the poor design of the studies and overall conflicting results. The impact if any of psychotherapy would require a well-designed and adequately powered study to detect an improvement in livebirth rate.

P0197
EFFICIENCY OF PRE-IMPLANTATION GENETIC SCREENING USING ACGH METHOD, IN PATIENTS OF ADVANCED REPRODUCTIVE AGE

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Objectives: Subject of study. Female patients over 40 years old, who underwent fertility treatment, using IVF/ICSI methods with pre-implantation genetic screening.

Introduction: Mainly the ART programs fails due to embryo chromosomal abnormalities in women with advanced reproductive age. Pre-implantation genetic screening (PGS) allows to detect chromosomal abnormalities before embryo transfer which is particularly important for patients of advanced reproductive age.
Method: The research took place in Federal State Budget Research Center for Obstetrics, Gynecology and Perinatology, Russian Federation, from April to December 2014. The pre-implantation genetic screening using aCGH method (Agilent, USA) was carried out on 72 blastocysts of 29 patients, 40–47 years old. The embryos were frozen for the time of research using the method of vitrification. The embryos were transferred during the following cryonic cycles.

Results: The result was obtained for 68 blastocysts (94.4%). Only 27/68 (39.7%) embryos were euploid and 41/68 (60.3%) embryos had chromosomal abnormalities. 16/29 (55.1%) patients had all embryos with chromosomal abnormalities. The embryo transfer was cancelled for these patients. The transfer of frozen embryos was performed in 13 patients. Biochemical pregnancy was registered in 3/13 patients (23.0%) and clinical pregnancy in 2/13 patients (15.3%).

Conclusions: The results indicate the efficiency of PGS using aCGH method to choose euploid embryos in female patients over 40 years old. The research was supported by President’s of the Russian Federation grant MD-6043.2015.7.

P0198
SUBCHORIONIC HEMATOMA OCCURS MORE FREQUENTLY IN IN VITRO FERTILIZATION PREGNANCY
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Objectives: Obstetric complications occur more frequently in pregnancies after in vitro fertilization (IVF). We attempted to determine the correlation between subchorionic hematoma and IVF pregnancies.

Method: We analyzed 194 pregnancies achieved by infertility treatment between January 2008 and February 2012 at our hospital. Among these, 67 were achieved by IVF and 127 by non-IVF approaches. We compared the frequency of subchorionic hematoma between the groups and examined the risk factors for subchorionic hematoma in the IVF group.

Results: No significant differences regarding age and the number of uterine surgery were observed between the groups. The duration of infertility was longer, and parity and the rate of luteal support were higher in the IVF group. The frequency of subchorionic hematoma was significantly higher in the IVF group (22.4%) than that in the non-IVF group (11%) (P=0.035). Univariate analysis in the IVF group demonstrated that frozen-thawed embryo transfer (OR, 6.18; 95% CI, 1.7–22.4; parity ≥1 (OR, 3.67; 95% CI, 1.0–13.2) and blastocyst transfer (OR, 3.75; 95% CI, 1.1–13.3) were risk factors for the subchorionic hematoma.

Conclusions: The frequency of subchorionic hematoma is high in IVF pregnancies, and frozen-thawed embryo transfer, parity ≥1 and blastocyst transfer may contribute to subchorionic hematoma onset.

P0199
PREVALENCE OF ABNORMAL UMBILICAL CORD INSERTIONS: A COMPARISON OF TERM SINGLETON ART AND NON-ART PREGNANCIES
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Objectives: Abnormal umbilical cord insertion (i.e., velamentous or marginal insertion) sometimes results in serious obstetric complications. The reported adverse outcomes include placenta previa, fetal growth restriction, non-reassuring fetal status requiring an emergency Cesarean section, and fetal exsanguination due to the rupture of vasa previa. This study was conducted to investigate whether pregnancies obtained by assisted reproductive technologies (ART) influence the prevalence of anomalous umbilical cord insertions.

Method: We reviewed the records of 7015 consecutive singleton, term labor and delivery cases in our clinic between the study period of January 2010 to August 2014, including personal details, obstetric history, details of infertility treatment, and insertion site of the umbilical cord. They were categorized according to their conception method (Group A: ART pregnancies, n=276, Group B: non-ART pregnancies, n=6739). Abnormal cord insertion was divided into two categories: velamentous insertion (VI) and marginal insertion (MI). Adjusted odds ratio, 95% confidence intervals (CI), and significance of the odds ratio were calculated for the conditions of interest.

Results: The prevalence of abnormal cord insertion was 20.7% (VI: 4.4%; MI: 16.3%) in Group A, and 6.5% (VI: 0.6%; MI: 5.9%) in Group B. The adjusted odds ratio for delivery with VI in Group A as opposed to Group B was calculated as 5.3 (95% CI: 2.6 – 10.8), P<0.001. The adjusted odds ratio for delivery with MI in Group A as opposed to Group B was 2.7 (95% CI: 1.9 – 3.9), P<0.001.

Conclusions: 1) These findings suggest that the ART procedures have a positive correlation on the incidence of abnormal cord insertion (esp. velamentous insertion). 2) ART-conceived cases should be more proactively screened and assessed for insertion site of the umbilical cord during routine obstetric ultrasound examinations, in addition to other already-known ART-associated risk factor assessments, to improve their perinatal outcomes.

P0200
EFFECT OF GRANULOSA CELL CO-CULTURE ON THE MATURATION AND FERTILIZATION RATES OF IMMATURE OCYTES AT THE PHASE OF GERMINAL VESICLE IN VITRO
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Objectives: Culture conditions used for in vitro maturation (IVM) of oocytes can significantly induce maturation rates and following embry development. A particularly crucial component for normal cytoplasmic oocytes maturation is the presence of granulosa cells (GCs) or cumulus cells (CCs) surrounding oocytes. During performance of micromanipulation techniques, such as intracytoplasmic sperm injection (ICSI) or In vitro fertilization (IVF), human oocyte is denuded (stripped of its surrounding CC). In this regard, to increase the number of mature oocytes appropriate for ICSI procedure, we aimed to investigate the role of GCs co-culture on human oocyte maturation in vitro, fertilization rate, and embryo development.

Method: 133 immature oocytes retrieved and were randomly divided into two groups; oocytes that were cultured with GCs (Group A) and oocytes cultured without GCs (Group B). Only oocytes that reached metaphase II (MII) stage after IVM were used for ICSI procedure. Maturation rate, fertilization rate, and embryo development were examined. All of the statistical analyses were performed using SPSS version 17.0 (SPSS Inc., Chicago, IL, USA) for Windows.

Results: The number of oocytes that reached M II (mature oocytes) was 59 (84.28%) in the GC-co cultured group compared to 41 (65.07%) in group B (P=0.011). No significant difference between fertilization rates was found between the two study groups (P=0.702). Developed embryos in the GC- co cultured group was 33 (75%) compared to 12 (42.85%) in group B (P=0.006). The top quality embryos were significantly lower in group B compared to group A (P=0.003). Also, the rate of blastocyst formation in group B was markedly lower than that in group A (P=0.000).
Conclusions: Findings of the current study revealed that culturing immature human oocytes with GCs prior to ICSI procedure improves the maturation rate and embryo development.

P0201
ENDOMETRIAL SCRATCHING IMPROVES CLINICAL PREGNANCY RATE AFTER INTRAUTERINE INSEMINATION IN PATIENTS WITH UNEXPLAINED INFERTILITY
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Objectives: Evaluation of the effect of endometrial scratch performed in the preceding cycle on the pregnancy rate after intrauterine insemination (IUI) in patients with unexplained infertility.

Method: Two hundred patients with unexplained infertility that were planned to have IUI at Minia Infertility Research Unit, Minia, Egypt in the period between June 2012 and May 2014 were randomized into two groups. In the study group (n=100), endometrial scratching was performed once on day 21 of the preceding cycle to the IUI cycle with pipelle endosampler. In the control group (n=100), there was no intervention.

Results: The clinical pregnancy rate was significantly higher in the scratch group as compared with the control group (38% vs. 18%, P<0.01). The number need to treat to achieve one more pregnancy was five (NNT=5). There was no significant difference between the two groups regarding demographic features, ovarian stimulation protocols, semen parameters of the male partners or number of follicles on day of human chorionic gonadotropin (HCG) administration.

Conclusions: Endometrial scratching in the preceding cycle to the IUI cycle is recommended for cases with unexplained infertility as it is associated with significant improvement of clinical pregnancy rate.

P0202
TO EVALUATE THE ROLE OF EMBRYOGLUE AS TRANSFER MEDIUM IN THE OUTCOME OF FRESH NON DONOR IN VITRO FERTILISATION CYCLES: A PROSPECTIVE CASE CONTROL STUDY
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Objectives: To evaluate the role of EmbryoGlue as an adjunct to the transfer medium in improving the implantation rates in fresh Non Donor IVF cycles.

Method: Ethical approval was taken from the Institutes Ethics Committee prior to initiation of study. Type of study: Prospective case control clinical trial. Study duration: The study was conducted over a period of 3 months between March and May 2014.

In 42 women undergoing IVF/ICSI treatment embryos were transferred into 50 μL of EmbryoGlue for 10 minutes prior to transfer inside uterine cavity. In the control group (n=42) embryos were transferred in conventional blastocyst culture medium. Statistical analysis was performed using SPSS IBM version 19.0.

Results: The clinical pregnancy rate in the embryo glue group was 7% higher than the control group. The difference, however, was not statistically significant. Also, no improvement in implantation rates were observed with the embryo glue. But significant difference (0.04) in clinical pregnancy rate was observed with the embryo glue in patients with previous IVF failure. In the embryo glue group, 50% patients (6/12) with previous IVF failure had successful implantation. However, none of the patients with previous implantation failure in the control group (0/11) could achieve pregnancy.

Conclusions: It is still too premature to conclude the role of EmbryoGlue in IVF-ET cycles with good prognosis patients however in women with history of recurrent implantation failure addition of EmbryoGlue has shown improvement in implantation rates. A large randomized study is required to confirm the observations.

P0203
OOCYTE MORPHOLOGY AND ITS POSSIBLE ASSOCIATION WITH SUBSEQUENT TREATMENT OUTCOME IN ENDOMETRIOSIS PATIENTS: A MATCHED CASE-CONTROL STUDY
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Objectives: To describe detailed oocyte morphology in endometriosis patients, compare it with an endometriosis-negative control group, and evaluate its possible association with ART and treatment outcome.

Method: Patients were matched according to AMH, female age, previous treatment cycles, and method of fertilization. A total of 23 patients each were treated with conventional IVF. Endometriosis was staged according to the revised ASRM guidelines of 1997. With respect to oocyte morphology in ICSI it was focussed on intra- and extracytoplasmic dysmorphisms.

Results: Patients with endometriosis had a significantly lower rate of mature oocytes (P<0.05) as well as morphologically normal oocytes (P<0.0001). In particular, brownish oocytes (P<0.01; stage I-IV) and the presence of refractilebodies (P<0.0001; stage IV) were found to be increased. Endometriosis IV had significantly worse quality oocytes than stages I-III (P<0.01). Fertilization was significantly reduced in conventional IVF but not ICSI (P<0.05). This was due to lower fertilization rates in endometriosis III-IV as compared to I-II (P<0.05). No difference was observed with respect to rates of implantation, clinical pregnancy, miscarriage, live birth, and malformation.

Neonatal outcome was comparable between endometriosispositive and negative groups.

Conclusions: Endometriosis patients, particularly those of stage IV, present lower quality oocytes. Based on the present data, IVF should not be first choice treatment option in moderate to severe endometriosis (III-IV). Once fertilized, no impairment of further preimplantation embryo development and pregnancy outcome right up to healthy live birth rate has to be expected.

P0204
OUTCOMES OF PREGNANCY FROM ASSISTED REPRODUCTION TECHNIQUES IN TUSCANY
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Objectives: Describing those mothers who used assisted reproduction techniques (ART), the main techniques used, socio-demographic characteristics, the type of delivery and some neonatal outcomes such as low birth weight (<2500 grams) and preterm births (gestational age <37 weeks).

Method: Analysis of Birth Assistance Certificate from 2011 to 2013 in the Tuscany region (Italy). Comparison of pregnant women who used ART and those who did not use it.

Results: In Tuscany, women who gave birth after ART increased from 1.1% in 2001 to 2.7% in 2013, for a total of 2,170 deliveries in the period 2011–2013. The proportion of deliveries from ART increases with the increasing age of the women: 1.2% among women under 35 and 20.4% among women over 43. Multiple deliveries represent 23.0% of pregnancies through ART. Caesarean section was performed in 43.8% of the deliveries from ART. Live births after ART were 2,698 (3.1% of total live births) with a higher proportion of low birth weight and preterm babies, the 32.5% and 30.0% respectively.

Conclusions: The constant increase in the average age of delivery and the high proportion of multiple births lead to a significant impact of
CS, low birth weight, and preterm births. Therefore it becomes increasingly important to monitor the use of ART, both for the health of the woman and the newborn, and for the use of highly specialized resources required.

**P0205**

**ARE BLOOD GROUPS ASSOCIATED WITH THE OUTCOME OF IN VITRO FERTILIZATION TREATMENT?**

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**Objectives:** There has been a controversial reports about the correlation between blood groups and ovarian reserve. Since all ovarian reserve testing are performed to estimate the response of ovaries to exogenous gonadotrophin treatment, we utilized the number of follicles grown and the number of oocytes obtained following COH to correlate to blood types. To the best of our knowledge, there have been no previous studies published investigating treatment response and its correlation with blood groups. The aim of our study was to assess the correlation of certain blood groups with ovarian reserve and response to the treatment.

**Method:** Retrospective chart review, done at tertiary care centre, all women less than 40 year sold who came to the clinic as new patients and started an IVF treatment cycle within 2 years were included. We had total of 424 patients, they had total of 566 IVF/ICSI cycles. Patients were divided into 4 groups according to their blood type. All groups were compared for early follicular phase FSH level, antral follicle count (AFC), and various COH response parameters and embryological data. Pregnancy rate were compared for all groups.

**Results:** Group O blood type was the most common among our patient population 53.5%, while AB blood type was seen only in 3.5%. The four groups had similar patient’s age, and causes of infertility. FSH level, and AFC were similar across the groups. No difference was observed among the four groups in regard to the patient’s hMG dose, duration of stimulation, and the numbers of follicles > 10 mm on the day of hCG injection. All groups had similar number of the oocytes retrieved, Fertilization rate, embryo quality, and number of embryos transferred. The pregnancy rate was similar among all groups.

**Conclusions:** With the limitation of our study being retrospective study, this large set of data did not show any significant association between any blood type and ovarian reserve or ovarian response during IVF treatment.

**P0206**

**BIOPHYSICAL PROFILE OF WOMEN SEEKING ASSISTED CONCEPTION AT A FERTILITY CENTER IN NIGERIA**

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**Objectives:** To describe the pattern of the biophysical characteristics of women seeking assisted conception and the possible impact this can have on their management.

**Method:** An observational descriptive study was carried out at the Nordica Fertility Centre, Nigeria between April 2003 and February 2012. The records of 1768 consecutive female clients who sought assisted conception at the clinic were reviewed and analysed using STATA 13. significance was set at a P-value < 0.05.

**Results:** The means (± SD) of their age (years), BMI (kg/m²) and duration of infertility at presentation were 35.7 (5.5) years, 29.1 (12.1) and 8.0 (14.5) respectively. 45.5% clients had at least one previous uterine evacuation, 21.0% with previous myomectomy and 11.2% with previously attempted IVF. 70.3% presented with secondary infertility. 0.7%, 3.1% and 2.4% were diabetic, hypertensive and HIV-positive correspondingly. Fibroid was seen at scan among 30.4% clients, PCOS was diagnosed in 8.5% and previous endometriosis occurred in 1.9%. The mean (± SD) FSH levels were 7.8 (11.3) miu/ml. The mean (± SD) sperm count of partners was 23.1 (23.3) million/ml while the mean (± SD) motility was 38.7 (20.5).

**Conclusions:** The profile of clients presenting for assisted conception may reveal important information that can be useful in their management and in public enlightenment in a bid to further improve outcome of assisted reproduction.

**P0207**

**CONGENITAL MALFORMATIONS IN CHILDREN BORN AFTER ART INCLUDING IMPRINTED GENE DEFECTS**

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**Objectives:** Several meta-analyses indicated an increase risk of 30% of major malformations in children born after IVF or ICSI compared with spontaneous pregnancies. Imprinting disorders were identified with increased risk of Angelman, Beckwith-Wiedemann and Prader Willy Syndromes in ART children as compared with natural conception neonates. Spermatozoa chosen for ICSI may have morphological anomalies undetectable at X400 magnification. However, using high magnification - X6300 by IMSI procedure (intracytoplasmic Morphologically Selected Sperm Injection) have shown to increase blastocyst and pregnancy rates by preselection of normal nuclear morphology sperm. This study compared major congenital malformations in 235 ICSI pregnancies with 235 IMSI pregnancies.

**Method:** The study was conducted in several IVF units in Israel after the approval of local ethical committee between the years 2010–2014. The cohorts included 235 ICSI and 235 IMSI pregnancies. The embryo transfer was on day 3 or day 5. The age range was between 25–38 years. Spermatozoa were selected by nuclear morphology according Bartoo’s criteria (Bartoov et al. 2006). At the first attempt ICSI was performed in most cases. IMSI was introduced in cases of very severe sperm morphology or in case of ICSI failure. The technology of IMSI was performed as described (Bartoov, Feldberg et al 2006).

**Results:** From 235 pregnancies in each cohort 320 fetuses were analysed in each group. After spontaneous abotions, 310 fetuses remained in IMSI group and 308 fetuses in ICSI cohort. In 2.9% in IMSI group and 2.6% in ICSI group abortion was induced due to major malformations. 299 newborns were examined in IMSI and 298 in the ICSI populations. 4 babies (1.3%) in the IMSI group and 16 (5.3%) in the ICSI cohort were born with major malformations. The total number of aborted fetuses and newborns with major malformations, was 13 (4.2%) in IMSI and 26 (8.4%) in the ICSI population (p < 0.01).

**Conclusions:** The aim of this study was to compare the birth defects in children born after Intracytoplasmic Sperm Injection (ICSI) and Intracytoplasmic Morphologically Selected Sperm Injection (IMSI). Our data indicate that IMSI provides significantly less birth defects that ICSI and emphasizes the impact of sperm head and nuclear morphology defects on congenital malformations of the neonates. Large scale studies on the prevalence of IMSI-associated birth defects and long follow up of the children are needed in order to estimate the risks of specific malformations.
P0208
EVALUATION OF DIFFERENT OVARIAN PROTOCOLS (LONG GNRH AGONIST PROTOCOL VERSUS GNRH ANTAGONIST PROTOCOL) ON OOCYTE, EMBRYO QUALITY AND PREGNANCY OUTCOMES. A RETROSPECTIVE STUDY AT RAED FERTILITY CENTER (RFC), SYRIA

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Objectives: To compare efficacy of long agonist (AGO) protocol vs. antagonist (ANT) protocol in IVF patients at RFC, a center located in Syria, Middle East.

Even though this is a well-covered subject, there are no similar studies in Syria: no insurance coverage, centers are located in 4/13 cities with added expenses for treatment (travel, accommodation, off work).

There is lack of guidelines for number of transferred embryos in whole Middle East area.

This study was performed under Syrian IRB approval and all patients signed informed consent. Study was done at Eastern Virginia Medical school (EVMS) for Master degree.

Method: AGO: OCP, Luprolide 0.1 mg started CD21 previous cycle, then 0.05 mg on CD 2 (after LH and Estradiol levels) and Gonadotropin. Monitoring: hormone blood levels (estradiol and progesterone) and ultrasound.

ANT: no OCP. 0.25 mg starting after 5 stimulation days vs. 14 mm follicle. 10000 IU HCG trigger is given when 3 follicles measures 16–17 mm.

Oocytes evaluation after 4 hours of retrieval, swim up for sperms, ICSI for all, 18 hours evaluation, cleavage top embryos%. Transfer of day 3/5 depends on number of cleaved embryos, quality and previous IVF cycles.

Results: 602 women: 357 AGO, 45 ANT. Age and BMI had 30.4 5.1 vs. 31.5 4.9 vs. 25, p=0.26.

Results (AGO vs. ANT): Oocytes (11 4 vs. 94.6, p=), fertilization & cleavage: (745.4 vs. 79.5, p=0.024/65.9 vs. 71.5, p=0.002), chemical & clinical pregnancy (64.6% vs. 58%, p=0.25, 57% vs. 48%, p=0.17 respectively), Implantation rate 33% vs. 39%, p=0.04, OR 1.24). Mean ET for all, 18 hours evaluation, cleavage top embryos%. Transfer of day 3/5 depends on number of cleaved embryos, quality and previous IVF cycles.

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Conclusions: There was insignificant difference in both groups regarding chemical and clinical pregnancy. ANT protocol yields higher implantation rate and might be more convenient to our patients since it requires shorter treatment time, less down time off work, which make it financially more affordable since ART centers are not available in all cities. This study represents an invitation to start establishing local guidelines for various aspects of ART in Middle East including agreement for the maximum number allowed for embryo transfer that balances both patients preference of having twins and the concern for its complication for mother and babies.

P0209
THE EFFECTS OF SPERM DNA FRAGMENTATION ON THE INTERACTION OF SPERMATOZOA WITH THE ZONA PELLUCIDA OF HUMAN OOCYTES

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Objectives: The objective of this work was to study the effect of sperm DNA fragmentation on the interaction of sperm with the zona pellucida (ZP) of human oocytes.

Method: Our work focuses on 119 infertile patients. The oocytes were collected 48 hours after insemination in patient’s assigns failed at IVF or ICSI. The denuded oocytes were stored in saline until their use for binding to the ZP assay. The sperm of infertile patients was treated by centrifugation on density gradient prior to being inseminated. The sperm DNA fragmentation was performed by the TUNEL technique. Patients were divided into three groups according to the DNA fragmentation index (DFI): Group I (79 patients, DFI <15%), Group II (28 patients, 15% < DFI < 30%), Group III (patients 12, DFI > 30%).

Results: The number of sperm attached to the ZP was positively correlated with the sperm count (r=0.018, p=0.06), sperm motility (r=0.49, p=0.07) and sperm morphology (r=0.12, p=0.05). The IFA was positively correlated with the % of sperm abnormal forms (r=0.247, p=0.007), the % of sperm dead (r=0.484, p=0.012), the % of sperm acrosome abnormalities (r=0.389, p=0.001) but negatively correlated with sperm motility (r=−0.29, p=0.033) and fixation test of spermatozoa to the ZP (r=−0.217, p=0.018).

Conclusions: The spermatic DFI was correlated with several sperm parameters: The % of sperm abnormal forms particularly with acrosome abnormalities, the % of sperm dead and the DFI elevation was positively correlated with the % of sperm abnormal forms (r=0.247, p=0.007).

P0210
ANTICOAGULANT PROPHYLAXIS OF THE REPEATED PREGNANCY COMPLICATIONS IN WOMEN WITH THROMBOPHILIA AND MULTIPLE PREGNANCY AFTER IVF

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Objectives: To evaluate the efficiency of anticoagulant, antioxidants and vitamins (folic acid, group B) in the course of preparation for IVF, in the IVF protocols, during multiple pregnancy and in the postnatal period.

Method: 125 women with the physiological course of multiple pregnancy (group I) and 100 women with pathological course of pregnancy after IVF and history of obstetric complications (group II) were examined for genetic thrombophilia and APA circulation.

Results: In group I thrombophilia was in 19 (15.2%). In the group II in 120 (96%): factor V Leiden mutation – in 38 (24.5%), prothrombin gene G20210A – 15 (12%), hyperhomocysteinemia in 43 (34.4%), LA circulation – 30 (19.35%), APS 31 (24.8%). The combined forms of thrombophilia in 22 (17.6%). Moderate preeclampsia developed in 23 (18.4%), placental abruption with antenatal death of both fetuses – in 5 women. Premature birth at term 29–32 weeks took place in 15 women. Thromboses (ileofemoral, jugular veins) – in 2 women at the 1 trimester of pregnancy and in 2 women postnatally.

Conclusions: The conducted research allows to assume the necessity of application of anticoagulant, antioxidant therapy and vitamins from the fertile cycle and during all pregnancy.

P0211
ADDITION OF LONG-ACTING GROWTH HORMONE, EUTROPIN PLUS® SINGLE INJECTION DURING CONTROLLED OVARIAN STIMULATION IMPROVES EMBRYO QUALITY AND EMBRYO IMPLANTATION RATE IN POOR RESPONDERS UNDERGOING IVF

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Objectives: This study was performed to investigate whether the addition of long-acting growth hormone (GH), Eutropin plus® 24mg
single injection could improve on controlled ovarian stimulation (COS) results and IVF outcome in poor responders undergoing IVF.

**Method:** This retrospective cohort study included 111 consecutive IVF/ICSI cycles in 111 poor responders who underwent COS using the GnRH antagonist multiple-dose protocol (MDP) in which long-acting GH, Eutropin plus® 24mg single injection is added (LAGH group, n=61) or the conventional GnRH antagonist MDP (control group, n=50) between March 2014 and November 2014. The diagnosis of poor responder was based on the Bologna criteria of the 2011ESHRE consensus. COS and IVF results were compared between the two groups. Student's t-test was used to compare mean values. Chi-square test and Fisher's exact test were used to compare fraction.

**Results:** Total dose and days of gonadotropins used for COS were similar between the two groups. The number of oocytes retrieved was also comparable. However, the number of mature oocytes, fertilized oocytes and grade I or II embryos were significantly higher in the LAGH group (p<0.001, p=0.001, p<0.001, respectively). Embryo implantation rate was significantly higher in the LAGH group of 23.3% compared with 12.1% in the control group (p=0.013). No patients reported any systemic or local adverse effects attributed to the use of long-acting GH, Eutropin plus® 24mg single injection.

**Conclusions:** GH co-treatment using long-acting GH, Eutropin plus® 24mg single injection is a feasible and patient-friendly alternative to improve the oocyte and embryo quality and increase the embryo implantation rate in poor responders undergoing IVF.

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**P0212**

**INTRAMUSCULAR PROGESTERONE (GESTONE) VS VAGINAL SUPPOSITORY (CYCLOGEST) FOR LUTEAL PHASE SUPPORT IN CYCLES OF IN VITRO FERTILIZATION (IVF): PATIENT PREFERENCE AND DRUG EFFICACY**

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**Objectives:** Following IVF treatment, patients are routinely given progesterone supplantations for luteal phase support. In our program it is given for an average of 8 weeks in form of either Intramuscular progesterone 50mg daily injections, or Vaginal cyclogest suppositories 400mg BID based on patient’s preference. We observed patients demand on more IM preparations, while there is a world wide shortage in supply of the IM progesterone. The objective of our study is to assess the patient’s preference regarding the routes of progesterone supplementation and their satisfaction with the selected choice, and Compare the efficacy of the different routes.

**Method:** Prospective cohort study, patients <40 years old undergoing IVF treatment at our clinic were offered to participate. Patients were allocated by their choice to either group A (IM progesterone), or group B (the vaginal progesterone). Both groups were treated similarly apart from the progesterone intervention. A satisfaction score from 1–5 was used to assess patients satisfaction in regard to the treatment method, they were interviewed for recording of their satisfaction and the side effects. Sample size was calculated for a total of 400 patients. This is an Interim analysis at middle of the study.

**Results:** 105 patients (52%) were in (group A) and 94 patients were in (group B). Average age and BMI was similar in both groups. 56% of the patients in group A and 59% of the patients in group B had reported at least one side effect, P=0.9, the most common side effect for group A was discomfort after administration40%, the most common side effect in group b was vaginal leak 16%. The median satisfaction score for group A was 5 and for group B was 4, P=0.13. The pregnancy rate for both groups was similar at 32%.

**Conclusions:** This initial data showed that more than half of the patient undergoing IVF treatment have selected IM progesterone for luteal phase support, there was no significant difference in the patient’s satisfaction, side effects and pregnancy rate in both groups.

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**P0213**

**HIGH-RISK HUMAN PAPILLOMAVIRUS INFECTION IN PATIENTS WITH VULVOVAGINAL CONDYLOMA: PREDICTING POOR TREATMENT RESPONSE AND DISEASE RECURRENCE**

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**Objectives:** Human papillomavirus (HPV) is a well-established cause of premalignant and malignant disease in the female genital tract. However, little is known about the role of oncogenic HPV types in the prognosis of vulvovaginal condyloma (VVC). The aim of this study was to determine the predictive factors for progression and recurrence of VVC, with a specific focus on high-risk HPV (HR-HPV) infections.

**Method:** Data from patients who were treated for VVC between 2003 and 2014 were retrospectively reviewed. Patients' demographic characteristics, cytopathologic findings, and HPV testing results were analyzed in relation to treatment response and VVC recurrence.

**Results:** Half of the 36 were positive for HR-HPV types, and the other half tested negative for high-risk HPV types. With regard to treatment response, 75% of those with poor treatment response (n=21) had abnormal cytology; an abnormal cytology was therefore identified as a single risk factor of poor response (OR: 4.33, p=0.042). During 24 months of follow-up, recurrent VVC occurred in seven (14.6%) patients. In multivariate analysis, high (>50 RLU) viral load of HR-HPV was significantly associated with recurrence (OR: 7.42, p=0.032). The 6-month recurrence-free rates were 84.6% and 33.3% in patients with low and high viral loads, respectively (p=0.003).

**Conclusions:** HR-HPV infection is highly prevalent in patients with VVC. High viral load is a risk factor for recurrence, but is not related to treatment response. Poor treatment response is more related to abnormal cytology than it is to viral load.

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**P0214**

**MENSTRUAL PATTERN AND COMMON MENSTRUAL DISORDERS AMONG UNIVERSITY STUDENTS**

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**Objectives:** Although menstrual disorders has been widely studied in many countries, there are very few published data on menstrual abnormality in Ethiopia. The main objective of this study was to determine the pattern of menstrual cycle and common menstrual disorders among university students.

**Method:** A cross-sectional descriptive study was conducted at St. Mary University college in the academic year of 2010/2011 GC. A total of 333 students were randomly selected and asked to complete the anonymous questionnaire of 24 items. Of the 333 self administered questioners 301 were correctly filled.

**Results:** The mean age at menarche was 14.03 years (SD= 1.71). The mean duration of flow of menses was 5.08±1.75 days. 11.3% of the subjects had severe dysmenorrhea and activity restrictions; treatment seeking and medicament use were more common among those subjects (p<0.05). Of dysmenorrheic subjects 68% used medicaments and 79.4% got relief (p<0.05). For the majority their first source of menstrual information were female friends and their mothers in 49.2% and 47.2% respectively.

**Conclusions:** The present study indicates that prevalence of dysmenorrhea, PMS and menstrual irregularity among university students is high. Despite its high prevalence and negative effects, young women choose to resist their pain and most students have never presented to
a physician, as a result they might have inappropriate and insufficient information about their menstrual problems. Hence, a comprehensive school health/education program on menarche, menstrual problems and gynecological health given by teachers and medical staff is needed.

**P0215**

**EFFECT OF VITAMIN B1 ON CYCLIC MASTALGIA (BREAST PAIN) IN WOMEN**

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**Objectives:** The most common cause of anxiety among women in health care centers, due to the nature of cyclic mastalgia that proper treatment is important. Mastalgia breast pain is a complaint that many pharmacological agents used to treat it. The drug is used to treat mastalgia vitamin. Due to the absence of a fully effective medication and side effects, this study was conducted to determine the effect of vitamin B1 on the treatment of cyclic mastalgia.

**Materials and methods:** In a Randomized Clinical Trial (RCT) two blind, 80 female students that resident in the dormitories of Jahrom University with mastalgia in the age group 30–18 years with mastalgia who were divided randomly into two groups. In a group of 40 students gives 100 mg vitamin B1 Tablet daily for three months, and a second group of 40 students for 3 month, placebo (placebo) was administered. Breast pain severity and duration of the pain and breast pain chart was assessed daily. T tests, Wilcoxon and Mann-Whitney tests were analyzed.

**Results:** At the end of the quarter, 76% of the vitamin B1, 14% responded to placebo (P < 0.0001). Vitamin B1 was well tolerated and caused no side effects.

**Conclusions:** Vitamin B1 is safe and effective drug therapies to treat mastalgia and it is known that most of the upper side is better tolerated. This study is result of an original article that recognized the effect of vitamin B1 on the treatment of cyclic mastalgia in women.

**P0216**

**OFFICE TRANSCERVICAL Microwave MYOLYSIS ASSISTED BY TRANSEAROMAL ULTRASONIC GUIDANCE FOR MENORRHAGIA CAUSED BY SUBMUCOSAL MYOMAS**

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**Objectives:** To evaluate the effectiveness of microwave endometrial ablation (MEA) with transcervical microwave myolysis for patients with menorrhagia caused by submucosal myomas in office-setting day surgery.

**Method:** Thirty-five outpatients (average age; 44.8±5.2 years [mean ± SD], range; 34–58) with a single submucosal myoma that was 4–7 (5.5±2.1) cm in size underwent MEA with transcervical microwave myolysis using a specifically developed transcervical ultrasound probe attachment for transcervical puncture. Primary outcomes were the changes in the blood hemoglobin level and the volume of myoma before and after the treatment. Secondary outcomes were the improvement in menorrhagia and satisfaction after the operation, assessed by visual analogue scale (VAS).

**Results:** The mean operation time was 27.9±13.6 min. The myomas had shrunk by 56.2% at 3 months and 72.5% at ≥6 months after the operation. Blood hemoglobin levels had increased significantly at 3 months (10.2±2.0 versus 12.7±1.2; p < 0.001). The average VAS assessment of menstrual bleeding had decreased to 1.7±1.7 at 3 months after the operation (preoperative VAS =10). The average VAS score for feelings of satisfaction 3 months after the operation was 9.8±0.5 (full score =10).

**Conclusions:** MEA with transcervical microwave myolysis, in office-setting day surgery, is a feasible and effective procedure for menorrhagia caused by submucosal myomas. The procedure may be an alternative to hysterectomy for menorrhagia caused by submucosal myomas in women during the perimenopausal period.

**P0217**

**TRANSCERVICAL INTERSTITIAL MicrowaveABLATION THERAPY - ADENOMYOLYSIS – FOR THE TREATMENT OF ADENOMYOSIS: A NOVEL ALTERNATIVE TO HYSTERECTOMY**

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**Objectives:** Adenomyosis is a tumor-like condition common in women aged 30–50 years. Hysterectomy is presently considered as the standard surgical treatment for adenomyosis. Standard microwave endometrial ablation (MEA) at a frequency of 2.45 GHz is not effective for the treatment of adenomyosis lesions deeper than 6 mm from the endometrium. However, transcervical microwave adenomyolysis (TCMAM) in combination with MEA could replace hysterectomy for the treatment of adenomyosis. In this prospective study, we evaluated the treatment of adenomyosis by using simultaneous TCMAM and MEA.

**Method:** We enrolled 51 adenomyosis patients with menorrhagia and dysmenorrhea who selected MEA as an alternative to hysterectomy. Complete informed consent was obtained from all patients. After MEA was performed, a 4-mm microwave applicator was transcervically introduced, under transabdominal ultrasound guidance, into the uterine cavity and was inserted into the adenomyosis using a specifically developed transabdominal ultrasound probe attachment for transcervical puncture. The adenomyosis was continuously irradiated with microwaves with a frequency of 2.45 GHz at 40 W for 100–780 s based on its size.

**Results:** Four weeks after the procedure, contrast-enhanced magnetic resonance imaging showed de novo avascular areas of 18–50 mm in thickness where the adenomyosis was previously located. The average hemoglobin level increased significantly (P < 0.0001: paired t-test) by 4.4 g/dl at 3 months. The mean uterine body volume significantly (P < 0.0001: paired t-test) decreased to 61% and 58.9% of the volume before treatment at 3 months and 12 months postoperatively, respectively. Visual analogue scale scores showed subjective improvements in menorrhagia and dysmenorrhea. There were no remarkable complications except for watery discharge, which was encountered after the operations.

**Conclusions:** The use of TCMAM with MEA as a possible alternative to hysterectomy for adenomyosis can help to relieve menorrhagia and dysmenorrhea and also to shrink the uterine body.
Results: The clinical efficacy of antihormonal therapy in our study was 86%. Statistically significant decrease in gene expression of PR-A in BMNC on an average 9.8 times was showed in patients after treatment with mifepristone (p=0.01). The same statistical analysis was realized in uterine myoma patients groups that are depended on the effectiveness of therapy. No changes in steroids receptors gene expression were founded in patients without effect of antihormonal therapy.

Conclusions: The therapeutic effect of mifepristone involves changes in the receptor profile of immune cells in peripheral blood of uterine myoma patients. Therefore revealed new mechanism of mifepristone's antiproliferative effect on uterine myoma is the influence on immune system.

PO219
A LARGE NABOTHIAN CYST WITH CHRONIC PELVIC PAIN

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Objectives: Nabothian cysts are common gyneco-pathological conditions of women in reproductive age. They are most often caused when squamous epithelium blocks the opening of nabothian glands trapping mucosal secretion in small (2–10 mm diameter) subdermal pockets. Nabothian cysts are usually associated with chronic cervicitis, an inflammatory condition of cervix, and are harmless and usually disappear on their own. Nabothian cysts are not problematic unless they are sizeable and present secondary symptoms like in this case. We report a case of a large nabothian cyst with chronic pelvic pain.

Method: She suffered from chronic pelvic pain and vaginal discharge 3 months before going to the hospital. That complaints was aggravated during ambulation. She was checked by orthopedic examination and there was no specific finding. The patient was in good physical health, with a blood pressure of 110/70, pulse of 84-times, and body temperature of 36.6°C. Vaginal examination revealed enlarged cervix due to large cystic mass. Values from blood testing and other examinations were normal. Both chest X-ray and EKG showed normal values. Ultrasound showed a normal-sized uterus with a two-chamber 6.5x5.0 cm anechoic cyst in cervical region.

Results: Operation: We performed cystectomy via vaginal approach. A large cyst filled with mucinous fluid was removed from the cervix. Pathologic finding: Histopathology examination showed cyst wall lined with cuboidal epithelium suggestive of nabothian cyst.

After surgery: After the cystectomy, she was improved pelvic pain.

Conclusions: Nabothian cysts are common lesions of uterine cervix and usually of no clinical significance. They are only a few millimeters in diameter and although they may cause enlargement of cervix, the vast majority are asymptomatic. The classical cases of nabothian cysts do not require any treatment. However, symptomatic nabothian cyst should be considered the surgical approach.

PO220
ALGORITHM FOR DIAGNOSIS OF BENIGN OVARIAN TUMORS

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Objectives: Work out presurgical diagnostic algorithm.

Method: We surveyed 434 patients with ovarian tumors, who underwent surgery. Laboratory inspection methods included: examination of immunological status of patients, definition of CA-125 in blood, vascular endothelial growth factor (VEGF) and apoptosis markers p53, Bcl-2 in blood and peritoneal liquid as well. The type of blood circulation, localization of an intratumoral blood flow, and resistance index were examined by Doppler mapping.

Results: The imbalance of immunological status was characterized by decrease in absolute and relative number of T-helpers, increase of T-suppressors and especially NC-cages. Oncomarker’s level has been sharply increased in comparison with norm and fluctuated from 48.1–60.3 to 354.9–583.3 U/ml in patients with malignant tumors, and the highest levels were in boundary tumors. We study anamnesis, clinical-laboratory data and compare them with the data of CA-125 levels in blood, VEGF levels, p53/Bcl-2 ratio in blood and peritoneal liquid, histological results of removal tissue and Doppler mapping of formation in patients with benign ovarian tumors.

Conclusions: Thus, we made out algorithm of presurgical examination of patients with benign ovarian tumors. Implementation of diagnostic algorithm positively resulted on efficacy of surgical treatment and prediction of tumor’s type, as well as on choice of surgery method.

PO222
CLINICAL EFFECTS OF LEVONORGESTREL-RELEASING INTRAUTERINE DEVICE IN PATIENTS WITH ENDOMETRIOMA AFTER SURGERY AND 6 CYCLES OF GONADOTROPIN RELEASING HORMONE AGONIST

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Objectives: Although the usage of each levonorgestrel-releasing intrauterine system (LNG-IUS) and gonadotropin releasing hormone agonist (GnRHa) are widely used and known to be effective in managing women with endometriosis, efficacy of combination of these two methods is questionable. Therefore we inspected the efficacy of postoperative use of LNG-IUS with GnRHa for managing endometriosis.

Method: This is a prospective study including patients who underwent operation for endometrioma detected in radiologic examinations from March, 2010 to July, 2014. All women had undergone laparoscopic or laparotomy surgery for endometrioma followed by the postoperative use of LNG-IUS with GnRHa in the three to six cycles of GnRHa. Women were categorized into two groups: a group who had postoperative GnRHa with LNG-IUS (n=18) and a group who had postoperative GnRHa with oral contraceptive pills (OC) (n=73). Menstrual characteristics, complications, recurrences were analyzed according to postoperative treatment modalities.

Results: During the follow-up period, the vaginal spotting and bleeding were found in twelve women (13.2%); 5.6% in patients with LNG-IUS (1/18) and 15.1% in patients with OC (11/73). Improvement in dysmenorrhea was found in 88.9% of patients with LNG-IUS (16/18), whereas 82.2% of patients with OC (60/73), and amenorrhea was detected in 22.2% in the LNG-IUS group (4/18), and in 4.1% in the OC group (3/73). The recurrent endometriomas were detected in total three women (3.3%); 5.6% in patients with LNG-IUS (1/18), 2.7% in patients with OC (2/73), and no patients in LNG-IUS group experienced expulsion.

Conclusions: Postoperative usage of GnRHa with LNG-IUS seemed to be comparable to the use of GnRHa with OC or any other postoperative single treatment in relieving symptoms and improving quality of life in endometriotic patients.

PO223
CLINICAL OUTCOMES OF ADENOMYOMECTOMY USING DOUBLE FLAP METHOD IN PATIENTS COMPLAINED OF SEVERE DYSMENORREA


Objectives: Hysterectomy is the only definitive treatment for debilitating adenomyosis. In case of infertility or strong wish to preserve the uterus, conservative surgery could be considered. The aim of this study was to evaluate the clinical outcomes after adenomyomectomy using the double flap method, which includes double suturing
the uterus using a serosal-side flap after resecting adenomyotic tissues.

**Method:** Forty two women complaining of severe dysmenorrhea underwent adenomyomectomy by double flap method during the last three years. After incision until endometrial cavity was opened, adenomyotic tissue on uterine wall was completely removed. Endometrial cavity was repaired, one side of uterine wall after removing the serosa was sutured over endometrial side of uterus, and the other side of uterine wall was sutured over the first flap. 15 cases by laparoscopic operation, 16 cases by robotic laparoscopic operation, and 11 cases by laparotomy were performed.

**Results:** Mean age of enrolled women was 38.76±4.83, and parity was 0.62±0.79. Mean excised tissue was 115.8±47.9g (34–457g), mean operational time was 142.6±55.9 minutes (35–250 minutes). Compared by operational methods, operational time was significantly longer in laparotomy, however, age, parity, CA125 levels, preoperative uterine size, excised tissue weight, postoperative symptoms relief were not different. All patients’ dysmenorrhea and hypermenorrhea were reduced after operation. With mean follow-up of 12 months, six women (14.2%) took NSAID for less severe pain before. No one underwent hysterectomy. Among ten women wanted to bear children, only one woman conceived spontaneously and was delivered of a healthy baby by Cesarean section.

**Conclusions:** Conservative operation for adenomyosis by minimal invasive methods appear to be safe and effective to control the dysmenorrhea. Pregnancy rate was somewhat disappointed. Well designed, large scale study are needed.

**P0225**

**ASSOCIATION BETWEEN MCP-1, L-SELECTIN AND MACROPHAGE PROFILE EXPRESSIONS IN ENDOMETRIOSIS**

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**Objectives:** Endometriosis is defined as altered inflammatory functions, characterized by alternatively activated macrophages (M2) that function more dominantly than scavenger macrophages (M1) in the proinflammatory process. Macrophage activation is affected by leukocytes recruited in to the inflammatory site. This is affected by adhesion molecules (L-selectin) that trigger the initial step in recruiting leukocytes resulting in high production of MCP-1 of the endometrial stroma. This study was conducted to determine an association between MCP-1, tissue L-selectin and macrophage profiles in endometriosis.

**Method:** This cross sectional analytical study assessed MCP-1, L-selectin, and M1 and M2 macrophage expressions. M1 and M2 macrophage immunoprecipitated areas (using monoclonal anti-human-CD68 (Clone PG-M1) mouse and anti-CD163 human markers) present at endometrial tissue slices were calculated as antigen expression percentage. L-selectin (CD62L) was immunohistochemically examined using anti human L-selectin monoclonal antibody (MECA-79; BD Pharmigen), and MCP-1 using monoclonal mouse anti-MCP-1.

**Results:** Twenty one endometriosis and 21 control cases were obtained using consecutive sampling based on inclusion and exclusion criteria. The endometriosis group was dominated by 66.7% of subjects that expressed M1 macrophages, whereas only 9.5% of non endometriosis subjects expressed M1 macrophages. All endometriosis subjects expressed M2 macrophages whereas only 4.8% of non endometriosis subjects expressed M2 macrophages. Although expressed in all endometriosis subjects, MCP-1 and L-selectin was not expressed in non-endometriosis tissues. MCP-1 and L-selectin was significantly associated with macrophage expressions in cases of endometriosis (p<0.0001).

**Conclusions:** MCP-1 and L-selectin expressions was associated with macrophage expressions in endometriosis, with higher expressions of M2 than M1 macrophage.

**P0226**

**ESTROGENIC NICHE IN EUTOPIC AND ECTOPIC ENDOMETRIUM SHOWS SIGNIFICANT PHENOTYPICAL DEPENDENCE ON THE FERTILITY STATUS OF THE PATIENTS HAVING OVARIAN ENDOMETRIOSIS**

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**Objectives:** Generally, endometriosis is considered as an estrogen mediated disorder. There are however conflicting reports regarding the expression of proteins involved in estrogen synthesis, catabolism and action in endometrium of patients with endometriosis. We have recently reported that the endometrial phenotypes are different between fertile and subfertile patients with ovarian endometriosis. In the present study, we have examined the immunohistochemical levels of steroidogenic proteins in eutopic endometrium during proliferative and secretory phases of fertile and subfertile patients of ovarian endometriosis.

**Method:** Eutopic and ectopic endometrial tissues were collected during proliferative (n=25) and secretory (n=12) phases of menstrual cycles from fertile (n=18) and subfertile (n=19) groups of women affected with ovarian endometriosis. Control (n=22) endometrial tissues were collected from unaffected women during proliferative and secretory phases of menstrual cycles. Steroidogenic proteins (SF-1, STAR, aromatase, 17βHSD1, 17βHSD2, ER-α, ER-β and PGR) were immunohistochemically quantified and localized using Western im-
Conclusions: It appears from the present study that phenotypically the estrogenic dynamics of endometrium in patients having ovarian endometriosis shows significant dependence on the fertility history besides the phases of the menstrual cycle. Thus, a generalized anti-estrogenic therapeutic approach to treat ovarian endometriosis may not be a clinically robust approach.

P0227
MOLECULAR PHENOTYPING OF ENDOMETRIUM BASED ON WHOLE HUMAN GENOME TRANSCRIPTOME ANALYSIS REVEALS OVERT DIFFERENCES BETWEEN FERTILE AND SUB-FERTILE PATIENTS OF OVARIAN ENDOMETRIOSIS

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Objectives: Large scale array based transcriptome analysis of autologous eutopic and ectopic endometrial tissues obtained from patients with ovarian endometriosis previously indicated possible differential expression of steady state transcripts between fertile and sub-fertile groups. In the present study, we have examined this notion using whole human genome transcriptome analysis of eutopic endometrium from fertile and sub-fertile patients having rASRM stage 4 ovarian endometriosis during proliferative and secretory phases of menstrual cycles. It was anticipated that this may yield an input list of molecules having high order of pathophysiological and clinical significance.

Method: Endometrial eutopic samples were collected from fertile and sub-fertile (n=16/each) patients with stage 4 ovarian endometriosis. Total RNA was extracted and based on the quality and integrity (RIN >8.0) of extracted RNA, 24 samples were subjected to whole genome expression microarray. The selected images which passed the default quality control (n=23) were further subjected to exploratory analyses followed by differential display among groups using ANOVA with unequal variance and multiple comparison test with Benjamin-Hochberg correction using GeneSpring v13.0 software. The data was further subjected to enrichment analysis using GENEGO MetaCore Web portal.

Results: Exploratory analyses identified expression segregation between fertile and sub-fertile groups. The differential expression between fertile and sub-fertile groups identified 88 genes in the proliferative phase and 21 genes in the secretory phase. Functional genomics analysis revealed that the differentially expressed genes in fertile and sub-fertile patients with stage 4 ovarian endometriosis are associated with transcription regulation in terms of RNA editing, various other protease dependent G protein signaling cascades and receptor tyrosine kinase mediated signaling. Contrary to the fertile groups, the sub-fertile group with ovarian endometriosis appeared to display inadequacy in recycling of cellular materials in endometrial cells.

Conclusions: Further molecular phenotyping of endometrium may identify differences between fertile and sub-fertile patients having ovarian endometriosis, which will reflect high order of pathophysiological and clinical leads towards better understanding and management of this complex gynecological disorder.

P0228
EFFECTS OF MÜLLERIAN INHIBITING SUBSTANCE ON MYOMA

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Objectives: Müllerian inhibiting Substance (MIS), also known as anti-Müllerian hormone (AMH), is known to not only act as a regulator of female reproductive function but also inhibits the growth of Müllerian duct-derived tumors in vivo and in vitro. But the role of MIS in myometrium and myoma is unclear. Therefore, this study is aimed to confirm the expression of MISRII and effects of MIS on on myometrium and myoma.

Method: We gathered the tissues from the 26 patients who had hysterectomy for myoma (24 myometrial tissues and 26 myoma tissues). We performed immunohistochemistry with rabbit polyclonal anti-human MISRII antibody. The cultured cells were exposed to MIS and MTT assay. Induction of cell cycle and apoptosis was also observed in the cells treated with MIS as measured by using DNA PI staining and annexin V binding. The cells were analyzed on a flow cytometer. We evaluated the expression of proteins which is related apoptosis and cell cycle arrest in myometrium and myoma.

Results: MISRII was strongly stained in myoma tissues, whereas myometrial tissue showed weakly stained. The cultured myoma cells treated with MIS significantly exhibited 26.4% growth inhibition in myoma but 7.7% in myometrium (P<0.05). Changes in cell cycle distribution after exposure to MIS demonstrated that S and G2/M phases were decreased, G0/G1 and subG0/G1 phases increased 8.9% and 24.3% in myoma and 3.2% and 8.3% in myometrium respectively. In the cultured myometrium and myoma cells treated with MIS increased 5.2% and 20.2% binding annexin V. Treatment with MIS down-regulated p107 and p130, the cell cycle related protein and up-regulated caspase-3, the apoptosis related protein cleaved.

Conclusions: We found that the expression of MISRIIhas difference between myometrial tissue and myoma. MIS induces G0/G1 cell cycle arrest and apoptosis of myoma. These finding suggest that MIS has a greater role on myoma than myometrium in cell cycle inhibition and apoptosis. Therefore, MIS could be used as a biological modifier or therapeutic agent for the treatment of myoma.

P0229
FERRIC CARBOXYMALTOSE VERSUS IRON SUCROSE IN THE TREATMENT OF IRON DEFICIENCY ANEMIA DUE TO ABNORMAL UTERINE BLEEDING – A RANDOMIZED TRIAL

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Objectives: Abnormal uterine bleeding is one of the common causes of iron deficiency anemia especially in developing countries. Though the treatment per se for the gynecological pathology causing the AUB is a must, most of these patients suffer from anemia due the acute or chronic blood loss. The present study was conducted to evaluate the efficacy, safety and improvement in fatigue levels using intravenous ferric carboxymaltose (FCM) versus intravenous iron sucrose (ISC) in the treatment of anemia due to abnormal uterine bleeding (AUB).

Method: A randomized trial was conducted in the department of Obstetrics & Gynaecology at All India Institute of Medical Sciences, New Delhi (India). Sixty women presenting with iron deficiency anemia due to AUB (Hb 6–11 g%) were randomized to receive either IV FCM (Group I) or IV ISC (Group II). Iron deficit was calculated according to Ganzoni’s formula. Group I received Inj FCM 1000 mg weekly and Group II received Inj ISC 300 mg twice weekly. Hematological parameters were done at baseline, after 1, 3, 6 and 12 weeks. Fatigue measurement was done by 4 point numeric scale and linear analogue scale assessment (LASA).
**P0230**

**TWIN PREGNANCY CONSISTING OF A COMPLETE HYDATIDIFORM MOLE AND COEXISTING FOETUS (CHMCF): A CASE REPORT**

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**Objectives:** To compare immediate termination vs. conservative approach for twin pregnancy consisting of a complete hydatidiform mole and coexisting foetus according to contemporary guidelines from the literature and to sort out the complications.

**Method:** Data obtained from periodic follow up were gathered together.

**Results:** The clinical circumstances were discussed in brief with the patient and after taking informed consent in written form a decision for termination was made. Following delivery by hysterotomy the patient was scheduled for routine follow up with serum β-hCG level that returned to baseline within 9 weeks following termination of the pregnancy. Her β-hCG level at admission was 2,250,000 mIU/mL and the level fell to 1,86,096 mIU/mL 48 hours after termination of pregnancy.

**Conclusions:** Twin pregnancy with complete hydatidiform mole represents a major controversy. We suggest that conservation should always be considered whenever tertiary care services and strict observation are available.

**P0231**

**THE PREVALENCE OF BLEEDING DISORDERS IN WITH WOMEN WITH PROVEN ENDOMETRIOSIS AND IN WOMEN WITH HEAVY MENSES**

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**Objectives:** To establish the rate of bleeding disorders in women attending a tertiary women hospital with histologically proven endometriosis and in women with heavy menstrual bleeding (HMB).

**Method:** All women with histologically proven endometriosis and all women attending the gynaecology clinic for HMB were approached for participation in the study. Women completed a standardised international bleeding score questionnaire. Those who achieved bleeding scores suggestive of an increased risk of a bleeding disorder underwent the haematological screening tests for vonWillebrand’s disease (vWF/Factor VIII studies) and platelet function disorders (utilising PFA100). Testing was delayed if recent nonsteroidal use had occurred.

**Results:** 41/82 women with proven endometriosis fulfilled criteria for testing. The prevalence of abnormal screening haemostasis tests for this population who underwent testing was 17.7% (95% CI: 10.0–27.9) for all tests, 8.5% (95% CI: 3.5–16.8) for vWF/FVIII tests, and 13.0% (95% CI: 6.4–22.6) for PFA-100®. Of women who had presented with HMB 71/125 women underwent haematological testing. The prevalence of abnormal screening tests was 16.1% (95% CI: 9.8–24.2).

**Conclusions:** The prevalence of abnormal bleeding tests in women with endometriosis and women with HMB was higher than the background rate of bleeding abnormalities in the population (1%).
P0234
LIGHTENING STRIKES TWICE: RECURRENT ECTOPIC PREGNANCY IN TUBAL REMNANT AFTER SALPINGECTOMY FOR ECTOPIC PREGNANCY
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Objectives: Advancements in ultrasound have vastly improved detection and diagnosis of ectopic pregnancy. The incidence of EP is 14% and the mortality rate remains 0.4 per 1000 ectopic pregnancies.
Method: A 28 year-old woman (gravida 3 para 0020) underwent laparoscopic right salpingectomy for an ectopic pregnancy. She presented one year later with a recurrent ectopic pregnancy in the tubal remnant requiring another laparoscopy and excision of right ectopic pregnancy and tubal remnant.
Results: The patient has subsequently conceived spontaneously. She went on to have an uncomplicated pregnancy and delivery.
Conclusions: Despite advances in diagnostic studies, atypical presentations of ectopic pregnancy may evade diagnosis resulting in maternal morbidity and mortality.

P0235
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Objectives: To determine abdominal wall endometriosis’ clinical and epidemiological characteristics, as well as its rate and the factors of recurrence of the disease.
Method: It was a retrospective descriptive study evaluating 52 women with abdominal wall endometriosis referred to Prof. Dr. Jose Aristodemo Pinotti Hospital at State University of Campinas (Unicamp) from 2004 to 2014. 231 surgeries were performed to diagnose endometriosis, from which was found endometriosis evidence in 93 women from which 52 had abdominal wall endometriosis (AWE).
Results: Frequencies, mean and standard deviation of the clinical characteristics of these women and the rate of recurrence of endometriosis wall were calculated. To determine the recurrence risk factors Fisher’s exact test was used.
Conclusions: In a nutshell, women with previous cesarean section may present more insidious evolution.

Contraception and Fertility Control
P0236
GIANT BREAST LIPOMA WITH FAST EVOLUTION: CASE REPORT
Objectives: Report a case of giant breast lipoma for its fast growth and large volume.
Method: This study was based on a retrospective review of medical records and analysis of histopathology of a woman with fast growing lipoma. This patient was followed in Gynecology service of Hospital Municipal da Piedade in Rio de Janeiro, Brazil.
Results: S.F.A., 49 years old, white, refer progressive volume growth of her right breast in seven months. Physical examination showed asymmetric growth of the right breast as a result of a soft consistency, regular, large, painless, well defined tumor in upper quadrant. Mammography showed a lipomatous tumor of the right breast without signs of malignancy. Ultrasound showed solid and cystic consistency mass, partially defined, measuring 37x37 cm. The tumor was removed preserving the breast tissue. Pathophysiological examination showed a specimen that measured 26x22 cm with a total weight of 1,300 g without malignant signs, compatible with Lipoma.
Conclusions: The breast lipoma should be remembered in the differential diagnosis of breast masses of rapid growth, although usually present more insidious evolution.

P0237
AUDIT ON INFORMED CONSENT FOR INTRAUTERINE CONTRACEPTION
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Objectives: Looking at whether patients are adequately informed about insertion of intrauterine contraception at Walkden Medical Centre. Particularly focussing on ensuring that the clinicians tell specific information to the patients set out in The Faculty of Sexual and Reproductive Healthcare's Guidelines and NICE Long-acting reversible contraception guidelines. After all this information, the patients have sufficient information to give informed consent for the procedure.
Method: An EMIS search was completed for all patients who had any intrauterine device (IUD) in the past year. Their consultation notes were examined to find information that had been recorded by the clinician as proof they have adequately informed the patient about the IUD. The information included in the notes was then cross-checked against the information that NICE recommends should be conveyed and recorded in a table.
Results: 51 patients were identified in total. 100% of patients had a “chaperone offered”, “gynaecological exam” and given a “follow-up appointment” (65% attendance rate). 98% of patients had been told to “check threads”. 93% of patients had “fertility advice” and 91% had “procedural information”. 56% had an STI check and 47% had been told about the “failure rate”, “risks and side effects”. Only 19% had been told about when to seek medical attention and 2% patients had been told the duration time of the IUD. 0% of patients were told about the method of action and no contraindications were checked.
Conclusions: The results were mixed with some categories being recorded more than other. It may be the case that the patient was informed about the procedure verbally but not recorded in the consultation notes, which could explain some of the poor results.
Recommendations: Present findings to practice to raise awareness of the findings. Implement a consent form that can be printed off,
completed by the patient, which contains all the relevant information and the scanned back into the EMIS database.

**P0238**

STRUCTURAL EQUATION MODEL OF SOCIAL SUPPORT WITH WOMEN'S EMPOWERMENT IN REPRODUCTIVE DECISION-MAKING

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**Objectives:** Women’s empowerment is the third component of the Millennium Development Goals (MDGs) and plays an important role in achieving the other goals. In many parts of the world, women have not the power to make decisions about reproductive issues and the decisions that affect the family and community support. Social norms have a major impact on reproductive how decisions. Given the importance of this relationship model that has not been investigated so far.

Therefore, this study was designed to figure out the Structural equation model of Social Support with women’s empowerment in reproductive decision-making.

**Method:** This was a descriptive-correlation study on 400 women who attended health centers affiliated to Shahid Beheshti University of Medical Sciences Tehran-Iran. Data collection instruments included: 1) socio-demographic characteristics 2) women’s empowerment in reproductive decision-making, 3) perceived social support.

Data were analyzed by SPSS-17 and EQS 6.1 for structural equations model.

**Results:** Information on Women’s empowerment in reproductive decision making implied that the mean score of women’s empowerment reproductive was 82.54±14.00 of the total score of 152 score. Social Support is correlated with women’s empowerment in reproductive decision making (r=0.33, P<0.001). Results showed that the final model had favorable fit (RMSEA=0.07, CFI=0.92) and the direct effect of Social Support (β=0.54) and the indirect effect of socioeconomic status (β=0.23) was on women’s empowerment in reproductive decision making (P<0.001).

**Conclusions:** Social support a significant contribution in the field of women’s empowerment in reproductive decision-making. Socioeconomic status on the women’s empowerment in reproductive decision-making indirect effect.

**P0239**

THEORY-BASED INTERVENTIONS FOR CONTRACEPTIVE EFFECTIVENESS: IRANIAN FAMILY PLANNING PROVIDERS’ PERCEPTION

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**Objectives:** The aim of current study was Iranian family planning providers’ perception of Theory-based interventions for contraceptive effectiveness.

**Method:** This study had two phase. The first phase was providing a journal club among family planning providers. This journal club was designed based on evidence based family planning. The second phase was a qualitative study aimed at exploring family planning providers’ perception of Theory-based interventions for contraceptive effectiveness. Data were collected through four semi-structured Focus Group Discussion (39 family health providers).

**Results:** Overall, designing and implementation of family health education and counselling based on following models were suggested: Motivation interview plus Theory of planned behavior, Motivation interview plus Social cognitive theory, and Health belief models.

**Conclusions:** The study findings can help to family planning policy makers and health providers for designing counselling and interventions with a theoretical base approach.

**P0240**

CLASSIFICATION OF STRATEGIES FOR ENHANCING THE CONTRACEPTIVE USE IN HIV-POSITIVE WOMEN: USING THE NOMINAL GROUP TECHNIQUE MEETING

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**Objectives:** The study aimed to classification of strategies for enhancing the contraceptive use in HIV-positive women by using the Nominal Group Technique (NGT) Meeting.

**Method:** A panel of expert discussion was held by NGT in December 2014 with 16 sexual and reproductive health care providers who were selected through purposive sampling method. This study was conducted in Mazandaran University of Medical Sciences, Sari, Iran. NGT Procedure was conducted in four steps, including: Presentation of the task with Silent Idea Generation, Item Sharing with Round-Robin Recording, Discussion and Clarification, and Voting and Ranking.

**Results:** Overall, 52 items received scores from 3–55 and were further listed as the accepted strategies for enhancing the contraceptive use in HIV-positive women. The five strategies with highest score were suggested including: HIV-positive women call by media and continued educational and counseling programs (55 point); couple counseling intervention based on male participation (37 point); free of charge family planning services (32 point); multifaceted family planning intervention (22 point) and facilitating meeting support intervention (15 point).

**Conclusions:** The interesting finding of this study is the special view point of the specialists and sexual and reproductive health providers to role of counselling program based male participation and supporting system in promoting contraceptive use among HIV-positive women in the context of Iranian society.

**P0241**

PERCEPTION AND UPTAKE OF CONTRACEPTION AMONG HEALTH WORKERS IN ILE-IFE, SOUTH WESTERN NIGERIA

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**Objectives:** To assess the perception of health workers towards contraceptive methods, determine the proportion of health workers using modern contraceptive methods and identify factors influencing their contraceptive practice.

**Method:** A cross sectional descriptive survey of 300 practicing nurses in the health facilities within Ile-Ife was done using pre-tested, self-administered semi-structured questionnaires. Data obtained was analysed using SPSS version 15.0 and confidence level was set at 95% (p <0.05).

**Results:** Majority of respondents were less than 30 years, married, multiparous and had practised for more than 2 years. Prevalence of modern contraception was 75.2%. Knowledge of contraceptives was poorest for injectables and oral contraceptive pills (32%
each). Twenty six percent of respondents believed that contraception should be limited to women who had completed their families, while 32.4% were either uncertain or disagreed with the safety of contraceptives. The commonest method used was the condom, though contraceptive choice varied with cadre of staff. Desire for another pregnancy was the main reason for discontinuing contraception (51.2%). Older age, religion and marriage positively influenced contraceptive use.

Conclusions: Knowledge and perception of contraception among nurses in Ile-Ife is relatively poor. Ensuring accurate information on contraception among this target group of health workers is an important step towards achieving success in the national family planning programme.

P0242
RETROSPECTIVE STUDY OF THE PREVALENCE, LEGAL AND ETHICAL ASPECTS OF STERILIZATION TUBAL LIGATION PROCEDURES IN HIV SEROPOSITIVE PREGNANT WOMEN

Objectives: HIV infection in women at reproductive age brings up the issue of vertical transmission of HIV. It is estimated 3 million HIV+ pregnant in Brazil and vertical transmission is controlled by antiretroviral drugs and proper assistance to the parturient and newborn. But many of these women do not want more children, opting for sterilization. A legislation states the necessary procedures to perform the tubal ligation, limiting the implementation at the birth delivery. We tried to analyze the contraceptive guidance, monitoring compliance of legal regulation for surgical sterilization and situations that could converge to reinforce this statement to HIV+ pregnant women.

Method: Retrospective study of medical records of the Obstetric Center of Conjunto Hospitalar de Sorocaba (CHS)/São Paulo, Brazil, from January 2008 to January 2012. The cases where the notes in the medical record were not enough to clarify, the patients were called to clarify the doubts.

Results: We had 41 HIV+ parturient in the CHS with 10 women who had tubal ligation at child-birth delivery, 20 women did not have and 11 whose information were not enough to characterize either situation. In no patient was obeyed the stated by the Constitutional Law. The chi-square test revealed no difference between making and not having sterilization (51.2%). Older age, religion and marriage positively influenced contraceptive use.

Conclusions: Knowledge and perception of contraception among nurses in Ile-Ife is relatively poor. Ensuring accurate information on contraception among this target group of health workers is an important step towards achieving success in the national family planning programme.
a quarter of respondents (25.8%) had several objections to modern contraceptive use. Only 16 respondents (17.2%) felt their personal contraceptive preferences may affect clients’ counseling and contraceptive prescriptions. Contraceptive choice was significantly associated with gender while training cadre and number of children significantly affected counseling practices.

**Conclusions:** Trainees prefer to use natural methods of contraception. However, larger studies will be required to verify that personal objections to contraceptives introduce bias to contraceptive counseling practices.

**P0246**

**INSERTION OF IUCD WITHIN 48HR POST DELIVERY AND POST ABORTION**

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**Objectives:** To help most women living in Temeke due to their social economic, environment they don’t get a chance to come back to the Hospital Postdelivery or post abortion for contraception, this lead to increase number of un wanted pregnancies due to this we decided to carry own the insertion of IUCD within 48hrs post delivery.

**Method:** The intervention was done from October 2013 to December 2013 of three month.

During this periods clients were cancelled for IUCD, for those who made request after the concealing and qualified to the procedures we provided the service then follow up was done after seven days then after 40 days During the whole period clients were cancelled for complications, explained how to check IUCD frequently, father follow up done by telephone, the service was provided for both clients with normal SVD and Cesarean section, post abortion.

**Results:** Total of 20 clients received the service of IUCD Insertion out of this clients one hasconceived after insertion of IUCD post caesarian section after three month, one string was lost, the other two comes with severe bleeding which lead to remove IUCD There were no cases of infection reported.

**Conclusions:** Insertion of IUCD within 48hrs after delivery and post abortion and low resource areas is a good choice with minimum complication.

**P0247**

**ADDRESSING MISSED OPPORTUNITIES FOR LONG-ACTING FAMILY PLANNING: POSTPARTUM INTRAUTERINE CONTRACEPTIVE DEVICE SERVICES IN PUBLIC HEALTH FACILITIES IN ETHIOPIA**


**Objectives:** The objective was to determine whether capacity building of health care workers and facilities to provide postpartum intrauterine contraceptive devices (PP-IUCD) increased service uptake.

**Method:** The Integrated Family Health program (IFHP) started a 12-month PP-IUCD learning phase/pilot in 49 health centers (HCs) in July 2013, by providing a skills-based training on PP-IUCD to 150 health care workers and equipping the HCs with relevant supplies. IFHP also mentored the providers throughout the pilot. Program review meetings were conducted quarterly to assess this learning phase. Data were collected on characteristics of all women who received PP-IUCDs during that period.

**Results:** IFHP’s competency-based skills training and post-training logistics support allowed services to be initiated immediately. In the 12-month period, 49 HCs attended 8,374 deliveries, of which 1,647 (19.6%) women received the PP-IUCD; 63% were post-placental, 30.9% early postpartum (within 48 hours) and 4.3% were intra-caesarian insertions. The majority (69.5%) of clients were 20–35 years. 27.5% of the women had four or more living children. At 6-week follow-up visits, 25 (1.5%) expulsions were reported and removal performed in 16 (0.97%) clients. The main reason for removal was increased vaginal bleeding. Another 21 clients reported minor abdominal discomfort, increased vaginal discharge, and headache.

**Conclusions:** IFHP has addressed unmet need for long-acting contraception, as demonstrated by the percentage of women who accepted this method, and the insignificant removal and expulsion rates. Through training, logistics support, and follow-up, it is possible to avail PP-IUCD services at HCs and increase the postpartum contraceptive method mix.

**P0248**

**NURSES AND CONTRACEPTIVE VAGINAL RING: TO USE OR NOT TO USE?**

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**Objectives:** To assess the perception towards a contraceptive vaginal ring amongst nurses.

**Method:** A cross-sectional study was designed involving nurses in UKM Medical Centre (UKMMC), who were randomly selected. A questionnaire was constructed in three sections based on demography, gynaecological history and perception towards a contraceptive vaginal ring, NuvaRing®. Data was analyzed by using (SPSS) version 17.0 and p value of <0.05 was considered statistically significant.

**Results:** 422 (84.4%) nurses returned the 500 questionnaires distributed. 58% were not on contraception during the study. 52% admitted to have their last pregnancy unintendedly. 59% claimed to have heard of NuvaRing®, yet none was using it. Only 26.3% perceived it as a suitable contraception. Perception was not significantly associated with age, ethnicity, years of service, discipline, marital status and partner’s education level. Reasons stated for unsuitability were discomfort towards self-insertion (72.2%), pain during sexual intercourse (70.2%), feared that their sexual partners might feel it (68.9%), hormonal side effects (62.2%) and fear of weight gain (59.7%).

**Conclusions:** The misconceptions regarding NuvaRing® among the nurses must be addressed. The challenge is to correct the misconceptions as soon as possible. Otherwise vaginal contraceptive ring would not benefit those who are in need of an efficient contraceptive.

**P0249**

**HEALTH CARE PROVIDERS BALANCING NORMS AND PRACTICE: CHALLENGES AND OPPORTUNITIES IN CONTRACEPTIVE COUNSELLING TO YOUNG PEOPLE IN UGANDA – A QUALITATIVE STUDY**

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**Objectives:** This study aims to explore health-care providers’ perceptions and practices regarding contraceptive counselling to young people.

**Method:** We conducted 27 in-depth interviews with doctors and midwives working in seven different health facilities in central Uganda. Transcripts were transcribed verbatim and data was analysed using thematic analysis.

**Results:** The main theme “Health care providers’ ambivalence in the encounter with sexually active young people” emerges from two subthemes describing how (i) health care providers echo the societal norms regarding accepted sexual practice among young people, yet (ii) takes a pragmatic approach to contraceptive counselling, although they lack skills, resources and knowledge to successfully provide appropriate services. Despite existing policies for young people’s sexual and reproductive health in Uganda, health care providers are not sufficiently equipped to provide adequate contraceptive coun-
selling. Instead, health care providers are left with the negative influence of social norms related to sexually active young people.

**Conclusions:** The conflicting personal- and professional values health care providers experience in their encounter with young people, in addition to their self-identified lack of knowledge, results in inadequate and inappropriate health services in response to the young people's changing sexual behaviour. We argue that a clear policy underpinned by a clear strategy with practical guidelines should be implemented alongside with in-service training including value clarification and attitude transformation to equip providers' to be able to better cater to young people seeking sexual and reproductive health advice.

**P0250**
**SEXUAL LIFE AND CONTRACEPTIVE USE AMONG BRAZILIAN TEENAGE GIRLS WITH CANCER: PRELIMINARY RESULTS**

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**Objectives:** The objective of this study is assess the use of contraceptive methods by adolescent girls with cancer.

**Method:** This observational cross sectional survey is interviewing adolescent girls (10–19 years) receiving treatment at the outpatient clinic at a single institution specialized in the treatment of cancer in Sao Paulo, Brazil (Oncologia Pediátrica - GRAACC/Escola Paulista de Medicina). A questionnaire specifically created for this study was used to collect information on gynecological, obstetric history and use of contraceptive methods.

**Results:** We present data on the first 35 adolescents. Average age 15.2 (± 2.6 standard deviation) years most were Caucasians (74.2%), single (97.1%), average age of menarche was 12.2 (± 2.2 SD) years. Most adolescents showed bone tumor (31.4%), leukemia (28.6%). Approximately 23% were sexually active before the diagnosis of cancer and average age at first intercourse was 13.5 years (± 0.5 SD). Only 40% of these informed that they had received contraceptive counseling. A total of 43% had never used any contraceptive method and two (5.7%) had at least one previous unplanned pregnancy. The most frequently methods were hormonal contraceptives (70%).

**Conclusions:** Most adolescents in treatment for cancer have been using hormonal contraceptives. However, over half of them report inadequate use of the methods nor guidance about the importance and the risks of a pregnancy during the treatment period and cancer remission time. There is need for more information and counseling among this population. Furthermore, there is need to establish management protocols on the appropriate dose of hormones, orientation of patients and alternative methods.

**P0251**
**DEMONSTRATING EFFECTIVENESS OF A PPFP STRATEGY IN PROMOTING POST-PARTUM FAMILY PLANNING (PPFP) IN BIHAR**

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**Objectives:** Demonstration of effectiveness of Comprehensive PPFP strategy with “No-missed-opportunities” approach to address high unmet need during postpartum period in the five districts of Bihar. Tremendous increase in institutional delivery at public health facilities, post introduction of Janani Suraksha Yojana (JSY- conditional incentive scheme to promote institutional delivery) from 19.9% in 2005–06 (DLHS-3) to 40.8% in 2009 (UNFPA-CounterCurrent Assessment) provides perfect opportunity to address high unmet need during post-partum period. Bihar has the highest TFR in the country of 3.5 (SRS 2012) with three out of five births spaced less than 36 months apart while almost one-third of births are spaced at less than 24 months (NFHS-3–2005–06).

**Method:** Program intervention was conducted in 18 facilities of 5 district of Bihar from June 2012 to Feb 2015. The target population were postpartum women who came to the target facilities. The interventions were based on designing and implementing activities that promote and enable the provision of quality and comprehensive PPFP services to the clients at all possible points of contact with the health system. Data collection was done through regular structured program reports and baseline/endline surveys.

**Results:** Significant increase proportion of post-partum women accepting Long-Acting Family Planning method (LAPM- Post-partum IUCD and Post-partum Sterilization from 1.3% to 12.3% with increase in CYP from 23036 from baseline quarter to 106170 in end line. Significant increase in levels of awareness of healthy timing & spacing of pregnancy (HTSP) by 13.1%, return to fertility (RTF) by 32.4% and postpartum family planning (PPFP) methods among postpartum women (delivered within the last six -nine months) by 12.6%. There was more than 10% reduction in unmet need among the women in the postpartum period (in catchment area) from baseline.

**Conclusions:** Successful demonstration of feasibility of PPFP strategy to address to the high unmet need during post-partum period. “No-missed-opportunities” approach (targeting to utilize every client’s contact with the system) and increasing the availability of basket of choice of contraceptive choice during postpartum period improves client awareness and acceptance addressing to the unmet need for family planning.

**P0252**
**“I AM VERY MUCH AFRAID OF ITS SIDE EFFECTS BY LISTENING TO WHAT PEOPLE SAY”: REASONS GHANAIAN WOMEN DO NOT USE CONTRACEPTION**

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**Objectives:** It has been estimated maternal mortality could be reduced by 25–30% if women had access to and used modern methods of contraception. In the most recent Ghana Demographic and Health Survey, knowledge about contraception is almost universal; 95% of those surveyed knew of at least one form of modern contraception. However, current use, 13.2% for modern methods, is lower than would be expected given the fertility inclinations of women and their male partners. This study sought to qualitatively investigate reasons for low-use of contraception in Ghana.

**Method:** This study sought to understand the social and personal reasons why young women at risk of unwanted pregnancy were not willing to use contraception. Using a qualitative design, women being treated for post-abortion complications at three hospitals in the Ashanti region of Ghana, the most populous region of the country, as well as the region with the highest maternal mortality ratio, were interviewed. Healthcare providers, including nurses, midwives, and physicians who provide post-abortion and family planning care were also interviewed. Community-based focus groups were held with older women as well as men, separately.

**Results:** None of the women included in this study were using contraception at the time of conception. All participants reported they knew about various contraceptive methods and most had service delivery points in their communities. The explanation women provided for not using contraception was multiple and complicated. Categories emerging from the data were grouped into three themes: Side Effects, Reception by Health Staff, and Religion. All three of these themes fit into the overarching paradigm of social network theory as many of the sources of information are not from individual experiences, but rather from what the participants have heard from others.

**Conclusions:** To increase the acceptability of modern contraception, interventions aimed at refuting commonly held misconceptions are sorely needed. Improving the quality of services that women receive when they access services, and ensuring that health workers are well
Objectives: To determine contraceptive knowledge, attitudes and practices among African refugee women after resettlement to the United States.

Method: Six focus groups (FG) were conducted with resettled Somali (n=41) and Congolese (n=26) refugee women in a large western United States city between May and August 2014. Participants were recruited via community leaders and refugee service organizations. FG were undertaken in the women’s native language using a semi-structured interview guide of open-ended questions designed to elicit understanding of family planning knowledge, attitudes and practices. FG Audio recordings were translated and transcribed verbatim by externally located certified translators then checked for accuracy. Two researchers utilized modified grounded theory to analyze transcripts and develop themes using Atlas.ti software.

Results: Congolese women were younger (mean age: 33 v. 38), less likely to be married (33% v. 38%), had fewer living children (mean 3 v. 4) and were resettled more recently (median 19.5 v. 54 months) than Somali women. Use of contraceptive methods to space births was well accepted by both groups. Congolese women identified understanding of the utility of limiting births while Somali women voiced opposition to birth-limiting. Commonly described birth-spacing methods included breastfeeding, abstinence and the calendar method. Modern methods (pill/patch/ring/implant/IUD) were rarely employed though many women wished to learn more about these methods and where to obtain them.

Conclusions: Resettled African refugee women demonstrate limited knowledge of modern family planning methods and a strong desire for education regarding contraception for birth spacing. Disparate beliefs about birth limiting exist between resettled Congolese and Somali refugee women. Development of cultural specific education materials and counseling modalities that respect cultural beliefs and norms will be paramount to increasing modern family planning access and utilization among this population.

P0254

WOMEN’S REASONS FOR CHOOSING THE PILL, PATCH, OR RING IN THE CHILEAN PIENSA STUDY: A CROSS-SECTIONAL SURVEY OF CONTRACEPTIVE METHOD SELECTION AFTER COUNSELING

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Objectives: The Chilean PIENSA study was a cross-sectional survey in Chilean women between 18 and 40 years of age that evaluated women’s self-administered combined hormonal contraceptive choices before and after contraceptive counseling by their gynecologist. The objective of this study was to identify the main reasons provided by women for choosing a self-administered combined hormonal contraceptive method (pill, weekly patch, or monthly ring) after counseling and their perceptions toward these methods.

Method: During routine gynecological consultation, women with an interest in using a combined hormonal contraceptive method (pill, weekly patch, or monthly ring) were counseled using a standardized counseling leaflet. After selecting their preferred form of contraception, the women completed questionnaires, which included questions on why they had selected a particular method of contraception, and the extent to which they agreed with statements about the attributes of the pill, weekly patch, or monthly ring.

Results: The majority of women selected the pill and identified regular menstrual bleeding, previous use, and ease of use as the main reason they chose the pill. Women that selected weekly patch, “easy to use,” “nondaily administration” and “I will not forget” were the main reasons to choose this method. Women that selected vaginal ring, “monthly use,” “easy to use” and “I will not forget” were the main reasons to choose this method. After counseling, many women associated the pill with forgetting to take the pill Women’s knowledge about a particular method was generally greater if they had used it.

Conclusions: To support informed contraceptive decision-making, healthcare professionals should realize that a woman’s view of a method’s ease of use, nondaily administration and “I will not forget” are important factors to discuss with their patients.

P0255

UTILIZATION OF THE FAMILY PLANNING QUOTIENT IN THREE COHORTS OF WOMEN

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Objectives: To describe the Reproductive Life Index (ReplI) and present the utilization of the Family Planning Quotient (FPQ) in three cohorts of women.

Method: FPQ is a ratio of the number of children a woman has divided by the number she wants, at one time point. FPQ less than 1 indicates a woman wants more children and FPQ greater than 1 indicates a woman has achieved or exceeded her family plans. FPQ can be used on a population level to capture overall reproductive health status. FPQ was sampled in three populations: 468 family planning providers (FPP) in a national survey of family planning providers, 1,780 patients presenting for first-trimester abortion (FAP), and 124 patients in the Title X program (TXP).

Results: Among FPP, 59.2% had a quotient less than 1, 39.3% equal to 1, and 1.5% greater than 1. Among FAP, 35.9% had a quotient less than 1, 58.9% equal to 1, and 5.2% greater than 1. Among TXP, 44.4% had a quotient less than 1, 49.2% equal to 1, and 6.5% greater than 1. FPQ were significantly different when stratified by age among the FAP (p<0.001), FAP (p<0.001), and TXP (p=0.004).

Conclusions: RepLI/FPQ is an innovative tool to assist patients and providers in the discussion of reproductive health plans and should be further implemented to demonstrate its impact on reproductive planning.

P0256

REPRODUCTIVE HEALTH IN NEWLY INCARCERATED WOMEN WITHIN A COUNTY JAIL

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Objectives: To assess the risk of unintended pregnancy among women at a county jail intake. We will assess the interest in and need for immediate emergency contraceptive administration, as well as future contraceptive desire.

Method: We performed a cross-sectional in-person survey at the time of Cook County Jail intake. Study participants included women...
P. Agu1,2, M. Ali

JADELLE AND IMPLANON and new paediatric HIV infection. women as we hope to eliminate mother to child transmission of HIV should be made readily available and accessible to HIV positive declared their pregnancies as unintended. Modern contraceptives

0.029. Age, parity, educational level, current intake of ART, did not significantly higher rate of unintended pregnancy than those with un-

Participants with regular partners (61.9%, n=13/21 vs 34%, 54/159; significantly higher rate of unintended pregnancy than those with un-

were on antiretroviral therapy and had future fertility intension. Most of them

were recruited at two tertiary health institution in Enugu from 1st March to August 31, 2012. All HIV positive pregnant women were recruited to county jail are at significant risk for unintended pregnancy and could benefit from availability of emergency contraception at intake and contraceptives

Results:

A total of 194 women completed the survey. Excluding women not at risk for pregnancy (7.2% currently pregnant, 17.5% surgically sterilized/postmenopausal, and 4.1% using long-acting reversible contraceptives), 78% of women who were at risk for pregnancy (n=137) did not desire pregnancy. Among these women at risk for unintended pregnancy, 9 (8.4%) had unprotected intercourse within 5 days prior to survey administration. When asked about emergency contraception, most women (81.4%) would be interested if available. Additionally, 72.7% of women would be interested in contraceptive supplies if provided free at release from jail.

Conclusions: Reproductive age women presenting to county jail are at significant risk for unintended pregnancy and could benefit from availability of emergency contraception at intake and contraceptives at release.

P0257

UNINTENDED PREGNANCY AMONG HIV POSITIVE PREGNANT WOMEN IN ENUGU, SOUTH EAST NIGERIA

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Objectives: To determine the prevalence and factors associated with unintended pregnancy among HIV positive pregnant women in Enugu, South east Nigeria.

Method: A questionnaire based cross sectional study among 180 HIV positive pregnant women receiving antenatal care at two tertiary health institution in Enugu from 1st March to August 31, 2012. All HIV positive pregnant women were counselled for the study and their informed consent to participate in the study was obtained. The women were interviewed with a pretested questionnaire. Data were collected and analyzed using Epi info statistical software version 17. Ethical approval was obtained from the hospital Ethics committee.

Results: Overall, 180 HIV positive pregnant women were recruited (mean age = 30.5±4.4 years) and 67 (37.2%) declared that their pregnancy was unintended. Majority were married (88.1%, n=159), Christians, (93.3%, n=168) and had post primary education. Most of them were on antiretroviral therapy and had future fertility intension. Participant with regular partners (married or co-habiting) had a significantly higher rate of unintended pregnancy than those with unstable partner (61.9%, n=13/21 V 34%, 54/159; χ²=5.06. p value = 0.029. Age, parity, educational level, current intake of ART, did not significantly affect the prevalence of unintended pregnancy.

Conclusions: A significant number of HIV positive pregnant women declared their pregnancies as unintended. Modern contraceptives should be made readily available and accessible to HIV positive women as we hope to eliminate mother to child transmission of HIV and new paediatric HIV infection.

P0258

THREE YEARS FOLLOW UP: MULTICENTRE RANDOMISED CLINICAL TRIAL OF TWO IMPLANTABLE CONTRACEPTIVES FOR WOMEN, JADELLE AND IMPLANON

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Objectives: The main objectives were to compare the 3 year cumulative rates of contraceptive effectiveness, method continuation, the incidence of adverse effects between the two implants, and incidence of common complaints associated with use of progestogen-only contraception and that of the non-hormonal TCu380A IUD.

Method: This was a randomized open parallel group trial of the 1-rod etonogestrel and the 2-rod levonorgestrel contraceptive implants with a 1:1 allocation ratio, and a non-randomized control group of women using the TCu380A IUD. The study took place in family planning clinics (centers) in Brazil, Chile, Dominican Republic, Hungary, Thailand, Turkey, and Zimbabwe.

Results: 2,963 women were randomised to three arms; 995 ENG implant users, 997 LNG implant users and 971 IUD users were analysed. In the ENG and LNG groups, respectively, mean insertion durations were 51 (SD 50.2) and 88 (SD 60.8) seconds. At follow-up within six weeks after insertion, all implants were in situ while 2.1% of IUDs were expelled. Results for 3 year follow up also shows that LNG-implant has significantly lower 3-year cumulative rate of method discontinuation compared to ENG-implant. Common adverse effects comparing implants and IUDs are discussed. At 3-year contraceptive effectiveness was similar between Jadelle and Implanon.

Conclusions: The results show that both implants are safe, highly effective and rapidly reversible methods of contraception up to three years of use. The result also discusses the reason for discontinuation, main side effects of implants versus IUD and implications of the results on policy and practice.

P0259

HAEMATOMETRIA AND ACQUIRED GYNAETRESIA FOLLOWING INDUCED ABORTION

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Objectives: To present a peculiar case of unmet need of contraception in rural Nigeria.

Method: This is a case presentation.

Results: I present a 23 year old lady P3+O A3, 2 boys and one girl referred from a private hospital on account of absence of Lochia. The lady had unintended pregnancy and inserted native concoctions in the vagina. After some time she realized she did not succeed and carried the pregnancy to term. She had emergency Caesarean section on account of cervical stenosis. However she was referred on account of absence of lochia. Ultrasound revealed haematometria. She had EUA, vaginoplasty and cervical dilatation.

The findings were: normal vulva; the upper 1/3 of the vagina was closed; stenosed cervix; uterus about 16 weeks size.

Conclusions: The lesson from this case reveal the unmet need of contraception in our rural areas. Many clients need to space and limit their family size. Unsafe abortion with its attendant complication continue to thrive in both rural and urban communities in Nigeria.

P0260

ASSESSMENT OF MENSTRAL DISORDERS AFTER ESSURE Hysteroscopic Sterilization

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Objectives: To verify that the placement of the Essure device cause positive or negative changes in menstrual cycle (menstrual flow and dysmenorrhoea).

Method: Three months after the insertion of the Essure 131 patients were interviewed. They were asked if there were changes in menstrual flow and in the intensity of dysmenorrhoea. The device position was checked by ultrasound in the same occasion.

Results: Analysis of the interviews indicated 63.8% that not noticed change in dysmenorrhoea, 21.5% reported a slight increase and 14.6% a slight decrease. On the other hand 32.8% reported an increase in menstrual flow, 53.4% not realized any difference and 13.7% described a decrease in menstrual flow.
Conclusions: Essure is described as an extremely safe contraceptive method however patients should be alerted to possible alterations in the menstrual cycle after its insertion. Also there may be a relative contraindication for patients who already have an increased menstrual flow or moderate dysmenorrhea.

P0261
OXIDATIVE STRESS DURING CHRONIC ADMINISTRATION OF COMBINED ORAL CONTRACEPTIVES
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Objectives: To evaluate the severity of oxidative stress in patients receiving long-term COC and determine the effectiveness of its correction by vitamin and mineral preparations.

Method: The study involved 21 healthy non-smoking women of reproductive age (mean age 30.8 years) who were taking OCs within 6–12 months. Patients were determined antioxidant defense enzymes: superoxide dismutase (SOD), glutathione peroxidase (GTP) and markers of oxidative stress: malondialdehyde (MAD) and traces-antioxidant enzyme cofactors - zinc, copper and selenium. Laboratory tests were performed at baseline and one month after the application of vitamin-mineral complex containing vitamins A, C, E, B and zinc, selenium and magnesium.

Results: The mean duration of COC therapy was 7.9 months. Before treatment there was a significant reduction of antioxidant enzymes. Median SOD was 168 U/ml, GTP - 4202.8 U/ml, selenium - 80.6 mg/L, zinc, 790.8 g/L and the ratio of zinc/copper - 0.932. MAD levels were within the normal range (median - 0.462 mmol/ml), which is apparently due to the lack of significant oxidative damage of membrane structures. After 1 month of treatment it was observed increasing rates of SOD, GTR, selenium, zinc, and the ratio of zinc/copper. Median amounted to 178.8 U/L, 4383.6 U/L, 96.9 g/L and 1.083, respectively.

Conclusions: Long-term use of OCs is associated with the activation of oxidative stress, depletion of antioxidant defense components. The use of complex-vitamin-mineral preparations effective in the correction of oxidative stress in patients receiving OCs.

P0262
AWARENESS AND USE OF THE FEMALE CONDOM AMONG UNDERGRADUATES IN A UNIVERSITY IN ENUGU, NIGERIA
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Objectives: The aim of the study was to determine the prevalence of the use of the female condom and sexual activity among young women in a tertiary institution of learning in Enugu, Nigeria.

Method: A questionnaire based cross-sectional study was done. Statistical analysis was by descriptive and inferential statistics at 95% level of confidence.

Results: A total of 313 female undergraduates were studied. Their mean age was 23.9 years. About 77% had knowledge of female condom. Fifteen percent had used the female condom. The potential dropout rate was 51% because it was costly and not available. The feature of female initiation and control of the device was the principal reason for intention to continue to use the female condom. The socio-demographic characteristics that were significantly associated with the use of the female condom included marital status ($\chi^2=7.79, \ p=0.01$), religion ($\chi^2=5.67, \ p=0.02$), course of study ($\chi^2=14.26, \ p=0.00$) and previous sexual exposure prior to university admission ($\chi^2=3.48, \ p=0.00$).

Conclusions: There was a low use rate for the female condom despite a high level of awareness suggesting a low level of acceptability for the device among young women in institutions of higher learning in Enugu. Interpersonal communication and counseling will help promote its wider use as it has the potential to decrease unwanted Pregnancy and the spread of sexual transmitted infection/HIV/AIDS.

P0263
THE IMPORTANCE OF KNOWLEDGE AND ATTITUDES OF GYNECOLOGISTS REGARDING UNPLANNED PREGNANCY AND USE OF COMBINED ORAL CONTRACEPTIVES: A LATIN AMERICAN SURVEY
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Objectives: Unintended pregnancy (UP) is a public health problem and an unmet medical need worldwide. It was estimated that in the year 2012, almost 213 million pregnancies occurred and it was also estimated that 85 million pregnancies (40%) of all pregnancies, were unintended and 38% ended in an unplanned birth. Family planning programs have an important role in the reduction of unplanned pregnancies. The objectives of this study were to assess knowledge and attitudes of Latin American (LA) Obstetricians and Gynecologists (OBGYN) regarding UP and some aspects related to the use of combined oral contraceptive (COC).

Method: A survey was conducted in 2014 during a scientific meeting organized to update information about contraceptive methods to OBGYN who provide attention in contraception in 12 Latin American (LA) countries. The OBGYN who agreed to participate were invited to respond a multiple-choice questionnaire through an electronic system after each lecture. There were five questions for each issue and five options of answers based on the content of each lecture. The questions were developed specifically for this study by the researchers and reviewed by an expert group of LA OBGYN who did not participate of the meeting.

Results: A total of 210 OBGYN participated in the study. Only ~50% were aware of COC failure rate and they believed women frequently forgot to take a pill and did not know what to do in these situations. Regarding venous thromboembolism (VTE), most of the OBGYN were not aware of the relationship between the length of COC use and the risk of VTE. Albeit they were aware of the COC’s benefits, were less prone to prescribe COCs to protect against ovarian and endometrial cancer, and some had doubts about the association between COC use and cancer risk.

Conclusions: The study identified deficiencies in the knowledge of the interviewed LA OBGYNs regarding COC’s contraceptive failure and that they were not prone to prescribe COCs to reduce the risk of ovarian and endometrial cancer and almost one-quarter had doubts about the association between pill intake and risk of cancer development. OBGYNs should counsel their patients regarding the risks and non-contraceptive benefits of COC; however, it is necessary that OBGYNs be updated regarding all aspects of COC use. Our results could be useful to medical schools, scientific societies, and policy makers to increase a continued medical education in this matter.

P0264
INTRAUTERINE CONTRACEPTION IN NULLIPAROUS PATIENTS
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Objectives: To evaluate the insertion, tolerability and effectiveness of levonorgestrel containing intrauterine contraception in nulliparous patients.

Method: Although intrauterine contraception is highly effective and safe method, its widespread use among nulliparous patients is not...
widely accepted. After national guideline promoted its use, we started a structured contraceptive counselling to all patients, discussing the possibility of intrauterine contraception also for nulliparous patients. After pre-insertion counselling 45 levonorgestrel containing intrauterine systems were inserted. We registered pain during insertion with a visual analogue scale and any side effects and complaints related to the use of intrauterine device during follow up (3 months - 4 years).

Results: All insertions were successful, with no pharmacological cervical dilatation or pre-insertion pain relief. On request we supported pain reduction after insertion. Neither pregnancy, nor perforation or severe side effects were reported during the follow up period. One intrauterine device had to be removed because of bleeding disorder.

Conclusions: Levonorgestrel containing intrauterine contraception is an easy to perform, effective and well tolerated method of contraception even in nulliparous patients.

P0265
PROFILE OF POST-PARTUM INTRAUTERINE CONTRACEPTIVE DEVICE (PPIUCD) ACCEPTORS AT DIPHU CIVIL HOSPITAL, KARBI ANGLONG DISTRICT IN THE STATE OF ASSAM, INDIA
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Objectives: To study the socio-demographic characteristics and the outcome in Post Partum Intrauterine Contraceptive Device acceptors at Diphu Civil Hospital, Karbi Anglong district in the state of Assam, India.

Method: A hospital based prospective study was done. All women who came for delivery at Diphu Civil Hospital from January 2013 to December 2014 (24 months) were informed about PPIUCD. Those women who agreed and had given consent, PPIUCD insertion was done. These women were then asked to come for follow-up within the first 6 weeks after discharge from the hospital and thereafter every 6 months follow-up was done.

Results: Out of the 307, 79 (25.73%) were given PPIUCD within 10 minutes, 14 (4.56%) within 48 hours and 214 (69.70%) intra-caesarean insertion were done. Majority of the PPIUCD acceptors (45.93%) were within the age group of 21–25 years, multiparous (51.14%), Hindu by religion 193 (62.87%) and belonged to the lower middle socio-economic status. Majority of the PPIUCD acceptors were literate 226 (73.62%). Follow-up could be done in 281 (91.53%).

Results: Conclusions: PPIUCD provider is an easy method to perform with no maternal and fetal complications. As the study area is a remote place, where the nurses/midwives get less training, more is the need of the hour to train them properly.

P0266
EFFECTIVENESS OF NURSE/MIDWIVES AS PROVIDERS OF PPIUCD SERVICES COMPARED TO PHYSICIANS IN INDIA
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Objectives: To assess if the nurse/midwives are as skillful as physicians in PPIUCD insertions by measuring the complication rates of PPIUCD insertions performed by them.

Method: Secondary data from ongoing PPFP program in seven states was analyzed using case control design. The sample size consisted of 2215 PPIUCD clients. The cases and controls were matched by time and facility. Facilities where both physicians and nurse/midwives conducted insertions and had reported ≥5 follow-up findings of expulsion/infection were selected. The primary exposure was type of PPIUCD provider and the outcomes studied were expulsion and infection. Other possible confounding factors such as details of provider training were also collected.

Results: At 137 facilities, 792 and 382 cases of expulsion and infection, respectively and 1041 cases of “No complaints” were included in the analysis. The provider type, physician or nurse/midwife, was not significantly associated with either expulsion, OR 2.06 (95% CI: 0.99–4.26) or infection, OR 0.91 (95% CI: 0.45–1.84). However, Type of provider training, on-site compared to centralized, was significantly associated with expulsion in insertions conducted for both types of providers, OR 2.31 (95% CI: 1.91–2.80).

Conclusions: PPIUCD insertions by nurses/midwives at public health facilities are equally safe compared to those performed by physicians. Addition of nurses/midwives to the PPIUCD provider base would increase access of this method for postpartum women at public health facilities. However, quality of all PPIUCD trainings should be standardized to minimize adverse outcomes by all providers.

P0267
CONTRACEPTIVES UPTAKE POST SURGICAL TERMINATION OF PREGNANCY (STOP): AN OBSERVATIONAL STUDY
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Objectives: In the UK, contraceptives services follow the RCOG and NICE guidelines. RCOG [1] recommends that contraception should be discussed and offered before discharge following abortion. All forms of contraception should be provided by the abortion care services. NICE [2] recommends increasing the uptake of Long Acting Reversible Contraceptive (LARC) as it reduces unwanted pregnancies. Services should audit contraception counselling and uptake.

Method: This retrospective observational study was conducted in a University teaching hospital in UK, between March 2013 and February 2015. Only patients counselled by the study team, having STOP, were included in the study.

We included a sample of 324 patients who attended for STOP to get 95% Confidence Interval.

Results: Majority of the patients (60%) who attended for STOP were <30 years old. Total 86.7% of patients accepted any form of contraception before discharge. Study showed 60% of patients accepted any of the LARC methods. In age-related subgroup analysis, the highest uptake of LARC is in the 20–24 year age group (64.8%), compared to 50% in 36–45 year age groups. Of the various LARC methods, Implant was the most commonly accepted form of contraception in <25 years age groups, while intrauterine contraceptive devices (IUS & IUD) is the preferred form of LARC in >25 year olds.

Conclusions: Even after adequate counselling, 86.7% patients accepted any form of contraception before discharge, with 60% accepting LARC. We suggest both pre and post abortion counselling with written contraception leaflets should be adopted to increase contraception uptake, especially LARC, in all age groups.

References:
P0268
RELATIONSHIP BETWEEN THE USE OF LONG ACTING REVERSIBLE CONTRACEPTIVES UP TO THE MENOPAUSE AND THE DECLINE IN THE NUMBER OF FEMALE AND MALE STERILIZATION: A PILOT STUDY

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Objectives: The aim of the study was to assess the relationship between the use of long acting reversible contraceptives (LARC; copper-intrauterine device [Cu-IUD], the levonorgestrel-releasing intrauterine system [LNG-IUS] and sub-dermal implants) and the depot-medroxyprogesterone acetate (DMPA) and the decline in the number of male and female sterilization at a Brazilian clinic established over 30 years ago.

Method: In this retrospective study we reviewed the medical charts of women who consulted at the Department of Obstetrics and Gynaecology, University of Campinas, Brazil looking for a contraception method over the period from 1980 January 2 through 2012 December 31. Women attending the clinic who chose one type of LARC or the DMPA and kept their use until reaching menopause or who discontinued the method use because of surgical sterilization were included. Women who received LNG-IUS for therapeutic purposes were excluded. Cumulative continuation rates and removals due to sterilization or to the menopause were evaluated using life-table analysis.

Results: A total of 332 women used a LARC method or DMPA until the menopause and 555 discontinued because of surgical sterilization. The percentage of women who discontinued because of menopause was: 67.5% Cu-IUD-; 25.0% DMPA-, 6.3% the LNG-IUS- and 1.2% implant-users. The women who discontinued because of female or male surgical sterilisation were 67.7% Cu-IUD-; 25.1% LNG-IUS-, 6.3% the LNG-IUS- and 0.9% implant-users. With this review, we could establish that for the last 15 years, as the number of women who consulted at the Department of Obstetrics and Gynaecology, University of Campinas, Brazil increased as the number of women who discontinued these methods increased at the number of women who discontinued these methods to undergo female or male sterilization decreased. The use of LARC and DMPA up to the menopause increased as an option to avoid male or female sterilisation. Since the permanent contraception requires a surgical procedure, it implies possible complications. When women increase the use of Cu-IUD, LNG-IUS, implants or DMPA, they opt for safe and effective contraceptive method and avoid unnecessary surgeries.

P0269
COMPLIANCE AND DEGREE OF SATISFACTION OF NULLIGRAVID AND PAROUS WOMEN USING INTRAUTERINE CONTRACEPTIVE DEVICES

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Objectives: To evaluate compliance and degree of satisfaction of nulligravidas and parous women using intrauterine device (IUD).

Method: A cross-sectional cohort study was conducted comparing nulligravidas and women who had already given birth and who had an IUD inserted between July 2009 and November 2011 at the Instituto de Medicina Integral Prof. Fernando Figueira (IMIP). A total of 84 nulligravidas and 73 women who had previously given birth were included. Statistical analysis was carried with Student’s t-test and Mann-Whitney test were used for numeric variables, while Pearson’s chi-square test of association and, whenever pertinent, Fisher’s exact test were used for categorical variables. A survival curve was constructed to establish the likelihood of continuing use of the IUD.

Results: When compared with parous women, nulligravidas had a higher education level. No statistically significant differences were found between the nulligravidas and the women who had already given birth with respect to information on the use of the IUD, prior use of other contraceptive methods, the reason for having chosen the IUD as the current contraceptive method, reasons for discontinuing and side effects, compliance and degree of satisfaction. The survival curve for continuing use of the IUD failed to show any difference between the groups.

Conclusions: Nulligravid women have a higher education level when compared with parous women using IUD. There was no difference with respect to compliance or the degree of satisfaction with the method.

P0270
EPIDEMIOLOGY OF INFERTILITY IN YOUNG WOMEN AGED 18–25 YEARS LIVING IN TRANSBAIKAL REGION OF RUSSIA

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Objectives: Reproductive health is a priority global health area: the target for Millennium Development Goal 5B is to provide universal access to reproductive health by 2015. Regional estimates of prevalence of and tends in infertility are needed to target prevention and treatment efforts. The aim of this study was to examine the epidemiology of infertility in young female and reproductive plans of these women.

Method: The present study was epidemiological; it was approved by the Ethics Committee of the Chita State Medical Academy (Russia). 1225 young women in age of 18–25 years, living in Transbaikal Region (Eastern Siberia) of Russia, were included in this study. We estimated prevalence of primary and secondary infertility. Methodological approaches recommended by WHO were used.

Results: We found that in accordance with WHO criteria of fertility, 25.9% (318/1225) of young age women were fertile, 19.4% (238/1225) alleged fertile. 35.0% (428/1225) of women used contraception (group of unknown fertility). A total 241 (19.7%) couples were considered as infertile. This index is exceeds the 15% critical level defined by WHO. The prevalence of primary infertility was higher than secondary infertility: 13.0% (159/1225) vs 6.7% (82/1225; p=0.000); respectively. 85.1% (205/241; p=0.000) of young infertile women did not seek medical care because they do not have reproductive plan.

Conclusions: Regional estimate of prevalence of infertility in young women aged 18–25 years living in Transbaikal Region of Russia showed negative sociodemographic trends. The index of infertility (19.7%) in this group of females is exceeds the 15% critical level defined by WHO. 85.1% of young age infertility women did not plan pregnancy. Further research is needed to identify the etiological causes of these patterns and trends.

P0271
DOES POST ABORTION AND FOLLOW UP COUNSELLING HELP TO IMPROVE POST-ABORTION CONTRACEPTION UPTAKE? AN ANALYSIS FROM THREE HIGH FOCUSED COUNTRIES OF SOUTH ASIA REGION: INDIA, NEPAL & BANGLADESH

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Objectives: Postpartum period is an important time to initiate contraception as woman are accessing the health-care system and might have increased motivation to avoid another immediate pregnancy. Short birth intervals are associated with high risk of adverse maternal health outcomes. This study is an attempt to analysis Global Comprehensive Abortion Care Initiative (GCACI) project data of three high focused south Asian countries namely India, Nepal & Bangladesh. This study analyzed last six years (2009 to 2014) data from 35 clinics to
assess the importance of pre-post abortion counseling in regards to post-abortion contraception uptake.

**Method:** Improved access to comprehensive abortion care and contraceptive services as integral components of sexual and reproductive health. The present study is based on the data of Global Comprehensive Abortion Care Initiative (GCACI) project. Under this study, firstly the data was compiled of last six years’ service statistics from 35 clinics (17 from India, 10 from Nepal and 8 from Bangladesh). Secondly, each country at aggregated level was analyzed, total number of clients received an abortion or treatment of incomplete abortion services, client received post abortion, follow up counselling and finally proportion of client uptake post-abortion contraception methods.

**Results:** The service statistics data revealed that across the three countries, a total of 1, 021, 34 clients opted for either abortion or treatment of incomplete abortion services in last six years. Out of this, almost 96.3 percent of clients received post abortion counselling for adopting contraception methods. Further, data highlighted that 90.0 percent of clients also received follow up counselling. It is interesting to note that out of 96.3 percent of client who received post abortion counselling, more than 93% of client adopted contraceptive methods. However across all the countries, injectable, pills and condoms are most adopted post abortion contraception methods by client.

**Conclusions:** Promoting post abortion contraceptive use is an important programmatic strategy to improve the health and well-being of women and newborns. Short birth intervals and unintended pregnancy are associated with increased risk of adverse maternal and neonatal health outcomes. The study result suggested that focused quality post abortion and follow up counseling significantly increased the acceptance and use of contraception methods among clients who had received abortion related services at clinic.

**P0272 INCREASED USE OF LONG-ACTING REVERSIBLE CONTRACEPTION AMONG MALAWIAN WOMEN AFTER IMPLEMENTATION OF A PACKAGE OF FAMILY PLANNING INTERVENTIONS**

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**Objectives:** All half of pregnancies in Malawi are unintended. One strategy to reduce unintended pregnancy is to expand modern contraceptive method mix and ensure that the most effective reversible contraceptives, long-acting reversible contraceptives (LARC), are available at health facilities. Three LARC methods are available in Malawi: the 3-year implant, the 5-year implant, and the copper intrauterine device (IUD). Our objective was to implement a package of family planning (FP) interventions at a peri-urban health centre in Malawi to expand its modern contraceptive method mix and decrease reliance on short-acting reversible contraception (SARC).

**Method:** We implemented the following FP interventions at Area 25 Health Centre in Lilongwe, Malawi: community sensitizations to promote FP use via Open Days with tribal chiefs and Population Weekends with religious leaders (February 2014), trainings in LARC insertion (February-March 2014), FP mentoring (February 2014-present), and weekly monitoring of FP commodities (March 2014-present). FP data were abstracted from the Health Centre Monthly Family Planning Reports and entered into a database. Descriptive statistics were used to compare the proportion of SARC and LARC methods provided at the health centre one year pre-intervention (February 2013-January 2014) and one year post-intervention (February 2014-January 2015).

**Results:** A total of 14,221 and 17,601 women were given modern contraceptive methods at Area 25 Health Centre during the pre- and post-intervention periods, respectively. During the pre-intervention period, 95.1% of all modern contraceptive users were given SARC and 4.9% were given LARC. During the post-intervention period, 86.9% of all modern contraceptive users were given SARC and 13.1% of women were given LARC. Most of the increase in LARC resulted from increased implant use, which increased from 4.9% pre-intervention to 12.5% post-intervention. IUD utilization increased from 0.0% pre-intervention to 0.6% post-intervention.

**Conclusions:** A package of family planning interventions which focuses on both increasing demand via community sensitization and supply via provider training and mentoring can increase utilization of LARC and decrease reliance on less-effective SARC methods. However, further research should be done to evaluate additional strategies to increase IUD utilization, which remained under 1%.

**P0273 IMMEDIATE POSTPARTUM AND POST-ABORTION INSERTION OF INTRAUTERINE DEVICE AMONG TEENAGE PREGNANT WOMEN: AN EXPERIENCE IN A GOVERNMENT TERTIARY HOSPITAL**

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**Objectives:** Immediate insertion of IUD after a normal spontaneous delivery or abortion can decrease the risk of repeat pregnancy among our teenage mothers. We reviewed our experience with IUD insertion after spontaneous abortion or normal spontaneous delivery among our teenage pregnant patients admitted in our institution.

**Method:** Teenage pregnant women admitted between January 2014 to July 2014 for vaginal delivery and curettage for spontaneous abortion were included in this retrospective review. The IUD was inserted immediately after placental delivery or after curettage for abortion. Complications were noted during their follow-up visit.

**Results:** During a 6 month period, a total of 111 teenage pregnant patients had IUD insertion. Fifty-nine (53%) had IUD inserted after normal spontaneous delivery while 52 (47%) who had spontaneous abortion had IUD inserted after curettage. Only 26 (23%) followed-up after 2–6 weeks. There were no spontaneous expulsion of the IUD and no cases with perforation, pelvic infections or heavy uterine bleeding. All of the patients expressed their desire to continue with the IUD.

**Conclusions:** There was a low rate of follow-up visit among teenage patients who had IUD insertion following vaginal delivery or abortion. Immediate IUD insertion is safe and can be offered to our teenage patients who asked for a method of contraception.

**P0274 INTEGRATING HUMAN RESOURCES (HR) AND COMMODITY DATA INFORMS EFFECTIVE FAMILY PLANNING (FP) SCALE-UP INVESTMENTS**

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**Objectives:** All Family Planning (FP) services require the right combination of commodities, human resources (HR) and demand in the same place, to enable effective and quality service delivery. Linking data on the availability of skilled HR, commodities and service provision can inform more effective service delivery investments. However, in spite of Nigeria’s commitment to LARC scale-up though training and commodity investments, there has been no systematic effort to track and link this data. The Federal Ministry of Health (FMOH) Nigeria with CHAI’s support developed a dashboard to analyze integrated facility-level commodity and HR data to provide actionable analytics for LARC programming.

**Method:** The FP dashboard emerged from the Nigerian Federal Ministry of Health’s (FMOH) request for tools to better coordinate FP programming, resources and partners. Following FMOH specifications of
functionality and business requirements, a concept note was developed and shared with stakeholders to gain partner buy-in. The dashboard is designed to collect commodity consumption and stock-out data from Nigeria’s National Demographic Health Information System (DHIS). It will then integrate this with partner and state reported human resource training data in order to determine trends, highlight resource mismatches that undermine the investments being made and identify opportunities for interventions.

Results: Development phase 1 includes DHIS and HR data entry, integration and analysis. Preliminary applications in Rivers and Zamfara states showed that only 22% and 14% of their respective FP facilities had LARC-trained providers, with only a subset in Rivers actually providing LARC. Examination of the non-LARC providing facilities highlighted capacity, commodity, demand and equipment barriers. These barriers were addressed with comprehensive and refresher courses in LARC provision and demand generation, as well as equipment and commodity resupplies where applicable.

Initial 9-state roll-out will start April 2015 and scale-up nationally in Q3 2015. Specific results will be presented at the conference.

Conclusions: Successes thus far demonstrate that government led systems with stakeholder buy-in improve the chances of national scale up. Such coordination is particularly important in countries like Nigeria with autonomous states. The analysis illustrates that training and commodity supplies in isolation do not ensure service delivery. However, integrated tracking and analysis ensures co-location of skilled providers and commodities identifies opportunities for targeted resolution of barriers to service provision and promotes LARC scale up.

The web-based platform is open-source and compatible with most standard electronic HMIS, LMIS and HR data systems. It can thus be easily adapted to other program areas.

P0275
UPTAKE OF POSTPARTUM IUD IN BANGLADESH: HOW PROGRAM EFFORTS CAN ACCELERATE PERFORMANCE

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Objectives: Government of Bangladesh (GOB) is leading a joint innovative program on Maternal & Neonatal Health Initiative (MNHI) with the WHO, UNICEF and UNFPA to reduce maternal and neonatal mortality and morbidity. Immediate postpartum IUD (PPIU)D) was recently integrated with the existing MNHI program to increase access to a range of effective postpartum family planning (PFPF) methods. Hence, the main objective of this paper was to explore the MNHI program initiative efforts and approaches and how it impacted on postpartum IUD uptake and to inform program scale-up for the country.

Method: EngenderHealth Bangladesh - an USAID supported family planning implementing organization provided technical assistance to UNFPA to initiate immediate postpartum IUD in 27 facilities in five MNHI supported districts from October 2013 to September 2014. Direct program efforts to initiate PPIUD services involved, training of clinical providers, orientation on PPFP and distribution of IEC materials. Other efforts included ensuring availability of drugs and equipment to provide 24/7 delivery, counseling at antenatal visits, well-equipped delivery room, and continuous monitoring and follow up. The information was collected and analyzed from the performance report and client records of the facilities.

Results: Immediate postpartum IUD uptake increased from zero at initiation of the program effort to 601 PPIUD insertions [District Hospital (307); and Maternal and Child Welfare Center (294)] within a period of 12 months. PPFP counseling during antenatal care directly contributed to 35% of the birthing women from the two top-most performing facilities accepting immediate PPIUD. Obstetricians’ involvement in PPFP counseling created additional demand for postpartum IUD, as 60% of clients undergoing caesarian section accepted PPIUD and were offered the method. Nearly 50% of the IUD clients returned for postnatal care and follow up within eight weeks of IUD insertion.

Conclusions: The PPIUD acceptance and uptake in the short period of time is encouraging given that the national trend is on the decline. Involving doctors in counseling for PPIUD acceptance and providing the method is crucial in Bangladesh, as the uptake is currently low as it is being provided by paramedics. Promoting and ensuring PPIUD information during antenatal care is key areas in increasing PPIUD uptake. Integration of PPIUD services with maternal and neonatal health contributes to improved access to quality FP services thereby decreasing the unmet need for family planning, and improving maternal and child health.

P0276
A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE OF CONTRACEPTION AMONG MEDICAL CAMP IN CHENNAI

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Objectives: Despite the fact that contraceptive usage has increased over a period of time, there exists a knowledge, attitude and practice-gap regarding contraception. The reasons for not using any family planning methods are lack of knowledge, education, religious beliefs and fear of side effects.

The objective of this study was to access the knowledge, attitude and practice of contraception among women who attended the Medical camp.

Method: A cross sectional study was conducted on 200 women who attended the Medical Camp, Chennai during the month of Feb 2015. Data obtained by using a pre-tested, self administered, semi structured, questionnaire to assess the knowledge, attitude and practice of contraception and the data were analysed.

Results: The study consisted of women aged 20–45 years. 98% of the women had good knowledge of contraception, 2% of the women had no knowledge of contraception. Most of them knew about condoms (88%) and contraceptive pills (72%) but knowledge about permanent methods was 90%. 45% of women were currently in use of contraceptives. The most commonly used contraceptives were tubal ligation (25%), IUCD (15%), condoms followed by oral contraceptive pills (OCP). The source of information about sex and contraception was Media (90%) followed by Medical staffs, friends and parents. The main reason for not using any method was the fear of side effects.

Conclusions: The study highlights the needs to motivate the women for effective and appropriate use of contraceptives when required and to prevent unwanted pregnancies. The media has played a pivotal role in spreading awareness among women. Hence it can be used as a tool to motivate as well as to adopt contraception.

P0277
PHARMACY PROVISION OF MEDICATIONS FOR MENSTRUAL REGULATION IN BANGLADESH: A NATIONAL SURVEY OF KNOWLEDGE AND PRACTICE

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Objectives: Menstrual regulation (MR) has been legally available in Bangladesh as a surgical procedure since 1979 but barriers to access mean women often turn to unsafe methods. A 2011 survey in three regions revealed that Bangladeshi pharmacy workers provide medications, including misoprostol, for MR over the counter but service quality is poor, potentially putting women at risk of harm. A combined misoprostol and mifepristone regimen has since been approved by the Government for MR. The study’s objective was to conduct a national cross-sectional survey to evaluate Bangladeshi pharmacy workers’ knowledge and provision of medications for MR.
Method: A cross-sectional survey was conducted in 2013 among pharmacy workers in 755 pharmacies across Bangladesh. A random sample of pharmacies was chosen from a list of outlets supplied by a leading pharmaceutical company, selecting equal numbers from each geographical division. One worker from each pharmacy was selected to participate. Trained fieldworkers conducted face-to-face interviews using a structured questionnaire which asked about the pharmacy worker's knowledge and provision of MR medications. The data were analysed using cross-tabulations, chi squared tests and multivariable regression.

Results: Most participants were male pharmacy owners and 99% experienced a demand for MR services. While almost all sold misoprostol for MR, only 41% had heard of and 38% sold the misoprostol/mifepristone combination. Of those selling the combined regimen, 83% had experienced clients who couldn't afford it. Although 65% of workers had received training on MR medications, only 16% felt they knew enough. Overall, 23% knew the effective misoprostol regimen for MR, 18% knew the maximum gestation and 52% knew of two complications. Almost all had an emergency referral network, and 89% offered family planning services to MR clients.

Conclusions: Misoprostol remains the most commonly prescribed MR treatment in Bangladeshi pharmacies. Barriers to misoprostol/mifepristone combination uptake are affordability, availability and pharmacy worker awareness. There are large gaps in pharmacy worker knowledge of the most effective regimen for MR with misoprostol only. Knowledge of side effects and complications of misoprostol when used for MR are also poor and most pharmacy workers wanted more information. The widespread availability of MR medications without adequate provider knowledge is a risk for MR clients. Efforts to improve practice among pharmacies should be scaled up and barriers to safe, legal services explored and addressed.

P0278
KNOWLEDGE, ATTITUDES AND USE REGARDING INTRAUTERINE CONTRACEPTIVES OF LATIN AMERICAN OBSTETRICIANS AND GYNECOLOGISTS

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Objectives: Intrauterine contraceptives (IUCs), includes the copper-intrauterine device (Cu-IUD) and the levonorgestrel-releasing intrauterine system (LNG-IUS), are highly effective reversible contraceptives with few side-effects. Nevertheless, use is still low in many settings including Latin American (LA) countries mainly due to the myths, fears and negative attitudes of potentials users and Obstetricians and Gynecologists (OBGYN). It is important that OBGYNs are updated on IUCs, not only by being skilled in the procedure of insertion, but also to provide adequate counseling. The objective of this study was to assess the knowledge, attitudes and use of LA OBGYN regarding IUCs.

Method: During a scientific meeting organized in 2014 to present and discuss updated information about contraception to OBGYN from 12 LA countries who reported that they provide attention in contraception, both at the public and private sector, a survey was conducted. Participants responded to a multiple-choice questionnaire about issues associated to knowledge, use and attitudes regarding IUCs, designed especially for this survey, using an Interactive Audience Response system. The questionnaires were answered immediately after each lectures attended during the meeting. For each theme discussed during the meeting five questions, with five possible answer choices for each question, were developed.

Results: Of the 210 participated OBGYN the number of respondents to each question varied from 168 (80.0%) to 205 (97.6%). Almost 50% reported that the failure rate of short acting contraceptives (oral, patch and vaginal ring) is between 8 and 10%. Furthermore 10% of the participants did not recognize the high contraceptive effectiveness of long acting reversible contraceptive methods (LARCs) including IUCs. Additionally, almost 80% of the respondents answered that they did not offer IUC to nulligravidas and almost 10% did not offer IUC to adolescents. Nevertheless, almost 90% of the respondents reported that nulligravidas are candidate to receive an LNG-IUS.

Conclusions: We observed some deficiencies and contradictions in knowledge, identified attitudes and how IUC methods were used by the participating LA OBGYNs. They did not take into account that recent evidence shows that IUC use in adolescents and nulligravidas is associated with high contraceptive effectiveness and low rates of complications. The knowledge and attitudes of the OBGYN regarding IUCs are an important factor that determines how, counseling is provided to expand use. Also information on knowledge, attitudes and practice is important to elaborate strategies to train and maintain continuous update information for LA OBGYN.

P0279
KNOWLEDGE AND ATTITUDE TOWARDS LONG ACTING REVERSIBLE CONTRACEPTION – AN OBSERVATIONAL STUDY AMONGST WOMEN IN JAIPUR, INDIA

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Objectives: The unprecedented population growth in the last century has been the major global concern with contraception being the single most important intervention to reduce the burden of unwanted pregnancy. Jaipur represents socio-cultural setting of North India, where the fertility rates are high and contraception rates are reported to be low. Knowledge, access to or promotion of contraception is limited and early marriages, early onset of sexual activity and pregnancy in young couples are matter of concern. This study was undertaken to explore the knowledge and attitude towards long acting reversible contraceptives among women in Jaipur, India.

Method: It is an observation study on 222 women undertaken using a random sampling technique. Around 400 questionnaires were distributed by student volunteers and responses were obtained from 222. Data analysis was done using SPSS package for analysis, version 16.

Results: Of the respondents 63% were married and 60% used some form of contraception. Awareness of LARC was reported in 43%. Source of information for was doctor, friends and media. IUDs were the most recognised form of LARC with 21% considering them reliable. 28% considered them reversible and 43% of respondents wanted more information about LARC.

Conclusions: Even here there are many misconceptions. Respondents expressed a desire for more information. This suggests a great scope for intensive information, education and communication campaigns addressing the issues in safety and reliability of this method. Awareness, availability and use of LARC methods will offer women additional options and allow them to exercise more reproductive choice and autonomy.
**P0280**

**RELATIONSHIP QUALITY ASSESSMENT BY WOMEN AND MODERN CONTRACEPTIVE USE IN A PERI-URBAN SETTING IN NIGERIA: FINDINGS FROM THE FAMILY HEALTH AND WEALTH SURVEY (FHWS)**

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**Objectives:** This study assessed the association between key construct of marital relationship quality scale (RQS) and uptake of modern contraception (MC) by married women in Nigeria.

**Method:** The FHWS was an open-cohort study conducted in 2010 among 497 randomly selected couples from households in Moniya, Akinyele Local Government Area, Nigeria. The 5 RQS scales used were commitment, trust, constructive and destructive communication and relationship satisfaction. Descriptive, bivariate and multivariable analyses were performed to determine associated factors for MC uptake at 95% confidence level.

**Results:** 35% of the women reported MC use. Higher commitment scores was associated with MC use (39.8±5.2) compared to non use (38.6±6.1), (p=0.032). Women married for 5–9 years (OR=2.46, 95% CI: 1.46–4.14) and 10 years and above (OR=2.46, 95% CI: 1.45–4.17) were twice more likely to use a modern contraceptive method to those married for less than 5 years. Women with the lowest wealth quintile were twice less likely to use MC compared to the highest wealth quintile (OR=0.50, 95% CI: 0.26–0.93).

**Conclusions:** Some RQS measures appear to influence MC uptake among Nigerian family. More research is required to further understand this concept which may be beneficial in the development of family planning programmes.

**P0281**

**POSTPARTUM UTERINE AND CECAL PERFORATION BY AN INTRA-UTERINE DEVICE: A CASE REPORT**

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**Objectives:** As long acting reversible contraceptions become more popular in the United States, intra-uterine devices (IUD) are being increasingly used in postpartum and lactating women. The levonorgestrel-releasing IUD has a risk of uterine perforation of one in one thousand, which may increase to up to one in one hundred in lactating women.

**Method:** A 28 year-old lactating woman (gravid 1 para 1001) presented with an acute abdomen five days after a levonorgestrel-releasing IUD was inserted, four months postpartum. She underwent a laparoscopic partial cecectomy and appendectomy for perforation by the IUD whose strings were still visible in the cervix.

**Results:** The patient has subsequently conceived spontaneously. She went on to have an uncomplicated pregnancy and delivery. She had another levonorgestrel-releasing IUD, inserted under ultrasound guidance, six months postpartum.

**Conclusions:** Despite growing popularity of the IUD, care must be taken in postpartum lactating women. Postponing insertion of the IUD and use of ultrasound may reduce the risk of uterine perforation.

**P0282**

**EFFICACY, SAFETY AND ACCEPTABILITY OF A NEW CONTRACEPTIVE VAGINAL RING DELIVERING NESTORONE® 150μg & ETHINYL ESTRADIOL: RESULTS FORM AN OPEN LABEL PHASE 3 CLINICAL TRIAL**

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**Objectives:** The investigational Nestorone®/Ethinyl Contraceptive Vaginal Ring (NES/EE 150/15 CVR) is a long-acting contraceptive that can be reused for up to one year. Inserted by the woman, this CVR is left in the vagina for 21 days and removed for 7 days, for up to 13 cycles. NES, is a novel non-androgenic progestin with potent antiovulatory effects at low doses. Steroids released from the CVR are rapidly absorbed by vaginal tissues, pass into the general circulation, provide a relatively steady release rate and ultimately inhibit ovulation. A phase 3 study safety, efficacy and acceptability study of this combined hormonal contraceptive was conducted.

**Method:** Women aged 18–49 from 12 international sites were eligible to participate and were followed for evidence of efficacy and safety up to one year during use of the NES/EE CVR. The study was approved by the Institutional Review Board of the Population Council and Ethics Committees of all participating sites.

**Results:** Pearl Index (PI) analysis demonstrated this CVR is comparable to recently approved contraceptives. There were regional differences, the lowest PI (0.43) observed in European/Australian sites. Bleeding patterns were highly favorable; mean and median number of scheduled bleeding and/or spotting days per cycle were both 4.6. Reports of unscheduled bleeding were infrequent. Results from the acceptability study indicated women were highly satisfied with this method, found it easy to use, were willing to use it in the future and recommend it to others. The safety profile (adverse events) was consistent with that of currently available combined contraceptives; 1 VTE occurred.

**Conclusions:** Results suggest the NES/EE CVR is a safe, effective, convenient and acceptable new contraceptive method.

**P0283**

**ACCEPTABILITY OF THE NESTORONE®/ETHINYL ESTRADIOL CONTRACEPTIVE VAGINAL RING: DEVELOPMENT OF A MODEL; IMPLICATIONS FOR INTRODUCTION**

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**Objectives:** Develop and test a theoretical acceptability model for the Nestorone®/ethinylestradiol (NES/EE) contraceptive vaginal ring (CVR); explore whether domains of use within the model predict satisfaction, method adherence and CVR continuation.

**Method:** Four domains of use were considered relative to outcome markers of acceptability, i.e. method satisfaction, adherence, and continuation. A questionnaire to evaluate subjects’ experiences relative to the domains, their satisfaction (Likert scale), and adherence to
instructions for use was developed and administered to 1036 women enrolled in a 13-cycle Phase 3 trial. Method continuation was documented from the trial database. Stepwise logistic regression (LR) analysis was conducted and odds ratios calculated to assess associations of satisfaction with questions from the 4 domains. Fisher’s exact test was used to determine the association of satisfaction with outcome measures.

Results: A final acceptability model was developed based on the following determinants of CVR satisfaction: ease of use, side effects, expulsions/feeling the CVR, and sexual activity including physical effects during intercourse. Satisfaction was high (89%) and related to higher method adherence [OR 2.6 (1.3, 5.2)] and continuation [OR5.5 (3.5, 8.4)]. According to the LR analysis, attributes of CVR use representing items from the 4 domains -finding it easy to remove, not complaining of side effects, not feeling the CVR while wearing it, and experiencing no change or an increase in sexual pleasure and/or frequency were associated with higher odds of satisfaction.

Conclusions: Hypothesized domains of CVR use were related to satisfaction, which was associated with adherence and continuation. Results provide a scientific basis for introduction and future research.

P0284
A COMPARATIVE STUDY ON THE PERCEPTION AND PRACTICE OF CONTRACEPTIVES AMONG MALES AND FEMALES IN A TERTIARY INSTITUTION IN IBADAN, NIGERIA

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Objectives: To determine the perception and practice of contraception among males and females in a tertiary institution and also to provide baseline data which could help in developing appropriate evidence-based strategies to promote the use of contraceptives.

Method: This was a cross-sectional descriptive study among students of the Polytechnic, Ibadan, Nigeria. The multi-staged sampling technique was adopted using the classrooms to ensure good representation since the institution was not fully residential. The survey instrument was a structured, self-administered two-paged questionnaire designed after pretesting. Score for knowledge were based on 15 questions with scores <8 considered as poor knowledge. Ethical approval was obtained from the Department of Obstetrics and Gynaecology, University of Ibadan and authorities of the Polytechnic, Ibadan. The results were analyzed using statistical package for social sciences (SPSS) version 16.

Results: Three hundred and seventy undergraduates participated in this study. The mean age of respondents was 23.47±3.36yrs (Males) and 21.66±2.70yrs (Females). Only 28.9% and 33.3% of males and females had good knowledge on family planning methods. The main sources of information for males and females were from the media and parents respectively. Males were more comfortable with the use of contraceptives. The commonest (56.4%) contraceptives used were barrier methods (male condoms). Prevention of pregnancy was the main reason for usage by females (77.3%) compared to prevention of sexually transmitted disease by the males (76.5%).

Conclusions: This study revealed that there is still poor knowledge and perceptions of contraception among undergraduates in Nigeria. It also shows that barrier methods are commonly used and this offers the benefit of dual protection. There is the need to additional emphasize through public enlightenment and health education the benefit of emergency contraception which had low usage in this study, if the menace of unwanted pregnancies and complications of unsafe abortion is to be eradicated.

P0285
ORAL CONTRACEPTIVE USE AMONG NON-PREGNANT CANADIAN WOMEN AGED 15 TO 49 YEARS OLD: RESULTS FROM THE 2007 TO 2009 AND 2009 TO 2011 CANADIAN HEALTH MEASURES SURVEY

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Objectives: The Canadian Health Measures Survey (CHMS) is an ongoing survey that collects detailed health and demographic information to produce nationally representative estimates of key health indicators. Using results from the CHMS, our objectives were to: (1) Estimate the prevalence of oral contraceptive (OC) use by non-pregnant Canadian women; (2) Profile OC users by socio-demographic and cardiovascular risk factors; and (3) Determine the types of OCs being used by estrogen dose and progestin type.

Method: Data from Statistics Canada’s 2007–2009 and 2009–2011 CHMS were used to estimate OC use overall, by selected socio-demographic and cardiovascular risk factors, and by estrogen dose and progestin type. Logistic regression was used to examine associations between OC use and sociodemographic variables.

Results: Over 1.3 million non-pregnant women aged 15 to 49 had used OCs in the previous month. OC users were significantly younger than non-users (26.0 vs 34.6, p <0.05). OC users were significantly more likely to be sexually active, Canadian-born, nulliparous, have lower BMIs, and fewer cardiovascular risk factors. Approximately 99% of OC users took OC formulations containing estrogen and progestin. The most common progestins were levonorgestrel and norgestimate. Two-thirds used OCs containing ≥30 mcg or more of estrogen. Younger women aged 15–24 were more likely to use lower estrogen dose formulations (<30 mcg EE) than women aged 35–49.

Conclusions: This national, population-based study is the first to provide detailed sociodemographic and cardiovascular risk information about OC users and the type of OCs being used in Canada. Oral contraceptives are used by a significant proportion of reproductive aged Canadian women, particularly younger women, and the majority of OC users use formulations containing 30 mcg or more of estrogen. Oral contraceptive use varies by sociodemographic and cardiovascular risk factors, however the strong association of OC use with age may account for some of these observations.

P0286
TRANS-CAESAREAN INSERTION OF INTRAUTERINE CONTRACEPTIVE DEVICE

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Objectives: To evaluate patient’s acceptance, satisfaction & complications regarding trans-caesarean Intra Uterine Contraceptive Device or post placental intrauterine contraceptive device (PPIUCD).

Study design: Descriptive case series.

Place and duration: Holy Family Hospital Unit I Rawalpindi from 01–06–2012 to 30–06–2014. Women who were P1 or more & required caesarean (CS) section (elective or emergency) were counseled during antenatal visits & labour and consent taken. Trans-caesarean IUCDs were inserted in 600 cases. During follow up visit at 6 wks, 3 and 6 months enquiry was made about IUCD Expulsion, excessive bleeding, pain abdomen, backache, vaginal discharge and satisfaction rate, which were recorded on predesigned Performa. Data fed to SPSS 16. Frequencies and percentages and Mean ± SD were computed to present all variables.

Results: 600 trans- caesarean IUCD insertions, follow up at 6 wk, 3 and 6 months. No follow up 174 (29%).Follow up 426 (71%), 221 (36.6%) 180 (30%) at 1st, 2nd & 3rd visit, respectively. Out of 426 women at 1st follow up no problem was found in 132 (31%), minor problems in 266 (62.4%). 9 (2.1%) IUCD expelled, 22 (5.1%) IUCD re-
moved on request at the end of follow up. 391 (91.7%) IUCDs in situ confirmed clinically and 35 (8.3%) by ultrasound. Expulsion rate 2.1%. Satisfaction rate 93.4% at the end of 6 months. No case of misplaced IUCD, PID or uterine perforation was reported.

Conclusions: Trans-caesarean IUCD is an effective method of contraception in developing countries like Pakistan.

PO287
AN EXPERIENCE WITH MIRENA IN PAKISTANI WOMEN – MENORRHAGIA/CONTRACEPTION

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Background: Mirena is an intra uterine system containing 52 mgs of Levonorgestrel on the sleeve of a T shaped intra uterine device. 20 μg of levonorgestrel is released per day over a period of 5 years.

Objectives: To evaluate the efficacy and side effects in Pakistani woman associated with Mirena insertion for various indications.

Patients and methods: The period of study was from June 2003 to December 2013. Mirena was inserted in 300 patients over this period. In 176 patients, it was inserted for treatment of dysfunctional uterine bleeding and in 68 patients as a contraceptive.

The indication in 32 patients was contraception and menorrhagia while menorrhagia associated with fibroids was the indication in 12 patients.

Results: Irregular spotting for 2 months was seen in 188 (62.6%) patients; 32 (10.6%) patients had irregular vaginal spotting for 3 months; 52 (17.3%) patients had irregular bleeding for 4 months. Expulsion was reported in 8 (2.6%) patients and 20 (6.6%) patients requested for removal of the device.

Conclusions: In patients who require hysterectomy for dysfunctional uterine bleeding, Mirena is an alternate option with manageable and acceptable side effects.

Conventional Gynecological Surgery

PO288
MYOMA GIANT

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Objectives: Uterine fibroids (MU) are monoclonal benign neoplasms, of slow growth, which develop in various locations uterus. The most common tumors of the female reproductive system are considered. Although rarely associated with malignancy or mortality, the MU can have a significant impact on the quality of life of women of reproductive age. Depending on its anatomical position, number and size, can cause abnormal uterine bleeding, pelvic pain, increased abdominal size, dyspareunia and urinary incontinence. MU may still have an adverse impact on the reproductive function, associating with infertility and adverse pregnancy outcomes, such as spontaneous abortions, fetal abnormalities, premature births and increase in Caesarean section indication. In Brazil, studies show MU occurrences in 23% of white women and 42% of black.

Method: PPCM, 42 years old, G2P1A0, black, sought medical help with pain, bloating and metrorrhagia, these symptoms that started eight months. On physical examination, increased abdominal size, compatible with the pregnancy term. Was requested ultrasound, which revealed the presence of mixed expansive process occupying the entire abdominal cavity. For diagnostic was performed nuclear magnetic resonance of the pelvis revealed solid extensive injury extensive area of cystic degeneration/ necrotic inside occupying the annex right in close contact with the uterine body, which may correspond to subserosal leiomyoma with degeneration inside the ovarian fibroma or in necrosis, with no evidence of peritoneal implants or lymphoadenomegaly, mild ascites.

Results: After this finding, said the surgical approach by laparotomy. The surgery was performed exclusively by Gynecologists, with longitudinal incision in the abdominal wall, noting bulky uterus with cystic lobulations in fundus, adhesions at the level of the right ovary and enlarged left ovary volume and swollen. Held subtotal hysterectomy with adnexectomy esquerda.A surgical specimen weighed 4.790g. Postoperative complications occurred without hospital and was discharged after 48 hours. The histological examination confirmed uterine leiomyoma with extensive cystic degeneration, adenomyosis and absence of malignancy.

Conclusions: There is great negative impact of MU in women's health, or a reduction in the mean number of quality of life of young women of reproductive age or increasing the number of mutilating surgery. In this case the period between the first visit until discharge after surgery was about 80 days, justified solely by the bureaucracy to carry out the preoperative tests and release for the procedure. Although government policies in Brazil are being implemented in order to expand, qualify and humanize comprehensive care to women's health, in order to reduce morbidity and female mortality, considering ethno-racial specificities, access to public services Specialty is still inefficient.

PO289
A COMPARISON OF LOOP ELECTROSURGICAL EXCISION PROCEDURE (LEEP) USING A RING-SHAPED LOOP VERSUS A RIGHT-ANGLED TRIANGULAR LOOP

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Objectives: The objective of our study was to compare the resection margin (RM) status when using different loop electrosurgical excision procedure (LEEP) techniques for the treatment of biopsy-proven, cervical intraepithelial neoplasia (CIN) grade 2 and CIN3 patients.

Method: Two-hundred and seventy-eight patients with postoperative pathological diagnoses of CIN3 and ≤CIN2 were analyzed retrospectively. In type A surgery, a ring-shaped loop was used with ball electrode coagulation after the excision. If the first pass failed to remove the entire lesion, separate loop excisions for the intracervical portion were performed with different sized loops. Monsel’s solution was applied to the cervical wounds (N=148). In type B procedures, a right-angled triangular loop and a cold coagulator (120°C) were used for 10 to 20 seconds after the excision. If the first pass failed to remove the entire lesion, a cold coagulator was applied to the cervical wounds (N=148). In type B procedures, a right-angled triangular loop and a cold coagulator (120°C) were used for 10 to 20 seconds after the excision (N=130).

Results: The mean LEEP depth was larger after type A surgery (2.17 and 2.00 cm, respectively; P=0.039). Thirty-day postoperative severe hemorrhage (SH) was more frequent after type A surgery (26.4% and 13.8%, respectively; P=0.010). The negative RM rate was higher after type B surgery (68.9% vs. 82.3%, P=0.010). Based on a multivariate analysis, a higher positive RM was associated with the surgery type (P=0.010, odds ratio (OR) = 0.449 (95% confidence interval (CI): 0.243–0.827)) and a postoperative pathological diagnoses of CIN3, independent of the surgery types (P=0.013, OR=2.529 (1.217–5.258)).

Conclusions: Our study suggests thatLEEPs using a right-angled triangular loop could reduce positive RMs.

PO290
AN AUDIT OF GYNAECOLOGICAL Hysterectomy IN A TERTIARY CENTRE IN NORTHERN NIGERIA

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Objectives: Determine indications and outcome of hysterectomy at Aminu Kano Teaching Hospital, Kano.
Method: Five years Retrospective Review of hysterectomies done in Aminu Kano Hospital.

Results: Hysterectomy rate 5.1%, Total Abdominal Hysterectomy constituted 78.1%, complication mostly pyrexia.

Conclusions: Uterine fibroid was commonest indication and post-operative pyrexia the commonest complication.

P0291 GYNECOLOGIC SURGERY OUTCOMES AT AN URBAN HOSPITAL IN SENEGAL

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Objectives: The goals of the study were to identify the volume and types of gynecologic surgeries performed at Military Hospital of Ouakam, (HMO) over a 6 month period and to identify the incidence of and factors contributing to post-operative complications.

Method: This was a retrospective cohort study of women who underwent gynecological surgery at HMO from June 1st to December 31st, 2012. Data analysis was performed with Stata. P-values are based on two-sided T-tests for continuous variables and Fisher exact tests for binary variables and chi-square testing for other categorical variables.

Results: 120 women underwent gynecologic surgery at HMO during the study period. The median age was 38.7 years and 58% of women were nulliparous. The most common indication for surgery was symptomatic uterine fibroids. The most common surgery performed was abdominal myomectomy, which accounted for 72 (60%) of the procedures performed. This was followed by adnexal surgery which accounted for 20 (24%) of the procedures. The post-operative complications recorded were one wound infection, one bowel injury and one death within thirty days after surgery. 24 (20.2%) of the patients required transfusions either intra-operatively or post-operatively.

Conclusions: The most common indication for gynecologic surgery at HMO was symptomatic fibroids. Post-operative complications were too rare to identify contributing factors. However, about 20% of patients received transfusions. This large number of transfusions was due to a combination of surgical technique as well as the presence of large fibroid uteri.

P0292 PREVALENCE OF ECTOPIC PREGNANCY IN OROTTA MATERNITY NATIONAL REFERRAL HOSPITAL FROM JANUARY 1, 2009 TO DECEMBER 31, 2011


Objectives: To assess the prevalence of ectopic pregnancy in Orotta Maternity Hospital to assess some of the risk factors that leads to ectopic pregnancy.

Design: A retrospective descriptive cross-sectional study.

Setting: All ectopic pregnant women who were admitted in the Orotta Maternity Hospital from January 1, 2009 to December 31, 2011.

Methods: Patient identification performed through review of recorded log book and patient card describing each patient admitted to Gynecology ward. Based on this, Medical records were reviewed and pertinent maternal information was recorded including obstetrics, medical, surgical, social history and demographic information. Statistical analysis was performed using Stat-9.

Main outcomes measures: Prevalence of ectopic, risk factors for ectopic, and main surgical intervention in the hospital.

Results: A study of 49 cases ectopic pregnancy managed over three years period in Orotta National Maternity Referral Hospital is reported. The total number of deliveries in our hospital in the study duration was 30,000. The prevalence of ectopic per 100 deliveries was 1.6. From this study the mean age, gravidity and parity were 30, 3 and 2 respectively. The mean gestational age for ectopic pregnancy was 7 weeks. More than 55% came with ruptured ectopic and needing emergency blood transfusion. It is one of the commonest gynecological emergency in the hospital. The usual surgical treatment in our unit is total salpingectomy.

Conclusions: Even though ectopic pregnancy is not common in our hospital like other African countries, it should be considered a relevant public health indicator in developing countries, providing an overall picture of the capacity of a health system to deal with the diagnosis and treatment of emergency situations, especially in the field of obstetrics and gynecology.

P0293 COMPARISON OF HYSTERECTOMY PROCEDURES

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Objectives: To compare the outcome measures which includes operating time, blood loss, rate of complications, consumption of analgesics, and length of hospital stay of total laparoscopic hysterectomy (TLH), laparoscopic-assisted vaginal hysterectomy (ЛАVH), vaginal hysterectomy (VH) and total abdominal hysterectomy (TAH).

Method: A prospective, randomized study was performed at Gynecologic Surgery Department of National Cancer Center of Mongolia between March 2013 and January 2014. A total of 120 women indicated to undergo hysterectomy for cervixcancerforFIGOSTAGE0–1, uterine myoma, uterine cancer were randomly assigned to four different groups (30 VH, 30 LAVH, 30 TLH and 30 TAH).

Results: Blood loss were TLH:119±54.7 mL, LAVH: 127.5±52.7 mL, VH: 145±57.8 mL and TAH: 210±77.4 mL (P=0.007) and operative time were TLH 115±16.6 minutes, LAVH: 112.5±18.5 minutes; VH: 51.6±16.9 minutes; TAH: 69±18.2 (P=0.001). The average weight of uterine were from 95.1±27.6mg in the VH group, to 181.2±97 mg in the LAVH group through to 122.3±64 for the TAH group. For postoperative pain: VH were 5.2±0.7 days of analgesic request TLH: 3.0±0.8 days, LAVH: 3.0±0.86 days (P<0.001), TLH was associated with a reduced hospital stay TLH: 3.3±0.7, LAVH: 3.3±0.6 days; VH: 3.7±0.6 days; TAH: 6.5±0.7 (P<0.001).

Conclusions: However TLH, LAVH and VH seem to be operative time, blood loss and hospital stay, VH were technical problem salpingooopherotomy, TLH and the LAVH has advantages over the TAH in that in the former there is less intraoperative blood loss, less postoperative analgesic requirement, and a shorter duration of postoperative hospital stay.

P0294 THE PAIN RELIEF EFFECTS OF ON-Q PUMP COMPARED TO INTRAVENOUS PATIENT-CONTROLLED ANALGESIA PUMP AFTER TOTAL ABDOMINAL HYSTERECTOMY

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Objectives: For good pain relief after gynecology surgery, the use of the ON-Q pump (surgical incision site pain relief system) was increased. In many studies, ON-Q pain management system is a more effective than intravenous patient-controlled analgesia pump (IV PCA) for acute postoperative surgical site pain relief. The aim of this study was to compare the effect of pain relief to two different pain control system, the ON-Q pump and an IV PCA, after total abdominal hysterectomy in myoma, adnenomyosis patients.

Method: We reviewed the medical records of 188 patients who had total abdominal hysterectomy between March 2014 to December 2014. One group received a 48-hour continuous wound perfusion into the suprapitoneal layer of the abdominal incision through the ON-Q pump (n=48). The other group received IV PCA (fentanyl cit-
rate 20mg/mL/kg + ketorolac tromethamine 180mg + ramucirumab 0.3mg/2ml + normal saline, n=140). Postoperative pain was assessed immediately, day of operation night, 1st day post operation morning, 1st day post operation afternoon, 1st day post operation night, 2nd day post operation morning, 2nd day post operation afternoon, 2nd day post operation night, 3rd day post operation morning using the numeric rating scale.

**Results:** Comparing ON-Q to IV PCA, immediately after surgery (2.9 vs.3.1, p=0.227), day of operation night (3.2 vs.3.1, p=0.598), 1st day post operation morning (3.2 vs. 2.8, p=0.020), 1st day post operation afternoon (2.7 vs. 2.5, p=0.188), 1st day post operation night (2.5 vs. 2.3, p=0.092), 2nd day post operation morning (2.6 vs. 2.3, p=0.131), 2nd day post operation afternoon (2.1 vs. 2.0, p=0.393), 2nd day post operation night (1.9 vs. 1.8, p=0.612), 3rd day post operation morning (1.7 vs. 1.5, p=0.152). But, comparing nausea between two groups, IV PCA group was 32 of the 148 patients (21.6%), ON-Q group was 2 of the 40 patients (5%).

**Conclusions:** This study revealed that there was no significant discrepancy between the two groups using difference pain relief system except in the case of 1st day morning. However, nausea after using pain relief system were lower in the ON-Q group than the IV PCA group.

**P0295**

**SURGICAL TECHNIQUE FOR EMERGENCY OBSTETRICS IN POOR RESOURCE SET UP**

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**Objectives:** Substandard management in near miss morbid cases in obstetrics pushes the patient into death or long time sufferings. Rupture uterus internal hemorrhage, etc. management with rapid surgical technique are important to save life. My study showed how simple procedures having inadequate logistic supports help for immediate management.

**Method:** During the period 2001 to 2006 working as resident surgeon in Dhaka medical college, Bangladesh largest tertiary center facing so critical obstetric patients in late night or late evening when seniors are practically not available. On the basis of patient findings, pictorial views and the surgery done are studied methodically taking patient consent.

**Methods:** Review experienced based study. Medline search done. Systemic observation in selected patient having badly damaged uterus following stormy labor was evaluated by doing safe immediate surgical technique.

**Results:** Different varieties of rupture uterus are shown. Among 46 cases 28 cases are described. Type of incision to open the abdomen way of identification of toned and badly damaged structures involving bladder, broad ligament, round ligament, vaginal wall are described. Two uterine clamp forceps, two sponge holding forceps and the hands how help are shown. Decreasing incidence of infection, shortening operation time and the better outcome.

**Conclusions:** Immediate rapid surgical techniques using minimum instruments and our hands with fingers can safe the life of moribund obstetric patients in poor resource set up.

**P0296**

**ANTERIOR COLPO SUSPENSION WITH TRANSOBTURATOR TAPE FIXATION FOR TREATMENT OF CITOCELE**

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**Objectives:** To present the first 10 cases of patients treated with a new surgical technique for the treatment of anterior colpocoele.

**Method:** The population consists of carriers hysterectomy patients with pelvic organs prolapse staging point Aa 1 or greater, and Ba 0 or greater.

The technique involves repairing the vesicovaginal fascia defect detected using their own tissue, which is fixed at its upper sector to neoesstructure generated with the passage to a prolene tape via posterior transobturator.

**Results:** There were no intraoperative complications. There was 1 hematoma at the level of the vaginal dome detected in the immediate postoperative, and 1 case of vesicovaginal space hematoma over a week the procedure. There was no infectious complications. No urinary retention and voiding difficulty arose. The average hospital stay was 48 hours.

Patients were assessed at the first and third months of surgery. No patient had complications with prolene mesh. All patients had at genital examination, the Aa and Ba points in negative levels.

**Conclusions:** The surgical technique is safe, respects the functional anatomy and is reproducible for the trained and informed of the transobturator approach gynecologist.

This procedure provides to the vesicovaginal fascia a foothold for those patients who do not have paracervical ring.

**P0297**

**TOTAL Hysterectomy: profile of patients in a capital in the northern Brazilian Amazon**

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1Universidade Federal de Roraima, Boa Vista, Roraima, Brazil; 2Hospital Materno-Infantil Nossa Senhora de Nazaré, Boa Vista, Roraima, Brazil

**Objectives:** This study aims to identify and analyze the profile of patients undergoing total hysterectomy (TH) in the Hospital Materno-Infantil Nossa Senhora de Nazaré (HMINSN) in Boa Vista - Roraima, capital in the extreme north of the Brazilian Amazon.

**Method:** This is a descriptive, retrospective, cross study, analyzing the medical records of patients who underwent hysterectomy between January and July 2012 in Hospital Materno-Infantil Nossa Senhora de Nazaré (HMINSN) in Boa Vista - Roraima, Brazil.

The following variables were evaluated: age, number of pregnancies, number of births, delivery route, number of abortions, surgical indication and the type of hysterectomy performed. Statistical analysis was performed using Epi Info 7, using the chi-square test for proportion of qualitative variables with α≤0.05 and the odds ratio (OR). The study was approved by the Ethics Committee.

**Results:** We performed 104 hysterectomy procedures. From the total, 91.42% were TAH and 8.57% TVH. Considering the TH were performed using Epi Info 7, using the chi-square test for proportion of qualitative variables with α≤0.05 and the odds ratio (OR). The study was approved by the Ethics Committee.

**Conclusions:** This study revealed that there was no significant discrepancy between the two groups using difference pain relief system except in the case of 1st day morning. However, nausea after using pain relief system were lower in the ON-Q group than the IV PCA group.

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**Conclusions:** This study revealed that there was no significant discrepancy between the two groups using difference pain relief system except in the case of 1st day morning. However, nausea after using pain relief system were lower in the ON-Q group than the IV PCA group.

**P0297**

**TOTAL Hysterectomy: profile of patients in a capital in the northern Brazilian Amazon**

D. de Jesus 1, C. Lins 1, 2, E. Pérez 2, L. França 1, T. Ferreira 1.

1Universidade Federal de Roraima, Boa Vista, Roraima, Brazil; 2Hospital Materno-Infantil Nossa Senhora de Nazaré, Boa Vista, Roraima, Brazil

**Objectives:** This study aims to identify and analyze the profile of patients undergoing total hysterectomy (TH) in the Hospital Materno-Infantil Nossa Senhora de Nazaré (HMINSN) in Boa Vista - Roraima, capital in the extreme north of the Brazilian Amazon.

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CHOOSING THE ROUTES OF HYSTERECTOMY FOR BENIGN DISEASE: CHOICE IS NO MORE OF PHYSICIAN

S. Nahar1, F. Begum2, 1Central Medical College, Comilla, Chittagong, Bangladesh; 2Professor & Head, Department of Ob-Gyn, Bangladesh

Objectives: 1. To determine the rate of abdominal hysterectomy (AH), vaginal hysterectomy (VH) and laparoscopic assisted vaginal hysterectomy (LAVH). 2. To evaluate the benign indications of hysterectomy.

Method: This was a retrospective cross-sectional study conducted in a district private hospital of Comilla, Bangladesh. 147 consecutive hysterectomized patients performed for benign indication during July 2014 to December 2014 were recruited for the study. Socio-demographic characteristics of study population, the rates of different types of hysterectomy with their indications were determined.

Results: The rate of AH, VH and LAVH were 64%, 33% and 3% respectively. Among VH, 54% was due to utero-vaginal prolapse and 46% was due to non-descent uterine diseases. Regarding indications abnormal uterine bleeding was 24%, utero-vaginal prolapse was 18% and uterine leiomyoma was 16%.

Conclusions: Evidence suggests that VH should be the approach of choice whenever feasible and laparoscopic hysterectomy is an alternative to abdominal hysterectomy for those in whom a VH is not feasible. Gynecologist should respect the practice guidelines to determine the route of hysterectomy. Training on different routes of hysterectomy should be implemented strictly during residency training.

EPIDEMIOLOGICAL PROFILE AND POSTOPERATIVE COMPLICATIONS OF WOMEN UNDERGOING GYNECOLOGICAL SURGERIES IN A REFERENCE CENTER IN THE BRAZILIAN AMAZON

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Objectives: To evaluate the epidemiological profile and postoperative complications of patients undergoing gynecological surgery in a public tertiary Hospital in the extreme border of Legal Amazon in Roraima, Brazil.

Method: A retrospective survey was conducted by analyzing the medical records of 518 patients undergoing gynecological surgeries from January to June, 2012. The three main surgeries performed during that period were included (n=200): hysterectomy, colporineoplasty and suburethral sling surgery. We excluded 236 cases of tubal sterilization and 25 cases with unavailable medical records.

Results: The mean age was 47.6 years, most patients were from the younger age group. 66% of patients were from the district private hospital. 15% were referred from rural areas by the health workers, NGO and other specialist and also by the previous patients.

Conclusions: The finding confirm high prevalence of genital prolapse in this region. The majority of the women were uneducated, high rate of poverty, multiparous, has high rate of early resumption to heavy work in peurparium. Success rate of treatment in this 25 bedded charitable hospital was almost 100% long term follow up showed good quality of life among the treated patients.

FEASIBILITY OF PESSARY USE IN RURAL NEPAL: ONE YEAR OUTCOMES

M. Robert1, J. Govan1, U. Lohani2, A. Uprety2, 1University of Calgary, Calgary Alberta, Canada; 2Rural Health and Education Service Trust (RHEST), Kathmandu, Nepal

Objectives: To evaluate the feasibility of using pessarys in the rural Nepali district of Ramechhap. Feasibility was defined as: acceptability to women, continuation rates and complications at one year.

Method: The study is a prospective cohort study carried out in four rural Village Development Committees (VDC) in the Ramechhap District of Nepal. A health education program with a focus on POP was delivered in each VDC in January 2013 followed by a free health camp 2 weeks later. All women fitted with a pessary were to follow up at the health post every 3 months. At one year, the health team repeated the program and with a focus on all women fitted with a pessary.

Descriptive analysis was used. Logistic regression was used to look for associations.

Results: 411 women attended the initial health camp, of these 140 presented with symptomatic POP. 134 women were successfully fitted.

At one year, 130 (97%) women attended follow up. 72 women (55%) were still wearing the pessary. 21 (36%) women who were not wearing the pessary wanted to have a pessary refitted. Menopausal status was a predictor of continued use: OR 3.12 (CI: 1.45–6.72), p=0.004 as was the VDC.
There were 6 cases of bacterial vaginosis. Eighteen women had vaginal erosions. All women who had an erosion were menopausal. Increasing pessary size was associated with risk of erosion ($R^2=0.097$, $p=0.01$).

**Conclusions:** Pessaries are an acceptable and feasible option for women with symptomatic prolapse who live in the rural Ramechhap district of Nepal. Access to pessaries for refitting and vaginal estrogen to decrease erosion rates in postmenopausal women is essential for ongoing success.

**P0302 PREVALENCE AND RISK FACTORS OF HYDRONEPHROSIS IN WOMEN WITH PELVIC ORGAN PROLAPSE - A PROSPECTIVE COHORT STUDY**

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**Objectives:** To study the prevalence and risk factors of hydroureteronephrosis in women with pelvic organ prolapse.

**Method:** This is a prospective cohort study was done a tertiary care teaching hospital from January 2012 to March 2014. A cohort of 219 women with pelvic organ prolapse were included. A written consent and a complete history including the associated medical comorbidities were obtained. Prolapse was staged using the standard pelvic organ prolapse quantification (POP-Q) system. The study was approved by the IRB and Ethics committee.

Pre operative trans abdominal ultrasound was performed to grade the hydronephrosis. All patients underwent Vaginal hysterectomy with pelvic floor repair. Patients with hydroureteronephrosis were followed up post operatively to assess for resolution of hydroureteronephrosis.

**Results:** 219 patients were recruited. The prevalence of Hydroureteronephrosis 6.8%. 75% had stage II & III pelvic organ prolapse. 45% were between 50–59 years. 99.5% were multiparous. 18% diabetic and 17% hypertensive. Duration of prolapse was less than 5 years in 125 cases and more than 5 years in 20. Patients with prolapse greater than 5 years duration had 8.4 (95% CI, 1.04–64.04) times significantly higher risk of developing hydronephrosis compared to those with less than 2 years ($p=0.04$). Associated diabetes increased chance of hydronephrosis (95% CI: 0.95–14.53) ($p=0.06$). Hydroureteronephrosis resolved 3 month after surgery in 12 cases.

**Conclusions:** Prevalence of hydronephrosis with pelvic organ prolapse was 6.8%.

Majority of hydronephrosis resolves completely after surgery.

Duration of prolapse of more than 5 years and diabetes were independent risk factors for hydronephrosis. Age, stage of prolapse and parity did not show any co relation.

Patients with prolapse with diabetes should undergo ultra sound to diagnose a correctable cause of renal failure.

**Gynecological Care for the Older Woman**

**P0303 VASOMOTOR SYMPTOMS IN OLDER AUSTRALIAN WOMEN: A CROSS-SECTIONAL POPULATION-BASED STUDY**

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**Objectives:** Normative data for the persistence of menopausal symptoms in older women are lacking. This study aimed to determine current prevalence and severity of vasomotor and sexual symptoms in community-dwelling older women and to explore factors associated with bothersome vasomotor symptoms (VMS).

**Method:** A population-based survey among 1548 community-dwelling Australian women aged 65 to 79 years. A questionnaire completed between April and mid-August 2014 assessed socio-demographic and health related factors. The Menopause Quality Of Life (MenQOL) questionnaire was used to determine the presence and self-rated severity of VMS (hot flashes, night sweats or sweating) and sexual symptoms (intimacy, desire and vaginal dryness).

**Results:** All three items of the vasomotor and the sexual MenQOL domains were completed by 1532 and 1361 of the study participants, respectively. Among 1426 women not using systemic hormones, at least one VMS was reported by 32.8%. The overall prevalence of VMS rated as moderate-to-severe was 3.4%. Factors significantly associated with VMS were obesity (OR=1.44, 95% CI: 1.07–1.93), being a carer for another person (OR=2.54, 95% CI:1.33–4.84) and bilateral oophorectomy (OR=2.41, 95% CI: 1.25–4.61).

Sexual symptoms were highly prevalent, with one in three partners who were reporting symptomatic vaginal dryness during intercourse.

Sexual symptoms were significantly higher among currently partnered women compared to non-partnered women ($p<0.001$).

**Conclusions:** Our findings suggest that VMS and sexual symptoms persist in women into older age and for some women, the symptoms are at least moderately bothersome.

**P0304 PSYCHOSOMATIC ASPECTS OF OSTEOPOROSIS IN KOREAN POSTMENOPAUSAL WOMEN**

H. Choi 1, T. Kim 2. 1Inje university Sanggyepaik Hospital, Seoul, Republic of Korea; 2Dept of OB/GYN, Korea University Anam Hospital, Seoul, Republic of Korea

**Objectives:** To examine the health status in Korean postmenopausal women with low bone mass using quality of life questionnare.

**Method:** Preliminary cross sectional study to examine health status using Qualeffo-41 in 20 Korean postmenopausal women with low bone mineral density, with or without prevalent vertebral fractures, respectively.

**Results:** Korean postmenopausal women with vertebral fracture had lower scores in health domains such as pain, physical function, and general health than those without vertebral fracture.

**Conclusions:** Korean postmenopausal women with vertebral fracture had lower health-related quality of life compared with women without vertebral fractures for all domains and total scores, except mental function.

**P0305 EFFECT OF ISOLATED VITAMIN D SUPPLEMENTATION ON THE RATE OF FALLS AND POSTURAL BALANCE IN FALLERS POSTMENOPAUSAL WOMEN: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL**

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**Objectives:** To evaluate the effect of isolated vitamin D supplementation (VITD) on risk of falls and postural balance in postmenopausal women with a history of falls.

**Method:** In this double-blind, placebo-controlled trial, 160 postmenopausal women were randomized into two groups: VITD group, vitamin D3 supplementation 1000IU/day/orally (n=80) or placebo group (n=80). Women with amenorrhea ≥12 months and age 50–65 years, with a history of falls (previous 12 months) were included. Those with neurological or musculoskeletal disorders, vestibulopathies, drug use that could affect balance and osteopenia/osteoporosis were excluded. The intervention time was 9 months. Postural balance was assessed by stabilometry (computerized force platform) and an investigation into the occurrence/recurrence of falls
by interviews. The plasma concentrations of 25-hydroxyvitamin D [25(OH)D] were measured by HPLC. Statistical analysis was by intention-to-treat, using ANOVA, Tukey-test, chi-square and logistic regression.

Results: After nine months average values of 25(OH)D increased from 15.0±7.5 ng/ml to 27.5±10.4 ng/ml (+45.4%) in VITD group, and decreased 16.9±6.7 ng/ml to 13.8±6.0 ng/ml (−18.5%) in placebo group (p<0.001). The occurrence of falls was higher in the placebo group (+46.3%) with an adjusted risk of 1.95 (95% CI 1.23–3.08) times more likely to fall and 2.80 (95% CI 1.43–5.50) times higher for recurrent falls compared to VITD group (p<0.001). There was reduction in body sway by stabilometry, with lower amplitude of anteroposterior (−35.5%) and laterolateral (−37.0%) oscillation, only in the Vit D group (p<0.001).

Conclusions: In fallers postmenopausal women, isolated vitamin D supplementation for 9 months reflected in a lower incidence of falls and improvement in postural balance.

Financial support from FAPESP, process number 2011/14447-1.

P0306
PREVALENCE OF METABOLIC SYNDROME AND ITS CORRELATION TO BODY COMPOSITION AMONG SOUTH INDIAN POSTMENOPAUSAL WOMEN

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Objectives: Metabolic syndrome (MetS) is a major concern in postmenopausal women. The increased prevalence of MetS in menopausal women predisposes them at the risk of developing cardiovascular disease. The objectives of the study were to assess the prevalence of metabolic syndrome among south Indian postmenopausal women attending menopause clinic, to study the correlation between MetS and menopausal symptoms and to study the correlation of visceral fat among women with or without metabolic syndrome.

Method: Institutional and ethic board approval was obtained. It was a cross sectional study and informed consent obtained. We recruited 154 women attending menopause clinic in our tertiary care centre. The new International Diabetes Federation (IDF) criteria were used to diagnose MetS while menopausal symptoms were assessed by using Menopause Rating Scale (MRS) questionnaire. Blood pressure and the waist circumference were measured and the participants were subjected to analyze fasting blood glucose level and lipid profile. Dual-energy X-ray absorptiometry (DXA) scanning was performed subsequently to assess the body composition in women with or without MetS.

Results: The prevalence of MetS was 64% (99/154). Patients with MetS weigh heavier (P=0.02) with greater body mass index (P=0.031) than the patients without MetS (P=0.02). Patients with MetS had greater systolic blood pressure (P=0.002) and waist circumference (P=0.00) when compared to women without MetS. Hot flushes (P=0.03) and heart discomfort (P=0.006) were greater in women with Mts. The total body fat (P=0.006), the estimated VAT (Visceral adipose tissue) mass, volume and area (P=0.006) were greater in women with MetS when compared to women without MetS.

Conclusions: Prevalence of MetS was 64%. Menopausal symptoms, total body fat and the estimated visceral adipose mass, volume and area were greater in women with MetS. However, further randomized controlled trials with larger population are warranted to identify the correlation between menopausal symptoms, metabolic syndrome and their body composition.

P0307
WHAT IS THE GREAT CONCERN OF THE HEALTH DISTURBANCE DURING THE SENILITY?


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Objectives: To evaluate the epidemiological aspects of health affections during the senility period.

Method: Retrospective study at Endocrinology Gynecology outpatient from Gynecology Section of Obstetrics and gynecology Department of Faculdade de Medicina da USP. The length of study was 10 years. We included patients aged more than 65 years old. We evaluated the health problems during the senility period.

Results: 768 patients informed data on the affections during the senility period. The most frequent is systemic arterial hypertension (57.96%), followed by depression (n=32.62%), gastrointestinal disturbance (27.19%), mellitus diabetes (15.93%), arthropathia (13.40%), tabagism (7.83%), heart disturbance (5.35%), liver disease (3.44%), breast cancer (3.11%) and others.

Conclusions: The cardiovascular disturbance, such as hypertension, is the great problem, but the depression is high during the senility. Both affections need more attention of gynecologist during the senility.

P0308
THE INCIDENCE OF PREOPERATIVE DEEP VENOUS THROMBOSIS (DVT) IN PELVIC ORGAN PROLAPSE (POP)

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Objectives: The incidence of preoperative deep venous thrombosis (DVT) in pelvic organ prolapse (POP) was not still unknown. We examined the incidence of DVT in patients with POP.

Method: Preoperative screening for DVT was indicated if d-dimer levels were beyond the cut-off limit (0.5 μg/ml) using ultrasound examination of the lower extremities. A total of 75 consecutive patients of POP patients were examined retrospectively.

Results: D-dimer levels were elevated in 24 patients (32.0%). Further, DVT was detected in 10 of the 75 patients, resulting in an incidence rate of 13.3%. d-dimer levels were significantly higher in the patients with DVT (1.25±0.52 μg/ml vs. 0.41±0.26 μg/ml). There was no significant difference in age, but body mass index was relatively higher in the patients with DVT than in those without DVT. Moreover, the incidence of diabetes mellitus was higher among patients with DVT.

Conclusions: Although this was a preliminary study, this is the first report describing the incidence of preoperative DVT in patients with POP. According to this study, the incidence of DVT in patients with POP might have been underestimated thus far. Therefore, the surgeons should evaluate the possibility of DVT prior to surgery for POP, particularly in the patients with obesity or diabetes mellitus.
Conclusions:

The prevalence of osteoporosis among postmenopausal women attending the well woman centre in a tertiary care hospital in Southeast Nigeria was found to be 27.4%. The study also revealed that hysteroscopy should be utilized as a first line investigation in abnormal uterine bleeding as it is more effective in diagnosing intrauterine pathology compared to ultrasound. It is recommended and proposed that histopathological examination be used in proliferative phase which is the commonest pathological finding on histopathological examination.

Results:

Five hundred and ninety-six (596) women attended the centre during the study period. A total of 84 (14.1%) women were postmenopausal with mean age of 54.62±22.2 and age ranged 43 to 80 years. The mean T score was -0.7 +9.6 and the mean Z score was 0.6 +8.4. Osteoporosis and osteopenia were recorded in 23 (27.4%), and 24 (28.6%) of the postmenopausal women respectively. The rest, 37 (44.0%) were normal. There was a higher prevalence of osteoporosis among alcohol consumers than non-alcohol consumers but this difference was not statistically significant (P value = 0.46515; P > 0.05).

Conclusions:

Osteoporosis is very prevalent in the study population and possible modifiable risk factor is alcohol consumption. There is need to scale up this investigation among the population to ascertain the true prevalence and possible risk factors in order to inform policies that may help ameliorate this disorder.

P0310

USE OF DIAGNOSTIC HYSTEROscopy IN ABNORMAL UTERINE BLEEDING IN PERIMENOPAUSAL AGE GROUP AND ITS CLINICOPATHOLOGICAL CO-RELATION WITH ULTRASOUND AND HISTOPATHOLOGY FINDINGS: A STUDY IN TERTIARY CARE TEACHING INSTITUTE, MUMBAI

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Objectives:

To study and compare the various diagnostic modalities; i.e. hysteroscopy, ultrasound & histopathology for diagnosis of cause of abnormal uterine bleeding in women of age group 40–45 years, Peri menopausal pts in tertiary Hosp Cama & Albless Hosp for Women.

Method:

The following study is a retrospective observational study of all diagnostic hysteroscopies performed for AUB in 40–45 yr age group at our tertiary care Hospital for woman (April 2012 & January 2015). We studied 66 cases of conventional diagnostic hysteroscopy at our institute to establish correlation of hysteroscopy findings with other diagnostic tools i.e. Ultrasound and histopathological findings.AUB accounts for two-thirds of all hysterectomies worldwide. Evaluation of the endometrium as a cause of AUB is done mainly in three modes i.e by Imaging of endometrium by transvaginal/transabdominal ultrasound, Visual assessment by hysteroscopy and cellular assessment by microscopic evaluation of endometrial samples done in study.

Results:

On Ultrasound 65.2% of the endometrial pathologies leading to AUB were due to endometrial hyperplasia with polyp accounting for 4.5% 43.9% of the total patients were having fibroid as associated pathology on Ultrasound. On hysteroscopy more number of cases of polyp were diagnosed (21.2%) as compared to ultrasound (4.5%). On histopathological appearance we found simple hyperplasia in 4.5% of cases and simple hyperplaasia with atypia in 1.5% all of cases i.e. 6% total cases of hyperplasia. These are potentially carcinogenic patients.

Conclusions:

Menopause is an unavoidable yet problematic condition in which women suffer from a number of health problems during the premenopausal period. Knowledge of the major symptoms associated with the menopause helps reduce the burden and stress associated with the condition. Nepalese women have low socio-economic status as compared to other women of the neighbouring countries like India and China. Thus it is imperative to conduct a study to establish baseline data regarding menopausal health problems among Nepalese women.

Objectives:

Menopause is an unavoidable yet problematic condition in which women suffer from a number of health problems during the premenopausal period. Knowledge of the major symptoms associated with the menopause helps reduce the burden and stress associated with the condition. Nepalese women have low socioeconomic status as compared to other women of the neighboring countries like India and China. Thus it is imperative to conduct a study to establish baseline data regarding menopausal health problems among Nepalese women.

Method:

This descriptive cross-sectional study was conducted from July 2014 to February 2015 among 2000 Nepalese women from Kathmandu, Lalitpur and Bhaktapur districts aged more than 40 years to identify the knowledge, attitude and practice related to menopausal health problems. Different questions were asked to the women regarding menstrual history of women, obstetric history, contraceptive history, lifestyle details, knowledge towards menopausal symptoms, attitude towards menopause and menopausal problems experienced by the women. Their health seeking behavior was also assessed when they faced the menopausal health problems. Data were entered in Microsoft excel 2013 and was analysed using SPSS version 20.

Results:

Mean menopausal age was 48.5 and 59.2% had not heard about menopausal symptoms. Nearly half regarded menopause as normal part of life. About 36.8% had joint/muscle pain, hot flushes; followed by hot flushes (29.25%), abnormal bleeding (29.1%), physical exhaustion (28.1%), irritability (24.9%), forgetfulness (24.1%). 26.2% had urgency followed by frequency (25.1%), dysuria (18.4%), inconvenience (15.4%) and nocturia (15.2%). About 38.4% had irregular bleeding, 15.2% had heavy bleeding, and 12.6% had spotting. Only 29.3%
consulted health workers while about 1.3% consulted traditional healers, 1.1% consulted elderly women. About 13.6% used medicines, 1.8% did yoga, 2% used herbs to relieve the symptoms.

Conclusions: The mean menopausal age was 48.5. Three of them reached menopause before 40 years of age. There was less knowledge on menopause among Nepalese women. Since menopausal symptoms and its related problems negatively affected the health of middle-aged women, more attention is needed to them and their problems. Majority in the study experienced menopausal symptoms but few regarded these symptoms as problems and sought medical attention. With awareness raising and timely screening services; the prevalence of menopausal health problems could largely be reduced. Researchers, policy makers, and authorities can use this study as baseline data for further steps ahead.

P0312
DOES MULTIPARITY AND PROLONGED BREAST-FEEDING HAVE EFFECTS ON MATERNAL BONE MINERAL DENSITY (BMD) IN POST-MENOPAUSAL AGE
L. Nurmukhamedova, Republican Specialized Scientific Research Center of Obstetrician and Gynecology, Tashkent, Uzbekistan

Objectives: Longitudinal studies have shown that bone loss associated with pregnancy and breast-feeding is usually recovered after weaning. Current evidence has arisen from studies conducted in developed countries, where frequent pregnancies and prolonged breast-feeding are relatively uncommon, and where the nutritional intake is usually adequate. However, it is not clear whether this bone loss is completely recovered in women who have borne many children or in women with a longer total duration of breast-feeding. This study was therefore designed to evaluate the effects of repeated pregnancy and prolonged breast-feeding on BMD in a cohort of postmenopausal women in uzbek population.

Method: BMD of the lumbar spine (L2–L4) and femoral neck were measured at 100 postmenopausal women aged 46–75 by dual-energy X-ray absorptiometry (“Delphi N”, “Hologic”). Reproductive history was recorded by using a questionnaire. Women were, first, divided into groups according to parity (nulliparous, 1–2, 3–4, and 5 or more children), and BMDs in different groups were compared, initially unadjusted and then adjusted for age. Same subjects were subdivided, again, according to the total duration of breast-feeding (0, 1–48, 49–96, and 97 months or more) and similar analysis was carried out.

Results: In the 40- to 59-year group, the BMD of the spine in both the nulliparae and one-to-two-parity groups was significantly higher than that of the more-than-five-parity group (P<0.05). The nulliparae and one-to-two-parity group patients in the 60- to 75-year group spine BMD values appeared to be significantly higher than those of the more-than-five-parity group (p<0.05). Significant correlations were found between the number of pregnancies and BMD values for the spine (P<0.01), with no significant correlation for femur neck BMD (P>0.05) values.

Conclusions: In conclusion, the present study indicates that there is a significant correlation between the number of pregnancies and the spine, but there is no correlation for the femur neck BMD. Study suggests that the number of pregnancies has an effect on the BMD values and that this situation shows a variation in different age groups.

P0313
IS IT IMPORTANT TO DETERMINE THE LEVEL OF VITAMIN D3 IN THE SERUM OF POSTMENOPAUSAL WOMEN AND THE FACTORS THAT AFFECT ITS PERFORMANCE
L. Nurmukhamedova, Republican Specialized Scientific Research Center of Obstetrician and Gynecology, Tashkent, Uzbekistan

Objectives: It is known that vitamin D deficiency and reduced calcium intake are risk factors for osteoporosis in various age groups. Numerous studies have shown that deficiency of vitamin D plays an important role in the development of senile osteoporosis and is an essential component for prevention and treatment of this disease. However, disturbances of bone remodeling observed in 85% of postmenopausal women.

Objective: to estimate the concentration of 25-hydroxyvitamin D, indicators of bone mineral density in postmenopausal women to justify the contribution of vitamin D deficiency in the process of bone remodeling.

Method: The study included 22 women aged 50–75 years who have different manifestations of the climacteric syndrome and menopause duration of at least 2 years. Vitamin D is considered normal values of 25(OH)D equal to or greater than 75 mmol/L, is not enough – at values from 50 to 75 mmol/L, values below 50 mmol/L were regarded as deficient in vitamin D. Determination of bone mineral density was carried out dual energy X-ray absorptiometry (DXA) in the lumbar spine and femoral neck on the unit (HOLOGIC).

Results: The study showed that the concentration of 25 (OH)D in the serum of postmenopausal women ranged from 10.4 to 124,0 mmol/L and an average of 38.2±2.2 mmol/L. Revealed that over 85% of women experience a lack or deficiency of vitamin D, and only 15% of indicators calcidiol serum were normal. Level of 25(OH)D were not significantly different in different seasons. It was found that the concentration of 25(OH)D serum in the studied population was affected by overweight and obesity.

Conclusions: Thus, this study found that almost all postmenopausal women in varying degrees of severity there is a deficiency of vitamin D, which, like estrogen deficiency plays an important role in the formation of bone remodeling. The link between the concentration of vitamin D performance X-ray absorptiometry in postmenopausal women makes it necessary to include it in the compulsory comprehensive treatment and prevention of disorders of bone metabolism.

P0314
A WATER-SOLUBLE HIGH MOLECULAR WEIGHT SUBSTANCE ISOLATED FROM HYUGANATSU ORANGE (CITRUS TAMURANA), SUSPECTED TO BE A POLYSACCHARIDE, INHIBITS RAT OSTEOCLAST CELL FORMATION
M. Yamaguchi, H. Hata, H. Sameshima. Department of Obstetrics and Gynecology, Faculty of Medicine, University of Miyazaki, Miyazaki, Japan

Objectives: Osteoporosis is detrimental to aged women's health care. We previously reported that Hyuganatsu orange (Citrus Tamurana) contains active substances that inhibit osteoclast activities. Prior to conducting a human study, we sought to identify the biological active substance in Hyuganatsu orange that suppresses osteoclast formation.

Method: We isolated five fractions from Hyuganatsu orange extract according to molecular weight. Each fraction was tested to determine its suppressive effect on the formation of osteoclasts in rats.

Results: The highest and lowest molecular weight fractions showed significant suppression activity on rat osteoclast formation (p<0.05). The lowest molecular weight fraction was identified as hesperidin using thin layer chromatography.

Conclusions: Hyuganatsu orange contains a biological active substance other than hesperidin that may be a polysaccharide and may suppress osteoclast formation.
**P0315**

**EPIDEMIOLOGICAL PROFILE OF PATIENTS PRESENTING LICHTEN PLANUS AT A REFERENCE CENTER IN SAO PAULO, BRAZIL**

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**Objectives:** Lichen Planus is one of the most common idiopathic diseases, with a 0.5 - 2.3% incidence in general population. The most frequent forms of the disease are cutaneous and mucosal. Mostly affects women, and 25% of those with oral Lichen Planus might present associated genital lesions. The objective was to evaluate clinical and epidemiological profile of patients diagnosed with Lichen Planus at a reference center for vulvar pathology in São Paulo, Brazil.

**Method:** We retrospectively evaluated medical records of 38 ambulatory patients with biopsy-confirmed diagnosis of Lichen Planus from 2009 to 2013 at Hospital das Clínicas of the University of São Paulo Medical School.

**Results:** Most patients were married perimenopausal women with a median age of 54.7 years. Frequent co-morbidities were hypertension and diabetes. The main clinical presentation was chronic pruritus associated to genital atrophy or adhesions and erithematous or exulcerated areas. Best results in treatment were achieved with topical corticosteroids.

**Conclusions:** Vulvar Lichen Planus is a frequently subdiagnosed disease, which increases the pathology evolution and sequels. By establishing a standard epidemiological profile, more patients could be diagnosed and adequately treated.

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**Gynecological Endoscopy**

**P0316**

**MANAGEMENT OF COMPLETE VAGINO-UTERINE SEPTUM IN PATIENTS SEEKING FERTILITY: REPORT OF TWO CASES AND REVIEW OF LITERATURE**

M. Lau, M. Seet, J. Chan, H. Tan. KK Women’s and Children’s Hospital, Singapore, Singapore

**Objectives:** Septate uterus is the most common congenital uterine anomaly encountered clinically. It is associated with infertility and adverse pregnancy outcomes including miscarriages and preterm births. Over the past few decades, the diagnosis and surgical management of uterine septum has changed significantly. Here, we present two women with complete vagino-uterine septum presenting with infertility. We present literature review on evidence on each available treatment options.

**Method:** 2 cases report and literature review.

**Results:** A literature review of the approach to managing complete vagino-uterine septum suggests the use of combinatorial imaging modalities such as hysterosalpingography (HSG), 3D ultrasonography and MRI to accurately define the anatomy. Furthermore, compared to open surgery, treatment through hysteroscopic approaches are associated with shorter operating time and good fertility outcomes. With the use of concomitant laparoscopic and ultrasound monitoring, the incidence of uterine perforation and visceral injury may be reduced.

**Conclusions:** Complete uterine septum can be managed safely through hysteroscopic surgery with good outcome. Referral to a centre with such expertise is essential.

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**P0317**

**DIAGNOSTIC AND OPERATIVE HYSSELAPAROSCOPY – EFFECTIVE METHOD IN THE TREATMENT OF INFERTILITY**

V. Koravi, Dr B R Ambedkar Medical College, Bangalore, Karnataka, India

**Objectives:** To study the outcome of diagnostic and operative hysteroscopy in the treatment of infertility.

**Method:** All patients who underwent endoscopic procedures for infertility for a period of 1 year from June 2013 to May 2014 at Ambedkar medical college, Bangalore. The total number of patients were 48. The diagnosis was primary and secondary infertility.

**Results:** 66.66% of study population had primary infertility, 33.33% had secondary infertility.

The most common indication was pcos 42% of patients. 42% of population had marital life of > 5 years. Hysterolaparoscopy were done for 41 paatients. 7 patients underwent only hysteroscopy.

The hysteroscopic findings were polyps (10%), septum (17%), polpoidal endometrium (17%), 48% patients had normal findings. The laparoscopic findings were polycystic ovaries (42%), fibroids (10%), ovarian cyst (21%). Only two patient had normal findings.

Operative procedure performed. 13 patients did not follow up, 16 patients conceived in subsequent cycles. 2 patients were referred for IVF and 17 patients are still undergoing treatment.

**Conclusions:** Endoscopic procedures done for the treatment of infertility both primary and secondary not only help in diagnosis of anatomical abnormalities but enable us to correct the defects and proved very useful for the treatment. Performing a hysteroscopy can improve the pregnancy rates in cases of unexplained infertility, recurrent pregnancy losses and secondary infertility.

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**P0318**

**HYSTEROSCOPIC MANAGEMENT OF ABNORMAL UTERINE BLEEDING IN VIRGINS WITH HYMEN PRESERVATION**

A. Elsherby, Dr Sherbiny Hospital, Damietta, Egypt;² Damietta Specialized Hospital, Damietta, Egypt

**Objectives:** To assess the efficacy of hysteroscopy in management of anormal uterine bleeding in virgins with hymen preservations.

**Method:** Twenty three virgin cases complaining of persistent AUB not responding to medical or hormonal treatment included in this work. The patients underwent diagnostic office vaginoscopy and hysteroscopy. Sixteen patients had no organic lesions and biopsy was done using 5-Fr cold biopsy grasper. Six patients had endometrial polyps and two had cervical polyps. All polyps were removed using 5-Fr cold scissors and homeostasis was done using 5-Fr bipolar electrode. One case with cervical myoma occupying the vagina was managed by traditional resectoscope. Histopathology examination was done for all specimens.

**Results:** Hymen was intact in all cases. All the patients were discharged within 24 hours with minimal bleeding which stopped within 10 post-operative days.

**Conclusions:** Office hysteroscope is a good modality for diagnosis and treatment of organic causes of AUB in virgins with hymen preservation.
P0319
SINGLE-PORT LAPAROSCOPIC DEBULKING SURGERY OF VARIANT BENIGN METASTATIC LEIOMYOMATOSIS WITH SIMULTANEOUS LYMPHATIC SPREADING AND INTRAPERITONEAL SEEDING: A CASE REPORT

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Objectives: Benign metastatic leiomyomatosis (BML) is a rare disease characterized by smooth muscle cell proliferation in extraterine sites including the lung, abdomen, pelvis, and retroperitoneum. Depending on location, BML is classified as intravenous leiomyomatosis (IVL) or diffuse peritoneal leiomyomatosis (DPL). Treatment options are observation, hormonal suppression, and/or surgical debulking via laparotomy or laparoscopy. Laparoscopic surgery is gaining in popularity in the gynecologic field compared to laparotomic surgery, and single-port laparoscopy (SPL) has the benefits of cosmesis and early tissue extraction by transumbilical morcellation. We report a 39-year-old woman with DPL who underwent SPL debulking surgery.

Method: Benign metastatic leiomyomatosis (BML) is defined as a muscle tumor in association with one or more smooth muscle tumors of the uterus and without evidence of any extraterine primary site. Laparoscopic surgery decreases postoperative pain and is associated with a shorter recovery period than laparotomic surgery. Although single-port laparoscopy (SPL) with a small single transumbilical incision is technically more difficult than multi-port laparoscopy, SPL has the advantages of better cosmesis and easier tissue extraction via transumbilical morcellation than laparotomic surgery.

Results: We started with a vertical incision 2-cm in length in the transumbilicus. Numerous firm, smooth nodules with diameters ranging in size from 2 cm to 8 cm were present on the surface of the omentum, Douglas pouch, peritoneal wall, both adnexae, small bowel, and para-aortic, common iliac, and external iliac lymph nodes. We performed bilateral salpingo-oophorectomy, total omentectomy, para-aortic, common iliac, and external iliac lymph node dissection, and multiple mass excisions. Histological evaluation demonstrated nodular structures with spindle cells. Signs of malignancy, including nuclear atypia or mitotic activity, were not found.

Conclusions: To our knowledge, this is the first report of BML with simultaneous lymphatic spread and peritoneal seeding of leiomyomatosis. Further, this is the first report of SPL debulking surgery to treat BML. In summary, SPL surgery is a feasible treatment option for women with BML, and laparoscopic morcellation after opening the lateral pelvic wall between round ligament and IP ligament and dissecting the para-rectal fossa and one structure that crosses it transversely is uterine artery, which is dissected and clipped with LT 400 titanium clips and the same is used to clip the IP ligaments. Then laparoscopic myomectomies are done after instilling normal saline and after intracorporeal stitching with vicryl the clips are removed from bilateral IP ligaments and uterine arteries.

Results: All 51 patients had minimum intraoperative bleeding and after applying clips to bilateral IP ligaments and uterine arteries at origin – the uterus blanched immediately and after completion of procedure once the clips were removed immediately uterine artery pulsation was seen and there was no major oozing. None required blood transfusion.

Conclusions: This simple technique of controlling bleeding during myomectomies with readily available LT 400 titanium clips and avoiding vasopressin which has numerous side effects and also avoids blood transfusions is excellent. Also as post operative oozing will be minimum so chance of adhesions are less with good fertility outcome.

P0320
LAPAROSCOPIC BILATERAL TEMPORARY UTERINE ARTERY CLIPPING AT ORIGIN AND IP LIGAMENTS FOR LAPAROSCOPIC MYOMECTOMY

P. Chatterjee, A. Chatterjee. Sanjeevani Hospital, Kolkata, India

Objectives: To control bleeding at laparoscopic myomectomy by a simple technique before starting the procedure.

Method: 51 patients treated at Sanjeevani Hospital, Kolkata India, between June 2012 and June 2014 with fibroids >6cm underwent laparoscopic myomectomy after opening the lateral pelvic wall between round ligament and IP ligament and dissecting the para-rectal fossa and one structure that crosses it transversely is uterine artery, which is dissected and clipped with LT 400 titanium clips and the same is used to clip the IP ligaments. Then laparoscopic myomectomies are done after instilling normal saline and after intracorporeal stitching with vicryl the clips are removed from bilateral IP ligaments and uterine arteries.

Results: All 51 patients had minimum intraoperative bleeding and after applying clips to bilateral IP ligaments and uterine arteries at origin – the uterus blanched immediately and after completion of procedure once the clips were removed immediately uterine artery pulsation was seen and there was no major oozing. None required blood transfusion.

Conclusions: This simple technique of controlling bleeding during myomectomies with readily available LT 400 titanium clips and avoiding vasopressin which has numerous side effects and also avoids blood transfusions is excellent. Also as post operative oozing will be minimum so chance of adhesions are less with good fertility outcome.
Complained of an enlarged lymph node in her neck. For this reason, she was referred to the department of otolaryngology. Although fine-needle aspiration cytology of the cervical lymph node was performed twice, the results were negative.

**Results:** We recommended a total laparoscopic hysterectomy for the cervical CIS after providing informed consent. During the procedure, we biopsied a right obturator lymph node, which was noted to be enlarged with a pelvic MRI. Histologic examination revealed no residual tumor in the cervix; however, the lymph node was diagnosed as a grade 2 follicular lymphoma. She was subsequently diagnosed as a stage III malignant lymphoma (Ann Arbor classification) and is currently receiving R-CHOP chemotherapy in department of hematology.

**Conclusions:** In our experience, laparoscopic lymphadenectomy is useful not only for the diagnosis of gynecological malignancies but also for the diagnosis of non-gynecological malignancies. Laparoscopic surgery can determine the cause of lymph node enlargement within the scope of less invasive surgery.

**P0323**

**IS RESECTOSCOPIC ENDOMETRIAL ABLATION EFFECTIVE FOR TREATMENT OF ABNORMAL UTERINE BLEEDING OF PATIENTS WITH NON-ATYPICAL ENDOMETRIAL HYPERPLASIA?**


**Objectives:** To analyze the effectiveness of resectoscopic endometrial ablation effective for treatment of abnormal uterine bleeding of patients with non-atypical endometrial hyperplasia.

**Method:** We performed a retrospective study between January 2003 and December 2008 at Disciplina de Ginecologia do Departamento de Obstetrícia e Ginecologia, Hospital das Clínicas, Faculdade de Medicina da Universidade de São Paulo. We included 249 women with abnormal uterine bleeding and non-atypical endometrial hyperplasia through previous biopsy. We followed up during five years.

**Results:** 240 and 9 patients presented no menses (amenorrhea) and hypomenorrhea after two months of treatment, respectively. We did not register recurrence of endometrial hyperplasia.

**Conclusions:** Endometrial ablation is an effective treatment for abnormal uterine bleeding of patients with non-atypical endometrial hyperplasia.

**P0324**

**HOW IS THE ACCURACY OF ULTRASOUND DIAGNOSIS OF POLYP AFTER HYSTEROSCOPY?**


**Objectives:** To confirm the frequency of endometrial polyp through hysteroscopy in the period between 2006 and 2014 in patients with previous ultrasound diagnosis of endometrial polyp.

**Method:** This is a retrospective study of medical records from Disciplina de Ginecologia do Departamento de Obstetrícia e Ginecologia, Hospital das Clínicas, Faculdade de Medicina da Universidade de São Paulo. We evaluated 3265 patients between 2006 and 2014 with a diagnosis of endometrial polyp through pelvic ultrasound exam. All patients were submitted to diagnostic hysteroscopy and endometrial biopsy, which were evaluated by two independent and double blind pathologists. The median age was 50.66 (IC 95:22–85). Also, the uterine bleeding history was evaluated.

**Results:** We performed the hysteroscopy in 98.3%. The main limitations to perform this procedure were pain, cervical stenosis and active bleeding presence during the examination. The confirmation of polyp was 78.3% in all patients. When we only included the abnormal uterine bleeding, the accuracy of ultrasound was 95.3%. In old patient (> 70 ages), there are some cases of endometrial cancer (n=6).

**Conclusions:** The ultrasound has great accuracy for endometrial polyp in patients with history of abnormal uterine bleeding.

**P0325**

**ACUPUNCTURE IS HIGHLY EFFECTIVE FOR PAIN RELIEF DURING THE HYSTEROSCOPIC PROCEDURE FOR TUBAL OCCLUSION DURING THE ESSURE INSERTION: A PROSPECTIVE STUDY**


**Objectives:** To evaluate the efficacy of acupuncture for decreasing the pain during the hysteroscopic procedure for tubal occlusion during the ESSURE insertion.

**Method:** We performed a prospective study through January 2010 to March 2014 for evaluation the acupuncture as alternative for releasing the pain during the hysteroscopy for tubal occlusion using the ESSURE device. The study was open and not blinded, neither randomized. The patients were divided into two groups: a) classic procedure; b) acupuncture. We used a specific questionnaire for evaluate the pain.

**Results:** We performed the procedure in 261 patients: a) classic (n=140); b) acupuncture (n=121). Forty-two (30%) of patients with classic procedure without anesthesia reported moderate discomfort and low intensity pain. No complain was detected in the acupuncture group.

**Conclusions:** The acupuncture is effective for pain relief during the hysteroscopic procedure for tubal occlusion during the ESSURE insertion.

**P0326**

**IS REALLY IMPORTANT SCREENING OF C-HEPATITIS VIRUS IN PATIENTS BEFORE THE DIAGNOSTIC HYSTEROSCOPY?**


**Objectives:** To evaluate the incidence of c-hepatitis virus in patients before the diagnostic hysteroscopy.

**Method:** The patients were from Disciplina de Ginecologia do Departamento de Obstetrícia e Ginecologia, Hospital das Clínicas, Faculdade de Medicina da Universidade de São Paulo. The length of study was consecutive five years. We evaluated serological tests for hepatitis c virus by ELISA and confirmed by polymerase chain reaction for all patients before the diagnostic hysteroscopy. Also, we collected clinical history of hepatitis.

**Results:** The total evaluated patients was 21,552 patients. We detected 16% (n=1347) with positive test for hepatitis c virus in five years. After polymerase chain reaction, the false result was 20%. The clinical history of hepatitis was reported by only 121 patients (1.3%).

**Conclusions:** Our results showed the frequency of c-hepatitis virus is high in population, which is a great concern due to the risk of contamination.
P0327

MAY 4MM ENDOMETRIAL THICKNESS CUT-OFF BE IMPORTANT FOR EVALUATION OF ASYMPTOMATIC PATIENTS THROUGH HYSTEROSCOPY?


Objectives: To evaluate the asymptomatic patients with 4mm endometrial echo thickness for endometrial changes.

Method: We performed a retrospective study at Disciplina de Gynecologia do Departamento de Obstetricia e Ginecologia da Faculdade de Medicina da Universidade de São Paulo. We included 1400 asymptomatic postmenopausal patients from January 1997 to December 2008 with endometrial echo thickness equal or superior 4mm for evaluation through hysteroscopy. Also, we performed endometrial biopsy when there is any change in the cavity.

Results: The most patients presented endometrium with atrophy (60%), followed by myoma and endometrial polyp (30%) and hyperplasia (n=9.8%). The cases of adenocarcinoma was inferior to 0.2%.

Conclusions: After hysteroscopy, the adenocarcinoma cases are low with cut-off 4mm after pelvic sonograph study.

P0328

SURGERY COMPLICATIONS DURING HYSTEROSCOPY FOR TUBAL OCCLUSION USING ESSURE™


Objectives: To evaluate the surgery complications during hysteroscopy for tubal occlusion using ESSURE™.

Method: We performed our study at Disciplina de Ginecologia do Departamento de Obstetricia e Ginecologia, Hospital das Clínicas, Faculdade de Medicina da Universidade de São Paulo. A total of 261 patients underwent the Essure sterilization procedure from 2010-2014. We did not use the anesthetics for this procedures. All complications were registered during this period.

Results: In general, the procedure was well tolerated and there was no need of hospitalization. The mean score of analgesic pain scale was 2.0. In our study, five adverse events were found: two abdominal migration (0.7%), one device expulsion (0.3%), and two cases of pregnancy (0.7%); eleven and twelve months after the insertion, respectively. In one case, short term control was missed. In the second case of pregnancy, sonography showed adequate localization of the device. The total rate of complications was 1.9%. We did not register any severe complication with ESSURE.

Conclusions: Our data suggested the Essure™ sterilization procedure presented low levels of complications.

P0329

SEARCHING FOR THE MOST ADEQUATE TECHNIQUE FOR ENDOMETRIAL BIOPSY IN INFERTILE WOMEN


Objectives: To identify the most adequate technique for endometrial biopsy sampling and evaluation for women with infertility.

Method: We included 30 infertile and 10 fertile female patients. The study participants underwent two different endometrial biopsies during the midluteal phase of their menstrual cycle. One biopsy was a directed hysteroscopy of both the anterior uterine wall and the proximal third of the posterior wall. The other technique was the Pipelle aspiration biopsy. Blinded computer-assisted morphometric and anatomicpathological analyses were conducted independently by two pathologists. The pathologists had no knowledge of each subject’s fertility status, the area sampled or the technique used. The two endometrial sampling biopsy techniques were compared as to morphometrics and anatomicpathology.

Results: Both biopsy techniques produced enough material for analysis. The directed biopsies produced higher quality samples from targeted segments of the uterine cavity. Blood was only present in the samples obtained through aspiration. Endometritis was detected in 10% of infertile women.

Conclusions: The endometrial biopsy obtained by hysteroscopy out-performed the aspiration technique regarding the homogeneity of samples and preservation of the tissue integrity.

P0330

TOTAL LAPAROSCOPIC HYSTERECTOMY, BILATERAL SALPINGO-OOPHORECTOMY AND COLPECTOMY IN FEMALE TO MALE TRANSEXUAL PATIENTS

S. Ribeiro, R. Tormena, V. Bagnoli, E. Costa, C. Abdó, E. Baracat. Hospital das Clínicas, Sao Paulo University Medical School, São Paulo/SP, Brazil

Objectives: To present our initial experience with the laparoscopic treatment of transsexual patients selected for surgical sex change.

Method: Twenty patients were referred by the multidisciplinary group caring for transsexual patients at our institution between 2010 and 2015. All patients had been previously submitted to hormonal treatment and psychological and psychiatric evaluation and followed up. Hysterectomy, bilateral salpingo-oophorectomy and colpectomy were performed as a first step in a series of surgical treatments to culminate with sex change. All twenty patients were submitted to routine clinical and imaging evaluation prior to surgery.

Results: All procedures were carried out without intra-operative complications. An average of 3 cm of vagina was removed. Two initial patients presented with a fecaloma one week after surgery, but resumed normal bowel function afterwards. Pathology findings were unremarkable. Mean uterine volume was 90 cc.

Conclusions: Total Laparoscopic hysterectomy associated to bilateral salpingo-oophorectomy and colpectomy are a viable alternative to the surgical treatment of transsexual patients.

P0331

SUCCESSFULLY REMOVED UNFAVORABLY LOCATED MYOMAS BY ROBOT-ASSISTED LAPAROSCOPIC MYOMECTOMY

S.Y. Kang, H.K. Kim, Y.J. Chung, H.H. Jo, M.R. Kim, J.H. Kim. College of Medicine, Catholic University of Korea, Seoul, Republic of Korea

Objectives: To evaluate the efficacy of robot-assisted laparoscopic myomectomy for unfavorably located myomas as a treatment for women who wish to preserve fertility.

Method: Patients: Patients who underwent robot-assisted laparoscopic myomectomy for unfavorably located myomas. Intervention(s): A retrospective chart review for 170 cases of robot-assisted laparoscopic myomectomy by a single operator between April 1, 2009 and October 30, 2013.

Main outcome measure(s): Location and number of removed myomas, diameter of myoma with largest size, sum of diameters of each myoma, operative time, console time, complications, length of postoperative hospital stay, and postoperative fertility outcome.

Results: There were 113 cases of robot-assisted laparoscopic myomectomy for unfavorably located myomas, including 100 cases of...
A 37 year old married woman presented to us with lower abdominal pain. She has been investigated in the past for primary amenorrhea and primary sub fertility. No proper diagnosis has been made so far.

The physical examination noted normal body mass index, normal breasts and normal body hair pattern. Her vulva appeared normal. Her vagina was short (4 cm) and blind ending. No other abnormalities were found.

Clinically, she is diagnosed to have RMKH syndrome (Type 1). A laparoscopy performed to locate and describe internal genital organs.

Results: Laparoscopy showed three uteri located in the left, central and the right side of the pelvis. All seem to be connected to each other. Left side uterus is little smaller than a normal uterus which is connected to a normal fallopian tube and a ovary. The central and the right uteri are hypoplastic. Left side uterus showed a small pedunculated fibroid (2 cm in diameter) and connected to a normal Fallopian tube and a ovary. Some endometriotic patches were also noted in the pelvis.

Conclusions: Our patient was diagnosed to have RMKH syndrome (Type 1) with unique uterine malformations which were not reported earlier. Laparoscopic assessment is of great importance in defining the exact anatomical characteristics of RMKH syndrome.

P0333
ROBOTIC-ASSISTED LAPAROSCOPIC COMPLEX MYOMECTOMY OF MULTIPLE MYOMAS AND HUGE MYOMA
H.-S. Moon, K. Jeong, S.R. Lee. Ewha Womans University College of Medicine, Seoul, Republic of Korea

Objectives: Conventional laparoscopic myomectomy (LM) has inherent limitations due to its rigid structure. The robotic system is a newly developed technology equipped with a flexible EndoWrist that offers good performance in delicate motions. Our objective was to share our clinical experiences in the management of Robotic-assisted LM of multiple myomas and huge myoma.

Method: From January 2010 to November 2014, 183 patients with multiple uterine myomas were evaluated including 1 patient who had 36 myomas and 1 patient who had 16cm uterine myoma. Robotic-assisted LM was defined as surgery involving more than two myomas, large myomas, or preexisting pelvic adhesions. We recorded and analyzed the preoperative characteristics of the patients and the fibroids, the detailed surgical time, and several post-operative outcomes to evaluate the feasibility and efficacy of robotic-assisted LM for complex fibroids.

Results: From January 2010 to November 2014, 183 patients with multiple uterine myomas were evaluated including 1 patient who had 36 myomas and 1 patient who had 16cm uterine myoma. Robotic-assisted LM was defined as surgery involving more than two myomas, large myomas, or preexisting pelvic adhesions. We recorded and analyzed the preoperative characteristics of the patients and the fibroids, the detailed surgical time, and several post-operative outcomes to evaluate the feasibility and efficacy of robotic-assisted LM for complex fibroids.

Conclusions: Our study results demonstrated that Robotic-assisted LM is a safe and effective method for handling multiple myomas over thirty.
A 61 year old woman affected by squamous carcinoma of the vagina, FIGO clinical stage IVA (tumor involving posterior vaginal wall and rectal mucosa), with enlarged external iliac lymph nodes at a CT scan and PET-CT, was scheduled to whole pelvis irradiation. However the treatment was not sustainable more than two weeks owing to complications such as severe abdominal pain, intractable diarrhea and subsequent radiation phobia. After mature consideration, we decided to perform a single port laparoscopic posterior exenteration.

Objective:

Catholic University of Korea, Seoul, Republic of Korea

Department of Obstetrics and Gynecology, College of Medicine, The

Method:

Section, we decided to perform a single port laparoscopic posterior exenteration. Normal levels of $\beta$-hCG were reported two weeks later.

Conclusions: This report suggests that single port laparoscopic posterior exenteration for the treatment of the disease.

Method:

A 2.0 cm incision was made away from the umbilicus to the left. Open access was performed. After the introduction of single port, 12 mm Hg pressure of CO$_2$ gas was insufflated into intraperitoneal space. A 5 mm, 30° laparoscope and instruments were inserted into the port. After identification retroperitoneal structure, development of the retroperitoneal space was continued. The right internal iliac artery, the left uterine artery, the left obturator artery, the left middle rectal artery and the left vaginal artery were ligated with ligation clip and LigaSure™. Inferior mesenteric artery was ligated with the same manner.

Results: Posterior pelvic exenteration including radical hysterectomy, subtotal vaginectomy saving for urethral orifice, lower anterior resection, total pelvic peritonectomy and partial pubococcygeus muscle resection was performed successfully without complication. Operative time was 350 min and estimated blood was 500mL. Abdominal and dietary intake was started in day two. Patient was discharged on day 20.

Conclusions: This report suggests that single port laparoscopic posterior pelvic exenteration for alternative treatment of locally advanced vaginal cancer is feasible.

P0336

SINGLE PORT LAPAROSCOPIC POSTERIOR PELVIC EXENTERATION: THE FIRST EXPERIENCE (A CASE REPORT)


Department of Obstetrics and Gynecology, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

Objectives: A 61 year old woman affected by squamous carcinoma of the vagina, FIGO clinical stage IVA (tumor involving posterior vaginal wall and rectal mucosa), with enlarged external iliac lymph nodes at a CT scan and PET-CT, was scheduled to whole pelvis irradiation. However the treatment was not sustainable more than two weeks owing to complications such as severe abdominal pain, intractable diarrhea and subsequent radiation phobia. After mature consideration, we decided to perform a single port laparoscopic posterior exenteration for the treatment of the disease.

Method:

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Results: Posterior pelvic exenteration including radical hysterectomy, subtotal vaginectomy saving for urethral orifice, lower anterior resection, total pelvic peritonectomy and partial pubococcygeus muscle resection was performed successfully without complication. Operative time was 350 min and estimated blood was 500mL. Abdominal and dietary intake was started in day two. Patient was discharged on day 20.

Conclusions: This report suggests that single port laparoscopic posterior pelvic exenteration for alternative treatment of locally advanced vaginal cancer is feasible.

P0337

THE FACTORS AFFECTING THE FAILURE AFTER LAPAROSCOPIC MANAGEMENT OF CORNUAL PREGNANCY

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Objectives: The purpose of this study is to assess the impact of the various factors of cornual pregnancy on the treatment failure after laparoscopic management.

Method: Medical records of the 77 patients diagnosed and managed by laparoscopy were retrospectively analyzed. The independent variables were gestational age, preoperative serum hCG level, methods of surgery (cornual resection vs. cornuotomy), and use of prophylactic methotrexate. Multivariate analysis as well as univariate analysis was performed.

Results: Among the 77 patients, 16 patients were treated by cornuotomy and 61 patients were treated by cornual resection. Prophylactic methotrexate was administered to 16 patients. Laparoscopic management had failed in 5 patients. The use of prophylactic methotrexate was found to be a sole factor affecting the failure rate by univariate and multivariate analysis (OR: 0.54, 95% CI: 0.21–0.86).

Conclusions: Adding prophylactic methotrexate after laparoscopic management can significantly reduce the chance of treatment failure. The failure rate of cornuotomy is not different from that of cornual resection.

P0338

HYSTEROSCOPIC TREATMENT OF A CERVICAL ECTOPIC PREGNANCY. CASE REPORT


Objectives: To describe hysteroscopic treatment as an effective surgical intervention for cervical ectopic pregnancy.

Method: Case report. 28 year-old female with abdominal and vaginal bleeding. She presented 7-week amenorrhea and a positive pregnancy test. Pelvic ultrasound revealed empty uterus, gestational sac with 6.2 week embryo was identified in the cervical canal. Fetal heart beat was present. Findings during hysteroscopy was an ectopic pregnancy implanted in the cervix. Tissue was resected with monopolar energy, intraoperative bleeding was calculated in 200ml. Patient’s evolution was satisfactory. She was discharged 24 hours after procedure. Normal levels of $\beta$-hCG were reported two weeks later.

Results: Successful resectoscopic treatment of ectopic pregnancy.

Conclusions: Hysteroscopic treatment of cervical ectopic pregnancy is a safe and efficient technique that has the advantage of a rapid return to normal levels of $\beta$-hCG. Intraoperative bleeding is less than in D&C treatment.

P0339

LAPAROSCOPIC HYSTEROPEXY FOR UTEROVAGINAL PROLAPSE IN YOUNG WOMEN & REPRODUCTIVE OUTCOME – EXPERIENCE AT TERTIARY CARE CENTRE

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Objectives: Hysteropexy procedure is done for suspension of uterus to the sacral promontory in young women who want to retain their uterus. The present study was done to evaluate the efficacy and long term outcome of laparoscopic hysteropexy. Reproductive outcome in women who were desirous of future fertility is also presented.

Method: An intervention cohort study was conducted at AIIMS, New Delhi (India). Forty two women presenting with uterovaginal prolapse were recruited from January 2009 to August 2014. Patients with stage 2 or more prolapse (POP-Q staging system) were selected for surgery. Laparoscopic hysteropexy was done using modified L-shaped polypropylene mesh and Protack tack (PROTACK 5mm Autosuture,Tyco Health Care, USA). Other required procedures were done in same sitting before putting in mesh. Subjective improvements in patients’ symptoms were evaluated according to International Consultation on Incontinence Questionnaire on vaginal symptoms (ICIQ-VS) score. Objective assessment was done according to pelvic examination and POP-Q scale.

Results: Mean age of patients was 27.6±2.8 yr. Seventy percent (27/42) patients had infertility as associated complaint. Procedure was completed laparoscopically in all patients. Mean point C was 4.39±1.71 preoperatively and changed to −6.9±1.6 at 3 months follow up. Mean follow up is 31.03±13.9 months. Of women desirous of fertility, 15/27 (55.5%) have conceived. Significant improvement in
Objectives: The benefits of LESS when compared to conventional hysterectomy using Gyrus Plasmakinetic coagulation and harmonic scalpel. Continuous variables were expressed as means and standard deviations (SD) or medians and interquartile ranges (IQR), upon distribution. Statistical analysis to determine significant differences between the arithmetic means of both groups was done with a t-test for two samples and binary variables were analyzed with the two-proportion test regardless of distribution, following the central limit theorem.

Results: Population characteristics where as follows: median age of 45 years (41–49 IQR), median body mass index (BMI) of 25.7 (22.08–29 IQR), median parity of 3 (2–4 IQR); Previous surgical history presented at a median 2 interventions (1–3 IQR). Surgical time was a mean 153.8 and 139.2 minutes (SD = 43 vs. 35.2) for the Gyrus Plasmakinetic™ coagulation and the Harmonic® scalpel use, respectively; a statistical significant difference was found between these groups (p=0.019, CI 95% [2.47, 26.74]). No statistic evidence found a difference between the two energies used and hospitalization length, trans-operative bleeding, post-operative pain, laparotomy-conversion, post-operative fever or complications.

Conclusions: A statistical significant difference in surgical time was found in laparoscopic hysterectomies where either Gyrus Plasmakinetic coagulation or the Harmonic scalpel was used. No evidence of statistical significant differences in the other variables included in this study was found. Albeit surgical time is surgeon-dependent and learning curves where not the focus of this particular study, further randomized controlled studies are warranted to study differences and benefits of different energies used in endoscopic surgery.

P0342
DOES ESSURE™ TUBAL OCCLUSION AFFECT THE MENSTRUAL CYCLE?


Objectives: To evaluate the interfere of the Essure™ device on the menstrual cycle (menstrual flow and dysmenorrhea).

Method: We included 131 patients at Disciplina de Ginecologia do Departamento de Obstetricia e Ginecologia, Hospital das Clínicas, Faculdade de Medicina da Universidade de São Paulo after three months of ESSURE™ insertion for interview. We applied a questionnaire on the menstrual flow and dysmenorrhea. The device position was checked by ultrasound in the same time. All selected patients had regular menstrual cycle before the insertion of ESSURE™.

Results: Our data of the interview showed that 63.8% patients did not have any change in pain during the menstrual flow, but 21.5% and 14.6% patients reported a slight increase and decrease, respectively. In relation to menstrual flow, 53.4%, 32.8% and 13.7% of women reported regular normal cycle, an increase and a decrease in menstrual flow, respectively.

Conclusions: Essure™ may influence the pain and flow of menstrual cycle of some patients. Further study are necessary to evaluate the reason for these menses changes.


E411
Outcomes of Gynaecological Laparoscopic Procedures at Misurata Teaching Hospitals, Libya

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Objectives: To determine the indications and describe the complications of gynaecological laparoscopic procedures at both Misurata Central Hospital and Misurata Cancer Centre.

Method: A prospective controlled study included all data on indications and complications of laparoscopic procedures performed over a period of two years at both centres were recorded and analyzed, any unexpected or unplanned event requiring intra-operative or post-operative intervention was defined as a complication.

Conclusions: The advantages of laparoscopic surgery make it superior to open surgery from October 2009 to December 2013 showed a higher incidence rate of ovarian malignancy in nulligravid women 41 to 60 years old. RMI of ≥ 60 mIU/ml + Sassone score ≥ 273 of RMI showed significant increase in sensitivity rate of 5 percent. Hence, the calculated sample size is 121.

Results: A total of 121 patients with adnexal masses underwent surgery from October 2009 to December 2013 showed a higher incidence rate of ovarian malignancy in nulligravid women 41 to 60 years old. RMI of ≥ 60 mIU/ml + Sassone score ≥ 273 of RMI showed significant increase in sensitivity rate of 5 percent. Hence, the calculated sample size is 121.

Gynecological Malignancies

P0344
Survival Analysis of Revised 2013 FIGO Staging Classification of Epithelial Ovarian Cancer and Comparison with Previous FIGO Staging Classification

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Objectives: To analyze the prognostic role of revised version of FIGO stage (2013) in epithelial ovarian cancer (EOC) and compare with previous version staging classification.

Method: We retrospectively enrolled patients with epithelial ovarian cancer treated at Samsung Medical Center from 2002 to 2012. We reclassified the patients based on the revised FIGO staging classification.

Results: 878 patients were enrolled. Previous stage IC (98, 11.1%) was subdivided into IC1 (9, 1.0%), IC2 (57, 6.4%), and IC3 (32, 4.1%). In addition, previous stage IV (94, 1.7%) was categorized into IVA (37, 4.2%) and IVB (57, 6.5%). Stage IC (66, 7.5%) has been eliminated and integrated into IIA (36, 4.1%) and IIB (55, 6.2%). Revised FIGO stage IC3 had significant prognostic impact on PFS (HR=3.840, 95% CI: 1.361–10.83, p=0.011) and revised FIGO stage IIIC appears to be an independent, significant poor prognostic factor for PFS (HR=2.541, 95% CI: 1.242–5.200, p=0.011).

Conclusions: Revised FIGO stage has more progressed utility for informing prognosis than previous version, especially in stage I and III. For stage II and IV, further validation should be needed in large population based study in the future.

P0345
Risk of Malignancy Index in the Preoperative Evaluation of Patients with Adnexal Masses

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Objectives: This retrospective study was conducted to determine the accuracy of Risk of Malignancy Index (RMI) among Filipino women age 21 to 75 years old admitted in our institution and also, to compare the accuracy of Risk Malignancy Index, serum CA-125 level, and Sassone score in women with adnexal masses in predicting ovarian malignancy.

Method: Patients included were between 21 and 75 years old and was subclassified into reproductive age (less than 40 years old) and menopausal group (> 50 years old) who presented with adnexal mass with a serum CA-125 level result and abnormal ultrasound findings. Information was gathered from gynecologic history, ultrasound results and levels of serum CA-125 from the medical records section. Sample size calculated based on the assumption that reported incidence rate of ovarian malignancy in postmenopausal women is 23.7 percent with a reliability of 80 percent and maximum allowable error of 5 percent. Hence, the calculated sample size is 121.

Results: A total of 121 patients with adnexal masses underwent surgery from October 2009 to December 2013 showed a higher incidence rate of ovarian malignancy in nulligravid women 41 to 60 years old. RMI of ≥ 200 had 48.10% sensitivity, specificity of 67.20% and accuracy of 58.70%, Sassone score had an accuracy rate of 75% in predicting ovarian malignancy and serum CA-125 had 67.6%. However, based on area under receiver operating characteristics (ROC), a cutoff value of ≥ 273 of RMI showed significant increase in sensitivity rate to 70%, higher specificity of 80.80% and increased accuracy rate of 65.80%.

Conclusions: Risk of Malignancy Index (RMI) have shown that, a combination of serum CA-125 ≥ 60 mIU/ml + Sassone score ≥ 10 + menopausal status that will have a result of ≥ 273 RMI has an accuracy rate of 94.92% in predicting ovarian malignancy. This may be of importance in more selective referral of patients to gynecologic oncologists for optimization of treatment and proper staging in patients with ovarian malignancy. A cutoff value of ≥ 60 mIU/mL of serum CA-125 can also be suggestive of malignancy because this value often decreases the chance of having a benign pathology.

P0346
Clinical Impact of Lymphadenectomy & Number of Retrieved Nodes in Epithelial Ovarian Cancer

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Objectives: To investigate the diagnostic and therapeutic effect of pelvic lymphadenectomy (PLA) according to the number of the retrieved nodes in epithelial ovarian cancer (EOC).

Method: Data were obtained from the patients who were surgically treated for newly diagnosed EOC from 2002 to 2014. According to the number of retrieved pelvic nodes, patients were divided into three groups: (no-PLA (A), group B (1–5), and group C (> 5). Survival outcomes were evaluated.

Results: Of 111 patients identified, 48 were in early stage and 63 in
advanced stage. PLA was performed in 71.2%, and the mean number of retrieved pelvic nodes was 4.9 (0–25). Between the two groups of B (n=40) and C (n=37), there was no difference in the rate of pelvic nodes metastasis (22.5% in group A and 24.3% in group B, p=0.85). In multivariate analysis, nodes number was not a significant risk factor for both recurrence and death while the histology (serous type) and residual mass were the most important factors associated with disease free survival and overall survival.

Conclusions: Pelvic nodes sampling (less than 5 of retrieved nodes) may have a similar diagnostic and therapeutic value compared to a thorough PLA in EOC. Careful targeting of node in PLA is more plausible than an attempt to remove lymph nodes as much as possible in terms of similar survival gain and low complication.

P0347
DISCORDANCE OF HISTOPATHOLOGIC DIAGNOSIS BETWEEN COLPOSCOPY-GUIDED BIOPSY AND CONIZATION IN HIGH-GRADE CERVICAL INTRAEPITHELIAL LESIONS
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Objectives: To evaluate the discordance rate of pathologic diagnosis between colposcopy-guided biopsy and conization in patients with high-grade cervical intraepithelial neoplasia (CIN).

Method: Patients diagnosed as CIN2 or 3 on colposcopy-guided biopsy from 2006 to 2013 were retrospectively identified. The concordance of pathologic diagnosis was assessed by reviewing the result of the following conization, and cases without conization were excluded from the analysis. Clinico-pathologic data were collected including status of HPV infection and viral load.

Results: A total of 385 patients were identified. The concordance between biopsy and conization was observed in less than half of the cases (43.9%). In conization pathology compared to biopsy, down- or upgrade of CIN severity was observed in 27.3% and 28.8%, respectively. If downgrade to CIN1 or less was considered regression, the rate of natural regression of high-grade CIN was 16.8% in a month after biopsy. The initial viral load of high-risk HPV was significantly associated with the pathologic discordance (p=.023) that a high level of viral load was a predictor for pathologic worsening of CIN (OR=1.646).

Conclusions: There is a high discordance rate between the high-grade CIN diagnosed with colposcopy-directed biopsy and the pathology from the following cervical conization, which is vitally notable for recent clinical studies designed for high-grade CIN without surgical management of conization. The initial viral load of high-risk HPV might be helpful to predict the pathologic difference, but large cohort studies are needed to verify this.

P0348
REVIEW OF GESTATIONAL TROPHOBLECTIC DISEASES IN A TEACHING HOSPITAL IN NIGERIA
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Objectives: This study was carried out to determine the incidence of gestational trophoblastic disease, the clinical features and management outcome at the Aminu Kano Teaching Hospital, Kano, Nigeria.

Method: This was a retrospective study of the demographic and clinical data as well as management outcome of all the patients with gestational trophoblastic disease managed between January, 2008 and December, 2012 at the Aminu Kano Teaching Hospital, Kano, Nigeria.

Results: 103 cases of GTD, 22,680 deliveries; incidence of GTD 4.5 per 1000 deliveries. 69 (67.0%) were hydatidiform mole, Choriocarcinoma 34 (33.0%). Antecedent pregnancy among cases of choriocarcinoma: hydatidiform mole 18 (52.9%), miscarriage 10 (29.4%) ectopic pregnancy 1 (3.0%) term pregnancy 5 (14.7%). GTD commoner at the extremes of reproductive age. Hydatidiform mole high 37 (53.6%) in those aged 24 years and below, choriocarcinoma high 13 (38.2%) in 45–49 years age. Commonest presenting symptom vaginal bleeding. Anaemia commonly complete complication. Suction evacuation mode of treatment in all cases of molar pregnancy. All patients with choriocarcinoma had chemotherapy. Seven maternal deaths, case fatality 6.8%.

Conclusions: The incidence of GTD in this study was 4.5 per 1000 deliveries. Vaginal bleeding was the commonest presenting symptom. Early diagnosis and appropriate treatment of this disease has an excellent prognosis, while late presentation was associated with high maternal mortality as found in this study.

P0349
CLINICAL PRESENTATION OF ENDOMETRIAL CANCER: A FIVE YEAR REVIEW IN LAGOS UNIVERSITY TEACHING HOSPITAL
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Objectives: To determine the prevalence, identifiable risk factors and mode of presentation of endometrial cancer.

Method: This is a retrospective study done at lagos university teaching hospital. all women who had endometrial cancer during the period 1st January, 2008 to 31st December, 2012 were identified and their case notes were retrieved from the medical records. relevant data were obtained using a proforma. data obtained was collated and analysed using simple tables and graphs.

Results: Sixty one women were identified to have endometrial cancer, 44 case notes were retrieved for the study. seventeen women whose case folder was not found were excluded. endometrial cancer was uncommon in the young and premenopausal women, it was found in 1 young women (less than 40 years), in 25 women in the middle age (41 to 60 years) and in 35 elderly (above 60 years), it was also found in 8 premenopausal women and 36 postmenopausal women. the predominant complain is postmenopausal vaginal bleeding which was found in 44 and the common risk factors are old age, overweight and obesity.

Conclusions: The major risk factor for endometrial cancer in this environment includes advancing age, postmenopausal age, overweight and obesity.

P0350
GONADAL TUMORS ARISING IN XY PURE GONADAL DYSGENESIS (SWYER) SYNDROME
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Objectives: 46 XY pure gonadal dysgenesis, also known as Swyer syndrome, is a disorder of sexual differentiation characterized by the association of a female phenotype and a 46 XY karyotype with fibrous gonads. It is generally revealed by a primary amenorrhea. This syndrome represents a ground of predilection for the development of gonadoblastoma, dysgerminoma as well as other germ cell tumors. The objectives are to assess the risk of malignant transformation in this rare syndrome, the types of tumors and their management.

Method: We present the clinical, sonographic and endocrine findings in 7 cases of phenotypic young girls with XY karyotype and gonadal dysgenesis managed in Charles Nicolle university hospital Tu- nis, Tunisia and we study the risk of malignant transformation. The treatment and the follow up are discussed.

Results: The mean age was 16.8 years. All patients presented with primary amenorrhea. Secondary sexual characters were merely developed. FSH levels were high in all cases. The karyotype was 46XY in all cases. A bilateral gonadectomy was decided by laparoscopy in 6 cases and by laparotomy for adnexal torsion of a 20 cm tumor. The surgical findings were: steak fibrous gonads in 4 cases, gonads
with different sizes in 2 cases and an ovarian tumor in one case. Histopathology showed: fibrous gonads in 4 cases, a bilateral gonadoblastoma in 2 cases and a dysgerminoma associated to a gonadoblastoma in 1 case.

Conclusions: The presence of Y chromosome in the karyotype of a patient presenting a gonadal dysgenesis must lead to prophylactic bilateral gonadectomy in order to avoid a malignant transformation. Gonadectomy must be followed by a hormone replacement therapy. A screening of similar cases in sisters is imperative.

P0351
RISK OF MALIGNANCY IN VULVAR LESIONS IN TERTIARY LEVEL HOSPITAL

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Objectives: To determine the pattern of vulvar lesions and to find out the frequency of malignancy in these lesions.

Method: All the women admitted with different vulvar lesions during the study period, were included in the study. Women were admitted for having some surgical procedure either therapeutic or diagnostic or both.

Results: A total of 68 women were admitted with vulvar lesion during the study period. Out of these, 32 women had Bartholin gland cyst, abscess, 15 had vulvar warts, 5 women had chronic vulvar itch, 6 women had lichen sclerosis, and 4 had benign vulvar growth and 6 cases were found to have malignant vulvar lesions. The frequency of malignancy was found to be 8.82%. Most of the malignant cases were seen after the age of 60.

Conclusions: Although vulvar cancer is an uncommon malignancy but its incidence is on the rise. In most of the cases diagnosis delayed either because of late presentation or because of improper treatment. Therefore any health care provider evaluating a vulvar lesion, should have a core knowledge and information needed to manage these lesions and to identify those, needing biopsy and referral.

P0352
PATTERN AND PREDICTIVE FACTORS FOR CERVICAL CYTOLOGICAL ABNORMALITIES AMONG HIV-POSITIVE WOMEN IN NNWEBI, SOUTHEAST NIGERIA

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Objectives: To study the pattern of, and predictive factors for cervical cytological abnormalities among HIV- positive women in Nnewi, Southeast Nigeria.

Method: The Pap smears of 110 HIV- positive women attending the adult HIV clinic at the hospital were evaluated for cytological abnormalities using the Bethesda system of classification. Data on sociodemographic factors and other likely predictive factors were obtained with the aid of semi structured questionnaires. Epi info statistical package was used to analyze the data and multiple logistic regression models were employed to determine the predictive factors for cytological abnormalities.

Results: The prevalence of cervical cytological abnormalities was 28.2% (n=31). This comprises Atypical squamous cells of undetermined significance (ASCUS) 56.1%; Low grade squamous intraepithelial lesion (LGSIL) 22.2%, and High grade squamous intraepithelial lesion (HGSIL) 22.2%. Abnormalities was significantly higher among women aged 25–29 years (p=0.05), traders (p=0.03) and the Anglicans (p=0.04). Significant predictors of abnormal cervical cytology included CD4 count less than 300 (OR=0.037), age less than 30 years (OR=0.26), duration of illness of less than 5 years (OR=0.34) and the use of Highly Antiretroviral therapy (HAART) for less than 5 years (OR=0.09).

Conclusions: The prevalence of cervical cytological abnormalities among the HIV positive women in Nnewi was very high and constitutes mainly of ASCUS. Women with CD4 count less than 300 cells/ml and those who had used HAART for less than 5 years were especially at risk. We recommend that screening for cervical cancer should be integrated into the existing HIV program in the area especially for the at-risk group.

P0353
CHARACTERISTICS OF PATIENTS WITH OVARIAN TUMOR AT THREE ADDIS ABEBA TEACHING HOSPITALS

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Objectives: To describe sociodemographic characteristics, clinical & histopathologic profile of patients with ovarian tumor.

Method: A three year retrospective descriptive cross-sectional study conducted on patients operated at three Addis Ababa University teaching hospitals from January 1, 2007 to December 31, 2009.

Results: A total of 2926 cases of major gynecologic operations done out of which 394 (13.5%) were done for ovarian tumor. Majority of the patients (55.5%) were between 20–45 years of age & 39.8% were above 45 years of age. Abdominal distension reported by 54.9% of patients. Majority of patients with malignant disease had advanced stage disease; 62.9% were FIGO stage III & IV. Epithelial histologic type is the most common accounting for 64.3% of all cases followed by germ cell.

Conclusions: Ovarian tumor is a common gynecologic problem which was seen in both reproductive age group & post menopausal women. Abdominal distension was the most common symptom and majority of malignant disease were at advanced stage.

P0354
A SERIES OF MISSING PRIMARIES: PULMONARY METASTASIS IN GESTATIONAL TROPHOBLASTIC NEOPLASIA IN THE ABSENCE OF UTERINE TUMORS

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Objectives: Choriocarcinoma is a highly aggressive tumor due to the rich vascularity and affinity of trophoblasts for blood vessels. Although its most frequent site of metastasis is the lung, gestational choriocarcinoma very rarely presents as a pulmonary mass in the absence of a primary uterine tumor.

This paper presents a series of three patients with choriocarcinoma who consulted primarily for evaluation of abnormal clinical and radiologic chest findings. Emphasis is placed on the value of an accurate clinical history and physical examination, coupled with basic laboratory tests as key determinants for the successful outcome of these patients.

Method: This is a case series of metastatic gestational choriocarcinoma in the absence of a primary tumor in the uterus. Their clinical courses are briefly described, as well as the outcomes of each of these cases, after each patient undertook a varied treatment plan.

Results: This is a series describing three cases and the clinical courses of patients with metastatic gestational trophoblastic neoplasia in the absence of a primary tumor. The first case underwent chemotherapy with pelvic and pulmonary surgery but eventually succumbed to the disease. The second case was treated with pelvic surgery, and chemotherapy. This patient is now in remission. The third case was treated conservatively by chemotherapy alone. She achieved remission after chemotherapy and has remained disease free.

Conclusions: It is imperative for any clinician to have a high index of suspicion to appropriately diagnose and treat patients with choriocarcinoma. A thorough analysis of the clinical presentation coupled with the use of the appropriate laboratory and diagnostic examination...
tions will lead to early diagnosis and treatment of this neoplasm. Var-
ied forms of treatment options are available. Based on sound judg-
ment, the clinician must decide which of these will best attain treat-
ment goals.

**P0355**
THE ROLE OF THE METFORMIN SUPPRESSING ENDOMETRIAL CANCER IN VITRO

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**Objectives:** 1. To investigate the effect of metformin in inhibiting proliferation of endometrial cancer cell lines (Ishikawa and ECC1) in a dose dependent manner.

2. To understand the mechanism of metformin inhibiting proliferation in endometrial cancer.

**Method:** Ishikawa and ECC-1 endometrial cancer cell lines were used for this study. Endometrial cancer cell lines were exposed to different doses of metformin of (0.5mmol/l, 1mmol/l, 5mmol/l, 10mmol/l, 15mmol/l, 20mmol/l, 25mmol/l, 30mmol/l) for 72 hours and the inhibition rate were detected using MTT assay. Western immune blotting was performed to detect GRP78 expression in endometrial cancer cell lines after exposure of metformin in the different doses. Flow cytometry is used to evaluate the apoptosis induced by metformin in doses for 72 hours.

**Results:** 1. Metformin inhibited proliferation of endometrial cancer cell lines in a dose dependent manner where IC50 of Ishikawa and ECC1 were (5.25±0.54)mmol/l and (3.28±0.23)mmol/l, respectively.

2. The GRP78 expression among the groups of Ishikawa and ECC1 were (5.25±0.54)mmol/l and (3.28±0.23)mmol/l, respectively.

**Conclusions:** 1. Metformin inhibits proliferation of both endometrial cancer cell lines in a dose dependent manner.

2. The mechanism for metformin inhibiting proliferation in endome-
trial cancer was associated with down-regulation of GRP78 expres-
sion and induction of apoptosis.

**P0356**
TWO CASES OF PRIMARY OVARIAN NEUROBLASTOMA ARISING FROM MATURE CYSTIC TERATOMA

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**Objectives:** It is common knowledge that malignant change occurs in 0.3–4.8% of mature cystic teratoma of the ovary. A variety of ma-
ignant tumors have been reported, but neuroblatoma arising from mature cystic teratoma is extremely rare.

**Case reports:** Case 1. A 22-years old Japanese woman had from first to third lumbar paravertebral tumor and bilateral ovarian tumor. Th6, L1, L2, right ilium, left femur, right rib metastases and bone mar-
row metastases were found still more. We performed left salpingo-
oophorectomy. Microscopically, neuroblastoma and mature cystic teratoma were connected each other in her left ovary. We started chemotherapy triweekly, combination of etoposide (100mg/m², day 1–5) and cisplatin (20mg/m², day 1–5). The residual tumors disappeared after 6 courses treatment. To date, no relapse had been ob-
erved with a 13-year follow-up.

Case 2. A 25-years old Japanese woman who had received a kidney transplant for hypoplastic kidney was diagnosed 120×115×125mm ovarian tumor. Right salpingo-oophorectomy was performed. The pathology report indicated neuroblastoma arising from mature cystic teratoma. We diagnosed FIGO stage 1C(b) because of intraoperative rapture. Therefore we done adjuvant chemotherapy, using etoposide and cisplatin. Dose reductions were necessary for protect the renal function. She remained in good health with no evidence of recurrence for 18 months after 6 courses of chemotherapy.

**Conclusions:** There is only 9 cases of primary ovarian neuroblastoma in the world since 1982. Almost of all neuroblastoma in ovary are very poor prognosis, but we performed intensive treatment of the combination of surgery and chemotherapy and no relapse has occurred in two cases.

**P0357**
SERUM LDH AND CA-125: MARKERS FOR DIAGNOSIS OF OVARIAN MALIGNANCY

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**Objectives:** To evaluate the efficacy of serum lactate dehydrogenase and serum CA-125 as bio-markers in ovarian malignancy.

**Method:** Serum LDH and CA125 were done in all of 141 suspected subjects of ovarian tumour admitted in four tertiary care hospitals for surgical management were followed up upto postoperative tissue diagnosis of live tumor for histopathological correlation. The subjects were divided into Group I: Malignant and Group II: Be-
ign, according to histopathology. The histopathological correlation of serum LDH and CA-125 with its validity tests by calculating sensitiv-
ity, specificity, accuracy, PPV, NPV were evaluated.

**Results:** Serous and mucinous cystadenoma were commonest benign tumors, 38.9% and 20.4% respectively. 57.1% was serous cystaden-
carcinoma in malignant tumors. The validity of LDH were sensitivity 57.1%, specificity 84.1%, accu-

racy 78.7%, positive predictive values 47.1% and negative predictive values 88.8% for malignancy. And validity of LDH and serum CA-125 level (combined) for malignant ovarian tumor was sensitivity 50.0%, specificity 100.0%, accuracy 90.1%, positive predictive values 100.0% and negative predictive values 89.0%.

**Conclusions:** It can be concluded that the raised serum LDH level is useful diagnostic marker in pre-operative discrimination of benign and malignant ovarian tumour and concurrent use of LDH and CA-
125 can increase diagnostic efficacy of ovarian cancer.

**P0358**
ROLE OF EARLY SURGICAL INTERVENTION IN CERVICAL CANCER SURVIVAL IN A RESOURCE-LIMITED SETTING

J. Musa
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**Objectives:** We sought to evaluate the benefit of local surgical con-
trol of cervical cancer (CC) disease with hysterectomy in patients pre-
senting with early stage disease (ED).

**Method:** A cohort study of CC cases diagnosed in Jos University Teaching Hospital between 2011 and 2013. FIGO staging and biopsy for histologic confirmation was done and categorized into Early (I-
IIA) and Advanced disease (IBB-IVB). Baseline hemogram and HIV screening were done as routine evaluation protocol in our unit. Pa-
tients with ED were offered Total Abdominal Hysterectomy before referral for adjuvant chemo-radiation (CR). The end-point during follow-

up was mortality with observations censored after August 31, 2014. The time from diagnosis to mortality was calculated in days and converted to lunar months. Factors associated with mortality were analyzed with STATA version 11.0.

**Results:** Out of 72 suspected CC, 65 were histologically confirmed and 46 completed follow up with end-point ascertainment. The med-
ian age was 50 years with median parity of 7. Majority (72.3%) pre-
sented with advanced disease (AD). The HIV prevalence in the cohort was 15.1%. Hysterectomy was done in 38.9% (7/18) of patients with early disease (ED) with a mean survival of 21.5 months compare to
INCIDENCE OF GESTATIONAL TROPHOBLASTIC DISEASES (GTD) AT JDWRNH (JJME DORJI WANGCHUK NATIONAL REFERRAL HOSPITAL) THIMPHU, BHUTAN

C. Zangmo, JDWRNH, Thimphu, Bhutan

Objectives: To study the incidence and prevalence of GTD and its trend among the Bhutanese women.

Method: A retrospective study was conducted where medical records were collected from the JDWRNH (Jigme Dorji Wangchuk National Referral hospital), the only tertiary hospital in the capital city Thimphu. Records including data from maternity ward, surgery records, histopathology records and the data from oncology unit were collected from 2008–2013.

Results: A total of 314 GTD cases were detected during the study period from JDWRNH. GTD cases comprised of molar pregnancies (complete and partial), persistent molar pregnancy and choriocarcinoma. Out of which 55 of them received chemotherapy for persistent/invasive or choriocarcinoma at our oncology ward.

Conclusions: GTD incidence varies widely throughout the world with Asia being one of the regions where the incidence is reported to be high. In Bhutan too, we have seen an increasing trend. Early diagnosis, treatment and follow up play an important role in preventing morbidity and mortality associated with the disease.

NEW INSIGHTS ON PATHOGENESIS OF HIGH GRADE PELVIC SEROUS CARCINOMAS

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Objectives: The revised FIGO 2013 staging for carcinomas of the ovary, fallopian tube and peritoneum has introduced a single system for tumours originating at these sites. Advances in histopathology, immunohistochemistry and molecular genetics have led to evidence that the fimbral end of the Fallopian tube may be the source of origin of High Grade Serous carcinoma of Tubal, Ovarian or Peritoneal (HG-STOP) sites far more commonly than previously thought. We aim to review the theories of pathogenesis of HG-STOP cancers.

Method: We reviewed the literature with searches in PubMed containing keywords “fallopian tube cancer”, “high-grade serous carcinomas” and “risk-reducing salpingo-oophorectomy”. Most of the evidence comes from studies in risk-reducing salpingo-oophorectomy specimens in BRCA carriers. We reviewed evidence for the traditional theory of pathogenesis and then analysed the different modern postulated pathways of pathogenesis of high-grade pelvic serous carcinomas.

Results: A fundamental step in the evolution and propagation of the tubal origin hypothesis was the development of the SEE-FIM protocol (Sectioning and Extensively Examining the Fimbriated end of fallopian tube). This gave insight into precursor lesions of HG-STOPs, thought to be a continuum of p53 signatures developing on to become serous intra epithelial carcinoma (STIC) and finally invasive high grade serous carcinoma. Invagination of exfoliated fimbrial cells into ovarian stroma, the coelomic hypothesis comprising of mullerian metaplasia and transformation of low-grade to high-grade carcinomas and extra-uterine mullerian epithelium are other theories surrounding the pathogenesis of HG-STOPs.

Conclusions: There is convincing evidence to show that HG-STOPs originate from the distal fimbral end of the fallopian tubes. These high-grade tumours have been proven to develop from specific molecular pathways arising from TP53 mutation, and have specific precursor lesions such as STIC before aggressive transformation into invasive serous carcinoma. Other hypotheses include coelomic and extra-uterine mullerian epithelium theories. This new information has clinical impact on development of new therapy to target and treat specific types of pelvic serous carcinomas, especially with the prospects of exciting new laboratory techniques such as ex-vivo culture of human fallopian tube epithelium.

CANCER MORTALITY AMONG REPRODUCTIVE AGE WOMEN IN TUNISIA

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Objectives: To identify the main cancers causing death among Tunisian women in reproductive age.

Method: A retrospective national RAMOS survey (Reproductive Age Mortality Study). This survey was conducted in 2010 and included all deaths of women aged 15–49 years which occurred in 2008 and were due to cancer. Data collection was based on the verbal autopsy method.

Results: In Tunisia, cancer is the leading cause of death among reproductive age women, especially breast cancer. The most exposed women are housewives (64.4%), aged 40–49 years (55.3%), living in urban areas (62.2%), belonging to the middle tercile classification of households (45.4%) and reaching a level of basic education (44.2%).

Conclusions: Cancer should receive priority funding of health care for this population in order to improve its diagnosis and treatment, with a special motion for breast cancer.

ROLE OF NEOADJUVANT CHEMOTHERAPY IN ADVANCED CA OVARY

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Objectives: To study the progress free survival and overall survival of patients with advanced Ca ovary undergoing neo adjuvant chemotherapy (NACT) followed by interval cytoreduction.

Method: A retrospective analysis was done. All patients with advanced Ca ovary who underwent NACT followed by Interval cytoreduction in our institution during 2005–2010 (6 years) were included. Following criteria were taken: age, stage, histology and grade, method of tissue diagnosis, type and number of Chemotherapy cycles, findings at interval cytoreduction and complications. Progress free survival was assessed from the case records. Overall survival was assessed with the help of telephonic survey.

Results: There were 48 patients. All patients except 2 belonged to stage IIc. Metastatic workup was by CT scan and tissue diagnosis by ascitic fluid cytology in most. All patients received Carboplatin + Paclitaxel, majority (30) 3 cycles. No macroscopic residual tumour in 25%, in 62.5% >2 cm residual tumour. Optimal debulking done in 73.3%. Median progression free survival was 28 months (95% CI: 10.8–45.2 months) and Median overall survival 34 months (95% CI: 16.94–51.06 months) (Kaplan Meir survival curve). Pitfall is that our staging is by radiology, but surgery is too aggressive only for staging and delays chemotherapy.

Conclusions: When compared to EORTC trial where primary debulking had progress free survival of 12 months and overall survival

of 29 months, our study highlights the benefit of NACT. In cases of advanced ovarian malignancy, where optimal debulking is not possible, NACT followed by interval cytoreduction gives better outcomes in terms of progression free survival and overall survival, rather than a difficult primary cytoreduction.

P0363
FINANCIAL ANALYSIS OF ROBOTIC SURGERY CONVERSIONS IN ENDOMETRIAL CANCER
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Objectives: As utilization of the robotic laparoscopy platform expands to an increasing number of surgeons for cases of increasing technical complexity, there is a great need to better understand the factors associated with its high cost. A percentage of surgeries intended to be performed robotically are converted to laparotomy, either for technical reasons, or as a result of surgical injury, or due to physiologic intolerance of the surgery. In this study, we sought to provide surgeons with a description of the costs associated with conversion of a robotic hysterectomy to laparotomy and to further identify where the extra charges occurred.

Method: A retrospective analysis of 113 endometrial cancer patients underwent robotic surgery in University Hospitals Case Medical Center between 2008 and 2014 focused on financial records sub-analysis of actual costs. Comparison between charges in patients who underwent successful robotic surgery (R) was made with those who were converted (C). Hospital policy required us to refrain from publishing actual cost data and thus we published data only in relative terms. Data were checked for normal distribution and comparison between means was performed by independent sample t test for parametric data & Mann Whitney U test for non-parametric data.

Results: There was a 15% conversion rate in our group (17 out of 113 patients). Total cost from admission to discharge for C was 1.4 fold higher (p<0.019). The largest cost differential came from hospital stay costs (3.0 fold higher; p<0.001), radiology diagnostic service costs (10.5 fold higher; p=0.011) and laboratory testing costs (4.99 fold higher, P<0.001). Additionally significant differences occurred in pharmacy (2.5 fold higher, p<0.001), and blood bank costs (7 transfusions versus none). The medical and surgical supply, anesthesia, and operating room costs were comparable for both groups.

Conclusions: Robotic surgery conversion to laparotomy is associated with significantly higher overall costs and this further underscores the need for appropriate case selection. As we expand the application of robotic laparoscopy, research should aim to identify predictors of successful robotic surgery to optimize its cost effectiveness.

P0364
HIGH-RESOLUTION ANOSCOPY IN WOMEN WITH CERVICAL NEOPLASIA
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Objectives: To describe high-resolution anoscopy (HRA) findings and compare them with histopathology results.

Method: In a cross-sectional, observational study performed between December 2008 and December 2009, women receiving care at a center in Recife, Brazil, after a histopathologic diagnosis of cervical intraepithelial neoplasia or cervical cancer were screened for anal neoplasia by HRA. Patients with anal lesions were divided into groups A (metaplasia and/or human papillomavirus infection) and B (anal intraepithelial neoplasia [AIN]). Patients with squamous cell atypia in group A and all patients in group B underwent histopathologic analysis. Agreement between HRA and histopathology findings was estimated for group B.

Results: HRA was done in 324 women, 204 (63.0%) of whom had anal lesions. Overall, 169 cases (82.8%) were classified as group A and 35 (17.2%) as group B. Histopathologic data were obtained for 28 of 35 group B cases. Histopathology was suggestive of AIN in 19 (67.9%), resulting in a k coefficient of 0.45 (95% confidence interval [CI]: 0.26–0.65; P<0.001). Relative to histopathology, HRA had sensitivity of 57.6% (95% CI: 40.8–72.7%), specificity of 86.1% (95% CI: 75.7–92.5%), positive likelihood ratio of 4.1 (95% CI: 3.1–5.5), negative likelihood ratio of 0.5 (95% CI: 0.4–0.5), and accuracy of 76.5% (95% CI: 67.2–83.8%).

Conclusions: HRA findings can be systematized, reducing the subjectivity of interpretation.

P0365
COMPREHENSIVE SURGICAL STAGING IN ENDOMETRIAL CANCER – EXPERIENCE FROM A TERTIARY LEVEL CANCER CENTER IN INDIA
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Objectives: To investigate whether complete surgical staging in women with endometrial cancer provide potential benefits that outweigh unique intra/postoperative risks associated with lymphadenectomy in Indian women.

Method: In this prospective observational study from September 2011 to June 2014, all women attending Gynaec oncology clinic at Tata Medical Center Kolkata with endometrial carcinoma underwent complete staging surgery. The lymphnode yield, lymphnode metas-tasis, final stage, correlation to histopathology and also the complications arising from surgery were statistically analysed using multi-variate analysis.

Results: Total 82 women with were enrolled in the study. Of these 64 underwent primary staging laparotomy, 18 completion surgery. Majority (64%) had endometrioid adenocarcinoma. The average pelvic lymph node yield was 17 and paraaortic 12. 16 women (20%) had positive pelvic nodes and 7 (9%) had positive para-aortics. Three of the nine women with positive paraaortic nodes had negative pelvic nodes. Major postoperative morbidities were encountered in 36 (40%) women of whom eight has two or more preexisting comorbidities that could have possible influence. Adjuvant therapy was differently tailored in 11 (18%) patients due to positive lymphnode status.

Conclusions: Results of our study suggests that there is a role of complete surgical staging for patients with endometrial carcinoma as it definitely provides accurate staging information but adds to the morbidity burden of patients. Future research needs to look into options like sentinel lymph node biopsy which will provide accurate staging information without adding morbidities.

P0366
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Objectives: 1. To identify stages of cervical cancer at presentation on those women diagnosed from 2010 to 2012. 2. To assess the timeliness of the treatment (ideally within one month of diagnosis. 3. To assess the appropriateness of the treatment given in comparison to the standard management (FIGO).

Method: A retrospective review of case notes on those women diag-
Posters

P0358

TERMINAL STAGE OF CARCINOMA OF THEfallopian TUBE: A CASE REPORT

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Objectives: To study the incidence of GTD in Thimphu, Bhutan. Method: The medical records of patients who were diagnosed and treated at the only tertiary care hospital (JDWNRH) in Thimphu (capital city), Bhutan in 2014 were evaluated retrospectively. Results: During the study period there were 4248 deliveries, and GTD was diagnosed in 45 cases. The calculated GTD incidence was 10.5 per 1000 deliveries. Complete mole was seen in 24.4% and partial mole in 75.5% of patients. 11.1% received chemotherapy. No mortality was seen.

Conclusions: The incidence of GTD was 10.5 per 1000 deliveries. Early diagnosis, management and follow up plays a vital role in preventing the morbidity and mortality associated with GTD.

P0369

INVASIVE CERVICAL CANCERS AMONG KENYAN WOMEN: HPV TYPE DISTRIBUTION AND IMPLICATIONS FOR CHOICE OF HPV VACCINE

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Objectives: To determine the HPV types that causes cervical cancer in Western Kenya and to compare to those in Indiana, USA. Method: DNA was extracted from cervical cancer specimens and PCR performed to amplify a portion of the HPV L1 gene. Results: Amplifiable DNA was extracted from 50 of 51 (98.0%) specimens from the U.S. and 178 of 187 (95.2%) specimens from Kenya. HR-HPV types were detected in 46 of 46 (100%) specimens from the U.S. and 145 of 146 (99.3%) cancers from Kenya (not significant). Non-oncogenic HPV types were detected in 0 of 46 (0.0%) cancers from the U.S. and 3 of 146 (2.1%) cancers from Kenya (not significant). HPV 16/18 were identified in 93.5% of cancers from the U.S. and 93.8% of cancers from Kenya. Conclusions: HPV 16 and HPV 18 were the most frequently detected types in cancers from the U.S. and Kenya. Few non-HPV 16/18 oncogenic types were identified, in contrast to a previous study of cervical cancers in women living in Botswana. Current HPV vaccines protect against infection and disease caused by HPV 16/18, and if utilized, should protect a high percentage of women living in western Kenya against cervical cancer.

P0370

CARCINOSARCOMA OF THE FALLOPIAN TUBE: A CASE REPORT

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Objectives: Carcinosarcoma of the fallopian tube is extremely rare, accounting for 0.1-0.5% of all gynecological malignancies. We have experienced a case of carcinosarcoma originating in the fallopian tube. The clinical features, pathologic findings, diagnosis, treatment, and outcome are reviewed. Case report: A 62-year-old Japanese female (gravida 3, para 2) visited a local clinic complaining of right abdominal pain. After a CT scan, she was referred to us for a pelvic tumor. We found a tubular cystic lesion in the right adnexal area, measuring 38mm. Because tumor markers were negative and CT scans showed no signs of malignancy, we continued close observation. Four months later, when the tumor increased in size and a solid component newly appeared, we performed an exploratory laparotomy with the suspicion of fallopian tube carcinoma. Results: There were no ascites, and peritoneal washing cytology was negative. Left fallopian tube was dilated to 5cm from ampulla to fimbriae, but the left ovary and right adnexa were normal. There were no other abdominal lesions, including no swelling in the pelvic or paraaortic lymph nodes. We removed the left fallopian tube for temporary examination which revealed undifferentiated carcinoma. We performed total abdominal hysterectomy, bilateral adnexectomy, pelvic lymph node dissection, partial omentectomy, and appendectomy. Conclusions: Postsurgical pathological diagnosis was carcinosarcoma of the left fallopian tube, stage lc. The patient did not wish for adjuvant therapy, and she is being observed in the out clinic. Carcinosarcoma originating in the fallopian tube is extremely rare, and there still isn’t a consensus for diagnosis or treatment. We have ex-
We have treated 24 patients of female genital cancer depending upon location and progression of the disease. Cancers arising from different organs have symptoms and signs especially in the terminal phases of illness, female genital tract is a significant chain in patients with breast cancer.

Objectives: The purpose of this study was to assess the results of fertility-sparing treatment for young women with early-stage cervical cancer. Cervical cancer occurs frequently in patients of reproductive age who had not managed to implement the generative function. Due to various socio-economic reasons, women are increasingly delaying the birth of their first child at the age over 30–35 years. Preserving fertility is one of the most important requirements for the treatment of young patients with early stages of cervical cancer.

Method: The study included 33 patients with stage IA1–IB1 cervical cancer (FIGO) who underwent organ-preserving surgery (28 patients (85%) – radical abdominal trachelectomy, 8 (15%) – vaginal trachelectomy with laparoscopic pelvic lymph node dissection) in the N.N. Petrov Research Institute of Oncology during the period from 2008 till 2014. Criteria for selection were: desire to preserve fertility, no clinical evidence of infertility, tumor size less than 2 cm, no evidence of spread to pelvic lymph nodes or any distant metastasis. The median age of patients was 34.0±1.02 years (range 22–38). All patients were examined: morphological studies, computed tomography of abdomen, magnetic resonance tomography of pelvis.

Results: Postoperative specimens revealed: the median tumor size – 1.5 cm in diameter (0.3–2.2), squamous cell carcinoma – 94%, adenocarcinoma – 6%. Median follow-up – 36 months (9–78). Recurrence rate – 15% (n=5) after 3–11 months: 2 patients – recurrence identified cytologically, in utero-vaginal anastomosis, they underwent radical hysterectomy. Tree died from generalization through 9–16 months after surgery. Evaluation of reproductive function held from 28 patients: 2 – periods never recovered after treatment, 10 – refused the initial desire to have a child, 7 – pregnancy has not occurred, 4 – waiting for 5-year after surgery, 5 (17%) – successfully became pregnant and gave birth.

Conclusions: Radical trachelectomy is an effective treatment for organ-initial stages of cervical cancer in young women. Analysis of causes of recurrence indicates that the most important risk factors are tumor size of more than 2 cm deep stromal invasion (10 mm), histologic tumor type, involvement of lymph-vascular space. Obstetric data showed that of those who wish to perform reproductive function only 36% were able to get pregnant and give birth. Results are higher after assisted reproductive technology. Such pregnant women should be supervised by Obstetricians who specialize in miscarriage.

Objectives: To evaluate the expression of EZH2 protein is correlated with the prognosis of patients with locally advanced breast cancer after neoadjuvant chemotherapy.

Method: This was a longitudinal study of the retrospective cohort type. Thirty seven breast cancer patients who had received a diagnosis of breast invasive carcinoma and received neoadjuvant chemotherapy with anthracycline agents were selected for this study. Between 1993 and 2007. Tissue microarrays were performed for EZH2, ER, PR, HER-2, and Ki-67 using immunohistochemistry.

Results: Our analysis revealed no association between responder status and EZH2 protein expression. This protein is negatively correlated with expression of ERs and PRs and positively correlated with Ki-67 expression.

Conclusions: Our data suggest that EZH2 protein expression may be not correlated with patient prognosis, but is associated to breast cancer biomarkers.
tified, especially when they were located over an intercostal space. Based in these data, change of staging occurred in three patients (23%).

Conclusions: The use of SPECT-CT improves localization of the SLNs in the internal mammary chain, allowing more accurate planning of each individual’s treatment.

P0375
PATIENT WITH BARTHOLIN’S GLAND NEOPLASM ATTENDED IN THE GENERAL HOSPITAL OF CARAPICUIBA AND TRANSFERRED TO A SPECIALIZED CENTER OF ONCOLOGY: CASE REPORT
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Objectives: The aim of this study is to report a case of a patient with Bartholin’s gland neoplasm.

Method: The current study was performed by analyzing the record of a patient who was kept on observation at the Gynecological Surgery Medical Clinic of the General Hospital of Carapicuiba (HGC), and then transferred to follow her treatment at the Brazilian Institute of Cancer Control (IBCC).

Results: A 60 year old female patient came to HGC reporting a tumor on the vaginal region associated with pain and tumoral secretion discharge. During physical examination, a soft tissue tumor affecting 1/3 of the vaginal wall and 1/3 of the superior left buttock with mucoido secretion discharge could be detected. Papanicolaou test showed atypical glandular cells of undetermined significance, and cannot exclude high-grade squamous intraepithelial lesion. Referred to the IBCC for further investigation and follow-up, tumor biopsy showed an adenocarcinoma in vulva mucus producer. Immunohistochemical analysis revealed the presence signet ring cells with CK7 markers, CEA and EMA positive.

Conclusions: The differential diagnosis between benign and malignant lesions is the top priority in these cases. A Bartholin’s gland cancer is easily mistaken for a cyst retarding the diagnosis and the correct treatment, knowing that Bartholin’s gland cancer such as Bartholinitis have their clinical manifestation with tumors in the vulva associated with local pain. Due to this, we hope that the case report can contribute to the study of this rare type of gynecological cancer, elucidating the therapeutic itinerary adopted in the present case.

P0376
VSIG4 AS A POTENTIAL DIAGNOSTIC BIOMARKER FOR OVARIAN CANCER
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Objectives: Ovarian cancer is detected after the disease has distant metastases and this is associated with a poor prognosis. Therefore, early diagnosis of ovarian cancer is very important for overall survival. The protein V-set and Ig domain-containing 4 (VSIG4), a novel B7 family-related macrophage protein that has the capacity to inhibit T-cell activation, has a potential role in cancer. We report the identification of a novel functions of V-set and Ig domain-containing 4 (VSIG4) for the diagnostic tool and prognostic factor of ovarian cancer.

Method: In this study, VSIG4 expression in ovarian cancers and benign ovarian tumors was analyzed with tissue and serum. The expression levels of VSIG4 in ovarian cancer tissues (n=22) and benign ovarian tumor tissues (n=4) were examined by RT-PCR. And the expression levels of VSIG4 in the serum of endometrial cancer patients (n=6) and benign ovarian tumor patients (n=6) were detected by ELISA.

Results: The expression of VSIG4 in tissues of benign ovarian tumors (n=4) was compared with that of ovarian cancers (n=13). The expression levels of VSIG4 in tissues were higher in ovarian cancers than in benign ovarian tumors (15.2 vs 2.2, P=0.0142). (2) Expression of VSIG4 in serum (ELISA): The expression of VSIG4 in serum of benign ovarian tumors (n=6) was compared with that of ovarian cancers (n=6). The expression levels of VSIG4 in serum were higher in ovarian cancers than in benign ovarian tumors but there were not significant differences (232.7; 95% CI: 193.6–291.2 vs 196.2; 95% CI: 168.3–257.5, P=0.1093).

Conclusions: Although VSIG4 in serum of ovarian cancers may not have significant difference due to small sample size, it was prominetly expressed in ovarian cancer tissues. That allows us to identify that VSIG4 as a potential diagnostic biomarker for ovarian cancer. It also has value as a therapeutic target in ovarian cancer.

P0377
PEROXIREDOXIN 3 AND 5: A POTENTIAL BIOMARKER FOR DIAGNOSIS OF ENDOMETRIAL CANCER
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Objectives: Endometrial cancer is the sixth most common cancer in women worldwide with 320,000 new cases diagnosed in 2012. No tumor markers with high sensitivity and high specificity for endometrial cancer are known at present, although CA-125 is often used in clinical practice. Peroxiredoxins (PRDXs) are antioxidant enzymes that play an important role on cell differentiation, proliferation and apoptosis. In this study, we investigated whether the expression levels of PRDX isoforms were related endometrial cancer.

Method: PRDXs consists of six isoforms in mammalian cells. The expression of peroxiredoxin mRNAs was detected by reverse transcriptase-polymerase chain reaction in endometrial cancer tissues (n=26) and normal endometrial tissues (n=10). And PRDX members were examined in endometrial cancer and normal endometrium tissue from 35 patients using immunohistochemistry. And we analyzed the correlation between PRDXs which were highly expressed and the clinico-pathological parameters.

Results: 1) PRDXs mRNA expression in endometrial cancer and normal endometrial tissue by RT-PCR: All PRDX members were highly expressed in endometrial cancer than in normal endometrium. The expression levels of PRDX1 and PRDX3 were more higher than other PRDXs (P=0.0015, 0.0134). 2) analysis of PRDXs protein expression in immunohistochemistry: PRDX3 (22/33, 66.7%) and PRDX5 (24/35, 68.6%) in endometrial cancer were observed strong cytoplasmatic staining. There was no significant association between the expression levels of PRDX3, 5 and prognosis of endometrial cancer.

Conclusions: PRDX3 and PRDX5 may not have prognostic significance but they were prominently expressed in endometrial cancer. Therefore PRDX3 and PRDX5 might be useful as novel biomarkers for diagnosis and treatment of endometrial cancer.
PELVIC INFLAMMATORY DISEASE AND RISK OF INVASIVE OVARIAN CANCER AND BORDERLINE OVARIAN TUMORS: A POOLED ANALYSIS OF 13 CASE-CONTROL STUDIES


Objective: Inflammation has been proposed as a biological mechanism involved in the pathogenesis of ovarian cancer. However, only a few studies have investigated the association between pelvic inflammatory disease (PID) and risk of ovarian cancer and the results are inconsistent. The aim of the present study was to investigate the association between a history of PID and risk of epithelial ovarian cancer according to tumor behavior and histology.

Method: We conducted a pooled analysis of 13 case-control studies from the Ovarian Cancer Association Consortium (OCAC), including 9162 women with invasive ovarian cancers, 2354 women with borderline ovarian tumors and 14736 control women. Study-specific odds ratios (OR) for associations between various measures of PID and risk of ovarian cancer were estimated using conditional logistic regression in individual studies and subsequently combined into a pooled odds ratio (pOR) using a random effects model. Associations between time since first PID and number of PID episodes and risk of ovarian cancer were also estimated.

Results: A history of PID was associated with an increased risk of borderline epithelial ovarian tumors (pOR=1.32; 95% CI: 1.10–1.58) compared to never having PID. Moreover, women with two or more episodes of PID had a two-fold increased risk of borderline ovarian tumors (pOR=2.14; 95% CI: 1.08–4.24), whereas no marked association between time since PID and risk of borderline ovarian tumors was observed. The associations between PID and risk of serous and mucinous borderline tumors showed similar trends as observed for borderline ovarian tumors overall. No convincing associations between PID and risk of invasive ovarian cancer were observed.

Conclusions: PID was associated with an increased risk of borderline ovarian tumors, particularly among women with multiple episodes of PID. Conversely, no association between PID and risk of invasive ovarian tumors was observed. These results suggest that inflammation caused by PID may be implicated in the pathogenesis of borderline ovarian tumors.

EFFECTS OF FOLATE RECEPTOR ALPHA ON CERVICAL CANCER CELL PROLIFERATION AND APOPTOSIS THROUGH MEDIATING ERK SIGNALING PATHWAY

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Objectives: To explore the effect of FRα on cervical cancer cell proliferation and apoptosis by generating regulatory in ERK signaling pathway.

Method: Experimental study was carried out in vitro. On the basis of selecting positive expression of FRα from four cervical cancer cells, FRα siRNA interference was applied in human cervical cancer Hela cell. Then, Cell proliferation was evaluated by Cell Counting Kit-8 (CCK8) assay. The cell cycle and apoptosis were detected by Flow cytometry. The protein expression of ERK1/2, c-Fos and c-Jun were suppressed as well as.

Results: After down-regulation FRα, cell proliferation was inhibited and apoptosis was induced, and the cell cycle was remained in G0/G1 phase while arrested the proportion of S and G2/M stages. Meanwhile, the expression levels of ERK1/2, c-Fos and c-Jun were suppressed as well as.

Conclusions: Our finding indicated that FRα might be capable of suppressing cervical cancer cell proliferation and promoting apoptosis through mediating ERK signaling pathway. The protein expression levels of ERK1/2, c-Jun and c-Fos, which are key transcription factors in ERK signaling pathway, were up-regulated by FRα. It suggested that FRα might be responsible for developing a novel therapeutic target for cervical cancer.

ASSOCIATION OF MTHFR C677T GENE POLYMORPHISM IN CERVICAL CARCINOMA

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Objectives: To MTHFR C677T gene mutation is an independent risk factor for development of cervical cancer, particularly early age of onset of disease.

Method: Study design: Observational case control study. No. of cases: 50 and control: 50. Inclusion criteria: Patient’s attending university hospital, diagnosed as Ca cervix by histopathology. Patients undergoing hysterectomy for benign conditions, without HPV were controls. Exclusion criteria: Patient’s with HPV infection, chronic inflammatory disease, and with any cervical abnormal histology. Plasma concentration of homocyteine and folate was estimated from venous blood. Tissue Samples: Punch biopsy from cervical growth and hysterectomy specimens were taken as control. DNA was extracted from tissue and blood were done using protocol of Miller et al, 1994. Genomic sequencing was done by real time PCR.

Results: (i) Early age for Ist intercourse is significantly associated with cervical cancer. (ii) 92% of cases have serum folate levels less than 5 ng/ml statistically significant. (iii) Serum homocysteine levels more than 15 μmol/litre, in 84% of cases of cervical cancer. (iv) Out of 50 cases, 5 had CT genotype and 34 had CC genotype, while in control only 2 had CT genotype and 43 had CC genotype.

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Conclusions: 1. MTHFR C677T gene polymorphism predisposes to cervical cancer by decreasing serum folate levels, increasing serum homocysteine levels and attending DNA Methylation pattern. 2. This suggested that folate and Methionine metabolism pathway genes might have an important protective role in development of cervical cancer.

P0381
MULTIPLEX NESTED PCR IN DETECTION OF HUMAN PAPILLOMAVIRUSES IN CARCINOMA CERVIX
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Objectives: Carcinoma cervix is caused by 15 High Risk genotypes of Human Papilloma viruses particularly HPV-16 and -18.

Method: We conducted a prospective study for Nested PCR detection of HPV-16 and -18 in cervical scrapes (n=215)/biopsy (n=52) of 247 women with unhealthy (n=154) and apparently healthy cervix (n=93) respectively.

As the above protocol did not include 13 other High Risk genotypes of HPV, we attempted to design in house Multiplex Nested PCR protocol for simultaneous detection of mucosal HPVds (22 HPVds of which 11 are high risk and 1 intermediate risk genotypes) and typing of HPV-16 and -18 in formalin fixed paraffin embedded tissue samples of squamous cell carcinoma (n=24).

Results: We observed that 75.6% of Squamous cell carcinoma cervix and 80% of CIN1/2 cases were positive for HPV-16/18. Further, HPV-16/18 positivity in cervical scrapes of women diagnosed with HSIL, LSIL, ASCUS and NILM was observed to be 55, 43.5, 50, and 19.7 percent respectively.

The above mention in-house multiplex nested protocol was able to type detect HPV in only 17 CaCx tissue samples of which 3 were HPV16 associated possibly due to formalin induced inhibition of PCR.

Conclusions: It has been observed that even a single round of HPV testing in India may lead to significant reduction in the number of advanced cervical cancer and deaths from it. The our protocol may be further evaluated in detection of HPV in cervical scrapes and biopsy specimen for screening of carcinoma cervix in developing countries as it may prove to be cost effective.

P0382
SYSTEMATIC REVIEW OF PSEUDOANGIOMATOUS STROMAL HYPERPLASIA ON THE BREAST

Objectives: Pseudoangiomatous Stromal Hyperplasia (PASH) affects mainly pre menopausal women (62%). The prevalence in the population ranges between 0.4 and 23%. Apparently this is not related to breast cancer. The aim of this study was to review the diagnosis and treatment of PASH.


Results: PASH appears as radiological findings or palpable mass. Usually manifests as a single lesion, circumscribed and mobile. The histological changes are similar to those encountered during the luteal phase of the menstrual cycle. Appears mainly in pre menopausal women and may have receptors for estrogen and progesterone in immunohistochemistry. The main differential diagnosis is with angiosarcoma, this shows true vascular anastomoses. The confirmation of the diagnosis is by percutaneous biopsy. The recommendation then is to follow these patients with clinical and radiological evaluation, leaving the surgical treatment for lesions suspicious for malignancy or disagreement between image-cytology-clinical findings.

Conclusions: PASH is a common disease that leads to changes on imaging or palpable breast changes. It can be followed clinically and is not necessary surgical treatment. Tamoxifen is still an option.

P0383
PERFORMANCE OF RISK OF MALIGNANCY INDEX (RMI) AT DISCRIMINATING MALIGNANT TUMORS IN WOMEN WITH ADNEAXAL Masses in an Ultrasound Training Center
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Objectives: In this study, we examine whether the outstanding results obtained and reported by Risk of Malignancy Index (RMI) creators are reproducible in a different set of pre- and postmenopausal Brazilian women with adnexal masses and who underwent a surgical intervention due to these masses. We also examined the factors associated with RMI failure at diagnosing malignant tumors and at ruling out malignancy, such as tumor histological type and stage.

Method: This is an analysis of prospectively collected data on 158 women subjected to surgery due to an adnexal mass from 2010 through 2014. The study was approved by the faculty’s research ethics committee. The women were evaluated before surgery using the four RMI variants. Ultrasound was performed by physicians sonographers with variable levels of expertise, and enduring a training program. We compared the performance of the four RMI variants using receiver operator curve (ROC) analyses followed by the calculation of sensitivity, specificity, positive and negative likelihood ratios (LR+, LR-) using as gold standard the pathology of the adnexal mass.

Results: Among the 158 women with adnexal masses included in this study, 51 (32%) had malignant tumors, 26 (51%) of them, stage I. All RMI variants performed similarly (accuracy ranging 74–83%), regardless of menopausal status. Considering all women included, the LR+ of the four RMI range from 3.52 to 4.41. In subset analyses, all RMI variants had decreased sensitivity for stage 1 malignant tumors and for those with non-epithelial histology.

Conclusions: The four RMI performed acceptably in a medium-resource setting where ultrasound examiners were physicians sonographers with moderate expertise and/or were under training varied experience. This is due to the good tradeoff between performance and feasibility, since RMI ultrasound protocols are of low complexity. Fapesp: number 2012/15059–8. The authors also thank the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) for financial support.

P0384
METASTASIS TO THE BREAST FROM ARENAL CLEAR CELL TUMOR: TWO CASE REPORTS AND REVIEW OF THE LITERATURE

Objectives: The commonest breast malignancy is a primary breast cancer. Rarely, the breast can be a site of metastatic spread and differential diagnosis with primary breast carcinoma may be difficult. In this study, we reviewed the diagnosis of patients with metastasis to the breast from a clear-cell renal-cell carcinoma treated at Instituto do Câncer do Estado de São Paulo - ICESP, identifying two cases
that met the criteria. We evaluated the clinic, pathologic, immunohistochemical and therapies performed, seeking to characterize the histopathological features and clinical behavior distinct from conventional breast carcinomas.

**Method:** 1st Case: An 81-year-old lady, who underwent nephrectomy 11 years ago after diagnosis of clear-cell renal-cell carcinoma, was seen in the breast clinic for a right breast mass. After clinical examination, revealed a metastatic cancer from a renal primary. In the same time was also diagnosed a metastatic lung cancer. 2nd Case: A 33-year-young woman featuring expansive metastatic lesions in the spine, lung and bone, from an asymptomatic renal-cell cancer. Evolved with fast growing mass in the right breast. Core-needle biopsy revealed a secondary breast lesion originating from a renal-cell carcinoma.

**Results:** Metastatic neoplasms to the breast account for 0.5–6.6% of all malignant mammary tumors in autopsy series. Renal tumors metastasizing to the breast are rare, occurring in only 3% of cases. The metastasis can appear many years after nephrectomy. Palliative chemotherapy or radiotherapy rather than radical surgery may be preferred if the breast lesion is recognized as a metastasis. The prognosis is often poor with a life expectancy rarely exceeding one year. In our series, we opted treatment with chemotherapy and not performing surgical treatment. We conclude that the diagnosis of metastasis to the breast from extrammary tumors is important to avoid unnecessary surgery and ensure proper treatment of the primary disease.

**Conclusions:** Metastatic renal clear cell neoplasms to the breast is rare and can appear many years after nephrectomy. The pathological investigation is the key to making the correct diagnosis.

**P0385**

**OVARIAN DYSGERMINOMA PRESENTING AS SECONDARY AMENORRHEA IN A PATIENT WITH MÜLLERIAN ANOMALY: A CASE REPORT**

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**Objectives:** Dysgerminoma is the most common malignant germ cell tumor. Abdominal pain, abdominal distention, the presence of a palpable mass, nausea, and vomiting as well as ovarian torsion are common symptoms and signs at presentation. Several documented cases of endometrial and cervical carcinoma arising in mullerian anomaly have been described; however, ovarian malignancy occurring in conjunction with uterine dydelphus has not been reported. Here we report a case of right ovarian dysgerminoma that was found incidentally and misdiagnosed as tubo-ovarian abscess in patient with uterine dydelphus and right renal agenesis.

**Method:** The medical records of the patient with dysgerminoma with secondary amenorrhea were retrospectively reviewed.

**Results:** A 34-year-old woman, gravida 0, para 0, stumbled upon pelvic mass and uterine anomaly for amenorrhea evaluation and referred to our clinic. She started menstruating at 13 years old and amenorrhea was started, 2 years ago. Abdominopelvic CT revealed right ovarian tumor with uterine dydelphus and right renal agenesis during evaluation of amenorrhea. The ovarian tumor was suspected to tubo-ovarian abscess. She underwent right salpingo-oohorectomy and histology confirmed dysgerminoma with tubo-ovarian abscess in right ovary, endometriosis and acute and chronic inflammation in right oviduct. She will undergo 6 cycles of bleomycin, etoposide and cisplatin chemotherapy for suspected lymphadenopathy.

**Conclusions:** Our case shows that non-specific symptom like secondary amenorrhea for dysgerminoma. Although mullerian anomalies are unlikely to predispose women to ovarian malignancies, it is necessary to remember that women with such anomalies could still have cervical, uterine or even ovarian malignancies. Therefore, it should be included in the differential diagnosis of pelvic mass in such cases.

**P0386**

**ONCOLOGIC OUTCOMES OF STAGE IVB OR RECURRENT OR PERSISTENT CERVICAL CANCER PATIENTS WHO RECEIVED CHEMOTHERAPY IN THAILAND**

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**Objectives:** To determine response rate and survival outcomes of chemotherapeutic treatment for stage IVB, persistent or recurrent cervical carcinoma patients.

**Method:** Medical records of 286 stage IVB or persistent or recurrent cervical carcinoma patients, who received chemotherapy during January 2006 to December 2013, were retrospective reviewed. Patients' demographic, tumor characteristics, chemotherapeutic agents and response rate were analysis by descriptive statistics. Kaplan-Meier method was used for survival analysis.

**Results:** 47 and 239 patients received chemotherapy for primary and persistent or recurrent of diseases, respectively. The most common histopathology was squamous cell, 169 patients (59.1%). Major of disease sites was both local and metastasis, 111 women (38.8%). Overall response rate was 37.8%, of which complete response was 22.4% and partial response was 15.4%. Stable of disease and progression of disease were 32.2% and 30.1%, respectively. The median progression free survival (PFS) was 5.6 months (range, 0.7–102.2; mean ± SD, 11.3±15.9 months). Overall survival (OS) was range of 0.7–108.3 months which the mean of 19.7±19.5 and the median of 12.3 months.

**Conclusions:** Response rates, median PFS and OS of cervical cancer patients who treated by chemotherapy in Siriraj Hospital was rather high when compared with previous gynecologic oncology group (GOG) studies.
Objectives: To analyze the clinical characteristics of VAIN and discuss the therapeutic effectiveness of Podophyllotoxin. We also take the results of the colorectal study of 63 patients who were diagnosed with VAIN in Peking University Shenzhen Hospital, Shenzhen, China.

Results: The result indicates that the risk of VAIN is higher in older patients, and the difference is statistically significant (P < 0.05). It is also found that 87.30% of all patients who were diagnosed as VAIN combined with different grades of cervical lesion. The results show that the risk of VAIN increase greatly with the upgrading of cervical lesion grade, and the difference is significant (P < 0.05). In all patients, 58.73% have multifocal distribution feature. Among them, 46.03% locate in the upper portion of the vagina and 28.57% locate in the portion of vaginal stump after the operation of whole hysterectomy.

Conclusions: The high-risk age of VAIN is between the age of 36 and 55. With the upper-grading of cervical lesions grade, the incidence of VAIN have an increasing trend. Meanwhile, the risk of VAIN is higher in older patients. We also deduce that Cytology and the location of VAIN are related to the grade of VAIN lesions. The therapeutic effectiveness of Podophyllotoxin on the lower-grade VAIN is significantly higher than that of the higher-grade lesions.

P0390

EXPRESSION OF P53, KI67, WT1 AND BETA CATENIN COMPARING HIGH-GRADE AND LOW-GRADE SEROUS OVARIAN CARCINOMA

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Objectives: To compare p53, KI67, WT1, β-catenin expression in tissue obtained from women with high-grade and low-grade ovarian serous carcinoma. We also compare the clinical characteristic, disease free survival and overall survival according to histologic type.

Method: The paraffin embedded blocks from 141 women with ovarian serous carcinoma (116 high-grade and 25 low-grade) were included. All women were treated at the ObGyn Department of Campinas State University, Unicamp, from 1993 through 2013 and followed up until December 2014. Clinical, surgical, chemotherapy scheme and follow-up were obtained from the patients files. Tissue microarrays (TMA) were constructed from these paraffin blocks and used for immunohistochemistry (IHC). Qui-square tests were calculated to evaluate the association between clinical, pathological and tumor markers expression. Cox Proportion Hazards were used to assess the disease free survival and overall survival.

Results: Only 18% of the women with high-grade serous carcinoma presented with stage I disease compared to 52% of those with low-grade carcinoma. Among the 94 women with high-grade serous carcinoma stage II-IIIC only 31 (33%) achieved an optimal cytoreductive surgery. Among the women with high-grade disease, 93% received platinum-based chemotherapy. Disease progression, relapse rate and deaths were significantly worse in women with high-grade serous carcinomas (p=0.002). P53 and β-catenin expression was significantly higher in women with high-grade serous ovarian carcinoma (p=0.01 and p=0.004 respectively). There was no difference in the expression of WT1 and Ki67 comparing high-grade and low-grade groups.

Conclusions: High-grade serous ovarian carcinomas were detected in advanced stage, presented higher rates of disease progression and death due to the disease despite the use of platinum-based chemotherapy. Among the studied tumor markers, only P53 and β-catenin expression was significantly higher in women with high-grade serous ovarian carcinoma.

This study was partially financed by the Research Support Foundation of the State of São Paulo – Fapesp: number 2012/15059–8. The authors also thank the Conselho Nacional de Desenvolvimento Científico e Tecnológico ( CNpq) for financial support.
CONCLUSION

A FOLLOW-UP STUDY OF PELVIC LYMPHATIC SYSTEM WITH INTERSTITIAL MAGNETIC RESONANCE LYMPHOGRAPHY IN PATIENTS WITH STAGE IA1 CERVICAL CANCER AFTER CERVICAL CONIZATION

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Objectives: This purpose of this study was to follow up patients with stage Ia1 cervical cancer who underwent cervical conization using interstitial magnetic resonance (MR) lymphography and to characterize pelvic lymph node metastasis.

Method: We enrolled eight patients who were diagnosed with stage Ia1 cervical cancer using cervical conization and sought treatment at the department of gynecology, Nanjing Drum Tower Hospital, from January 2008 to January 2011. Interstitial MR lymphography was performed immediately after surgery, six months after surgery, and annually thereafter to observe the lymphatic system in the pelvis and compare lymphography results at different time points to evaluate whether there were any changes in the pelvic lymphatic system.

Results: Of the eight patients, one patient has been followed up for four years and no pelvic lymph node metastasis was noted in all three MR scans; five patients have been followed up for over two years; and one patient has been followed up for 23 months. The lymphatic system in the left pelvis was poorly visualized in one patient six months after surgery; however, it became well visualized six months later. No pelvic lymph node metastasis occurred in the eight patients.

Conclusions: Interstitial MR lymphography proves a valuable follow-up method and provides an excellent tool for assessing the lymphatic system in the pelvis in patients with stage Ia1 cervical cancer after cervical conization.

ANALYSIS OF THE CLINICAL FEATURES OF 63 VAIN PATIENTS AND EVALUATION OF THE EFFECTIVENESS OF PODOPHYLLOTOXIN

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Objectives: To analyze the clinical characteristics of VAIN and discuss the therapeutic effectiveness of Podophyllotoxin.

Method: By the method of retrospective analysis, we collected clinical data of 63 patients who were diagnosed with VAIN in Peking University Shenzhen Hospital from February 2004 to January 2012. The clinical data include the patients’ general health condition, Neoplasia lesions characteristics, Cytology, HPV test results, and the therapeutic effectiveness of Podophyllotoxin. We also take the results of the colposcopy and histopathology into consideration.

Results: The result indicate that the risk of VAIN is higher in older patients, and the difference is statistically significant (P<0.05); it is also found that 87.30% of all patients who were diagnosed as VAIN combine with different grades of cervical lesion. The results show that the risk of VAIN increase greatly with the upgrading of cervical lesion grade, and the difference is significant (P<0.05). In all patients, 58.73% have multifocal distribution feature. Among them 46.03% locate in the upper portion of the vagina and 28.57% locate in the portion of vaginal stump after the operation of whole hysterectomy.

Conclusions: The high-risk age of VAIN is between the age of 36 and 55. With the upper-grading of cervical lesions grade, the incident of VAIN have an increasing trend. Meanwhile, the risk of VAIN is higher in older patients. We also deduce that Cytology and the location of VAIN are related to the grade of VAIN lesions. The therapeutic effectiveness of Podophyllotoxin on the lower-grade VAIN is significantly higher than that of the higher-grade lesions.
carcinoma. In our samples, both hsa-miR-1-3p and hsa-miR-143-3p are down-regulated (fold regulation: −12.2037 and −12.3503, respectively), compared to myometrium and leiomyomas. Few articles show that these miRNA are down-regulated and they act as tumor suppressors, repressing cancer cell proliferation, invasion and metastasis and promote apoptosis, suggesting an anti-neoplastic role.

Conclusions: Due to lack of articles in literature, further evaluations are necessary to verify miRNA functions and to investigate their differential expression in uterine leiomyosarcoma and associate it to clinical pathological information of the patient. Moreover, analyzes with a large number of samples are necessary to confirm these findings.

P0395
TGF-β1-INDUCED CK17 ENHANCES CANCER STEM CELL-LIKE PROPERTIES RATHER THAN EMT IN CELLLARY CANCER VIA ERK1/2-E2F4 SIGNAL PATHWAY

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Objectives: Tumor relapse and metastasis are the leading causes of cervical cancer-related mortality. Recently, tumor microenvironment-related cancer stem cells (CSCs) and epithelial-mesenchymal transition (EMT) have been implicated in the relapse and metastasis of cervical cancer, but the underlying molecular mechanisms among them need to be further elucidated. Here, TGF-β1, which is believed to be one of the most important cytokines in HPV infection-related cervical cancer microenvironment, was studied to demonstrate the relationship and regulatory mechanism among tumor microenvironment, CSCs and EMT and to describe its role in preservation of stemness of cervical cancer stem cells (CSCCs).

Method: Oncosphere-forming assay and SP detection were used to elevate the stemness properties in cervical cancer cells. RT-PCR was conducted to examine the miRNA expression of promising markers of CSCCs. The morphological changes associated with EMT were analyzed by phase contrast microscopy, Western blot and immunofluorescence. Wound healing assays and Boyden chamber assays were performed to assess the cellular invasion and migration abilities. The signal transduction pathway was identified by chemical inhibitors, Western blot, siRNAs, dual-luciferase reporter assays as well as truncated mutants analysis. The expression of TGF-β1 and CK17 were examined by immunohistochemical studies in human cervical tissue microarray.

Results: We demonstrated that the level of CK17 mRNA was significantly increased during TGF-β1-induced stemness and EMT in CC cells. Depletion of CK17 attenuated the amount of oncospheres and SP cells without affecting the EMT changes. Moreover, ERK1/2 signal pathway was activated and inhibition of ERK1/2 phosphorylation downregulated TGF-β1-induced CK17 expression. Truncated mutants analysis and dual-luciferase reporter assays showed that E2F4 was responsible for the transactivation of CK17 promoter promoted by TGF-β1. Consistently, the expression of CK17 significantly correlates with the expression of TGF-β1 in CC patients and co-expression of them is a powerful marker in predicting CC metastasis.

Conclusions: The present data indicates a novel and critical signal pathway of TGF-β1-ERK1/2-E2F4-CK17 regulating CSCs-like properties rather than EMT in CC cells, which provides us a promising target and relevant pathway for the treatment of cervical cancer relapse and metastasis.

P0296
INTRATUMORAL LYMPHATIC MICROVESSEL DENSITY (LMVD) AS A NOVEL PROGNOSTIC FACTOR IN ENDOMETRIAL CARCINOMA

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Objectives: To assess the intratumoral lymphatic microvesSEL density in patients with endometrial carcinoma and investigate its relation to clinicopathological factors and prognosis.

Method: Prospective study that included 60 patients histopathologically proven to have endometrial carcinoma who were subjected to surgery, histopathological examination and immunohistochemistry using an antibody against podoplanin to assess the intratumoral lymphatic microvesSEL density.

Results: High intratumoral LMVD was associated with endometroid type of tumors, lesser myometrial, adnexal, cervical and peritoneal infiltration, lower tumor grade and stage, lesser lymph node involvement and lesser recurrent cases. No association was seen between LMVD and lymphovascular space invasion. Low intratumoral LMVD was associated with poor outcome.

Conclusions: Our results suggest that high intratumoral lymphatic microvesSEL density is a novel prognostic factor in endometrial carcinoma and is associated with favourable outcome. However, further studies with larger series are still needed to clarify the biological significance of these findings.

P0397
CONTROVERSIES ON SURGICAL MANAGEMENT OF ENDOMETRIAL CARCINOMA – AN UPDATE

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Objectives: Endometrial Carcinoma is the common women’s malignancy worldwide. The optimal management remains one of the most debated issues in the gynaecologic oncologic discipline as evidence by variety of national & international guidelines. Surgery is the gold standard for the majority of the newly diagnosed patients. There are lot of controversies on the radicality of surgery, role of lymphadenectomy, role of neo adjuvant chemotherapy and pre or post operative radio therapy.

Method: The literature on these issues searched and analyzed critically.

Results:
• Endometrial cancer represents over 96% of the uterine cancers mostly menopause, over the age of 40 in 95% cases premenopausal 14%, under the age of 40 only 5% case reported.
• Diagnostic & metastatic evaluation are important for proper evaluation of patient prior to appropriate treatment option selection.
• Approach to surgical management, best practices include surgical staging, removal of disease, accurate documentation, and decision regarding role of lymphadenectomy. Omentectomy etc are controversial several articles searched and treatment option for early stage disease, fertility sparing surgery, role of robotic and laparoscopic surgery will be discussed.

Conclusions: Surgical approach for advanced endometrial is also controversial. Is there a role for cyto-reductive surgery for advanced stage III & IV endometrial cancer. Does surgical management improve outcome in recurrent disease. Recommendation based on guidelines and best practice evidences will be discussed. Review of literature searched will be presented.
P0398
INHIBITORY EFFECT OF SNAKE VENOM TOXIN ON NF-κB ACTIVITY PREVENTS HUMAN CERVICAL CANCER CELL GROWTH VIA INCREASE OF RECEPTOR 3 AND 5 EXPRESSION

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Objectives: We previously found that snake venom toxin inhibits nuclear factor kappa B (NF-κB) activity in several cancer cells. NF-κB is implicated in cancer cell growth and chemoresistance. In our present study, we investigated whether snake venom toxin (SVT) inhibits NF-κB, thereby preventing human cervical cancer cell growth (Ca Ski and C33A). SVT (0–12 μg/ml) inhibited the growth of cervical cancer cells by the induction of apoptotic cell death.

Method: To determine the effect of snake venom toxin from Vipera lebetiana turanica on the cervical cancer cells, apoptosis is analyzed by tunnel assay and apoptotic gene expression.

Results: These inhibitory effects were associated with the inhibition of NF-κB activity. However, SVT dose dependently increased the expression of death receptors (DRs): DR3, DR5 and DR downstream pro-apoptotic proteins. Exploration of NF-κB inhibitor (Phenylarsine oxide, 0.1 μM) synergistically further increased SVT-induced DR3 and DR5 expressions accompanied with further inhibition of cancer cells growth. Moreover, deletion of DR3 and DR5 by small interfering RNA significantly abolished SVT-induced cell growth inhibitory effects, as well as NF-κB inactivation. In vivo study also showed that SVT (0.5 and 1 mg/kg) inhibited tumor growth accompanied with inactivation of NF-κB.

Conclusions: Thus, our present study indicates that SVT could be applicable as an anticancer agent for cervical cancer, or as an adjuvant agent for chemoresistant cancer cells.

P0399
SECONDARY CYTOREDUCTION AND POST-OPERATIVE SECOND LINE CHEMOTHERAPY WITH GEMCITABINE & CISPLATIN IN RECURRENT EPITHELIAL OVARIAN CANCER

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Objectives: The role of secondary cytoreduction in recurrent epithelial ovarian cancer is not clearly defined. This study was designed to evaluate the efficacy of secondary cytoreduction and post operative 2nd line chemotherapy with gemcitabine and cisplatin in recurrent ovarian cancer.

Method: Patients who had undergone primary cytoreductive surgery, had received chemotherapy and showed a complete response but have developed subsequent recurrence were included. Evidence of measurable disease on imaging study was required. Abdomen was opened with a vertical incision, ascitic fluid/washings were removed, maximal cytoreduction was done to resect the tumor to <1 cm diameter. All patients were given gemcitabine 1250 mg/m² on day 1 and 8 and cisplatin 70 mg/m² on day 1 only. Cycles were repeated every three weeks. RECIST was used for response evaluation.

Results: 108 patients were enrolled from Dec 1998–Dec 2013. Median age was 52 years. 72 patients had received cyclophosphamide and cisplatin while 36 had received paclitaxel and cisplatin. The DFI >6 months in 76 patients and <6 months in 32. Optimal cytoreduction was achieved in 42 (38.8%) patients. Among 42 patients with optimal cytoreduction, 20 had a CR while 22 showed a PR. Patients with sub-optimal surgery CR was in 14 patients, PR in 20 and NR in 32. DFI >6 months in patients showing CR. 32 patients are alive at median follow up of 16 months.

Conclusions: Secondary cytoreduction and postoperative second line chemotherapy with gemcitabine and cisplatin is a reasonable treatment option for patients with recurrent epithelial ovarian cancer who present after a disease free interval of more than 6 months. This is an ongoing study.

P0400
PATTERN OF GYNAECOLOGICAL MALIGNANCIES AT A TERTIARY CARE HOSPITAL

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Objectives: To assess frequency, risk factor assessment, clinical & histopathological presentation of different types of gynaecological cancers, in seeking care at our tertiary care centre. Estimation of cancer burden is valuable in devising public health priorities. Due to absence of accurate population and health statistics in Pakistan, it is not possible to reliably calculate incidence of various cancers, so we rely on frequencies in hospital as a measure of incidence. In 2011, 20,000 women in UK were diagnosed with gynaecological malignancy. Endometrial cancer is fourth most common, incidence has increased significantly (over 23%) while ovarian cancer has reduced by 10%.

Method: Descriptive study; conducted at the department of obstetrics and gynaecology liaquat national hospital karachi, from 01-Jan-2013 to 31-Dec-2014. Total number of gynae admissions during the study period was 2735, out of which 102 patients were with gynaecological cancers.

All the patients diagnosed with genital tract malignancies were included, detailed history & examination carried out, relevant investigation carried out. Surgical process were performed where needed & specimen sent for histopathology according to standered practices. The data collected on especially designed performa. The variable studied were age, risk factor, clinical presentation & histopathological type.

The data was recorded on SPSS V. 20 and analyzed.

Results: Frequency of ovarian cancer was highest (n=45, 44.1%) with mean age group (35–55 years old) followed by uterine cancer (n=34, 33%) & carcinoma cervix (n=17, 16.7%) with mean age >55 years. Papillary Serous adenocarcinoma was major ovarian malignancy (n=11, 24%) followed by serous cystadenocarcinoma & sex cord stromal tumor (n=4, 8%). Most common uterine cancer was endometrioid adenocarcinoma (n=24, 70%) while most common cervical cancer was squamous cell carcinoma (n=15, 88%). Both cases of vulvar carcinomas were squamous cell carcinoma (n=2/2, 100%); Carcinoma of fallopian tube included mixed Mullerian tumor & endometrioid cancer. 2 cases reported as leiyomyosarcoma.

Conclusions: Cancer is major cause of death and misery in developed and developing countries. Gynaecological cancer like other cancers, place tremendous strain on individuals, families and communities. Quality data is essential for effective cancer control and is the basis upon which policies and programs are developed. One major problem in developing countries is the absence of accurate statistics. It is therefore not possible to reliably calculate incidence rates of various cancers, despite of relatively high frequency of female genital malignancy in Pakistan. This in turn will help to devise strategies for effective screening, early diagnosis and timely Management to reduce morbidity & mortality.
A LONG-TERM SURVIVAL CASE OF CARBOPLATIN/PACLITAXEL-REFRACTORY OVARIAN CANCER TREATED BY WEEKLY IRINOTECAN CHEMOTHERAPY

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Objectives: To show the usefulness of irinotecan to treat carboplatin/paclitaxel-refractory ovarian cancer.

Method: We report a long-term survival case of carboplatin/paclitaxel-refractory ovarian cancer treated by weekly irinotecan chemotherapy.

Results: A 57-year-old female presented to a local clinic with abdominal pain and distention. She was referred to our hospital for suspected gynecologic malignancy. Laparotomy was performed and the histopathological diagnosis was stage IIIc ovarian serous surface papillary adenocarcinoma. Progressive disease was observed after 3 courses of postoperative chemotherapy with a combination of paclitaxel and carboplatin. A weekly irinotecan chemotherapy was selected as a second chemotherapy. Twenty-eight courses of chemotherapy could be performed until progressive disease was observed. Toxicities were well tolerated. The patient is alive with disease 4 years and 3 months after primary surgery.

Conclusions: Although complete response could not be observed, irinotecan seemed to greatly contribute to prolong survival carboplatin/paclitaxel-refractory ovarian cancer.

Rhabdomyosarcoma of the cervix completely treated with radical trachelectomy in a 14-year-old adolescent: A case report

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Objectives: Rhabdomyosarcoma is the most common soft tissue sarcoma in children but rare in uterine cervix. In patients with localized disease, overall 5-year survival rates have improved to more than 80% with the combined use of surgery, radiation therapy, and chemotherapy. However, in patients with metastatic disease, little progress has been made in survival rates, with a 5-year, event-free survival rate of less than 30%. Here we report rare case of rhabdomyosarcoma in an adolescent which was completely treated with radical trachelectomy.

Method: The medical records of the patient with dysgerminoma with secondary amenorrhea were retrospectively reviewed.

Results: A 14-year-old girl referred to our center with a protruding mass from her vaginal introitus, as a polyp of 4 cm. A vaginal examination revealed a mass within her vagina and a punch biopsy was performed. Microscopic findings are consistent with an embryonal rhabdomyosarcoma (botryoid type). An abdominopelvic computed tomography was performed and lesion was found as a mass located at cervix, which measured approximately 9 x 5 cm, without evidence of metastatic disease. Radical trachelectomy was performed without adjuvant therapy and she does not have any recurrence in a follow-up for 8 years.

Conclusions: The presence of a cervical mass in an adolescent is very rare and must necessarily be examined histologically because it could be a rhabdomyosarcoma. This is very important because early diagnosis of the disease is a favorable prognostic factor that allows “fertility-sparing surgery” for adolescent.

INCIDENTAL LEIOMYOSARCOMA OF THE UTERUS: A SINGLE TERTIARY CARE CENTRE EXPERIENCE OF 25 CASES OVER A PERIOD OF 6 YEARS

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Objectives: As per current literature 1 in 350 women will have leiomyosarcoma when surgery is done for “fibroids”. The aim was to identify the incidence, clinicopathologic features and outcome of incidental leiomyosarcoma.

Method: We identified 25 cases of histologically proven LMS at Government Medical College, Kozhikode, Kerala, India between 2009 and 2014. Data collected using hospital based tumor registry, patient case records and telephonic interviews. Data was analyzed using SPSS 17 software.

Results: The incidence was 1 in 125. The mean age were 49 years and had symptoms of fibroid uterus. The ultrasound hinted malignant nature by reporting as heteroechoic mass (45%), heteroechoic mass with irregular border (35%) and heteroechoic mass with metastasis (15%). Early-stage (FIGO I and II) comprised 84% (21 cases). Mean survival for Early-stage was 38 months and for late stages 6 months (Log rank – 0.000). In stage I and II, those who underwent “Myomectomy” with tumour spillage had a Progression Free Survival (PFS) of 5 months whereas those who had conventional TAH with BSO had a PFS of 24 months. All “Myomectomy” patients recurred.

Conclusions: Leiomyosarcoma is an aggressive tumour. Incidental LMS shows an high incidence and increasing trend. Uncharacteristic ultrasound features such as heteroechoic mass should raise suspicion regarding its malignant nature. In early stages (FIGO Stage I and II) conventional open hysterectomy without tumor-spillage gives best prognosis. Tumour spillage during “Myomectomy” or laparoscopic electromechanical morcellation can have fatal consequences.

ORTHOTOPIC XENOGRAFT MOUSE MODEL OF CERVICAL CANCER FOR STUDYING THE ROLE OF MICRORNA-21 IN LYMPH-NODE METASTASIS

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Objectives: Cervical cancer is the most frequent gynaecologic cancer-associated death worldwide. Efficient animal models that can demonstrate metastatic patterns consistent with the clinical course of cervical cancer are urgently needed for studies focusing on the mechanism of disease and optimal treatment. The aim of this study was to establish an orthotopic xenograft model of cervical cancer in female NOD/SCID mice using a SiHa cell line stably-expressing green fluorescent protein (GFP) to evaluate the role of microRNA-21 (miR-21) in spontaneous lymph-node metastasis in vivo.

Method: SiHa cells were transduced by lentivirus to stably express GFP and miR-21, which were determined using a fluorescence microscope and RT-qPCR, respectively. The CCK-8, transwell invasion, and wound healing assays were performed to confirm whether cellular proliferation, invasion and migration are promoted by miR-21. Lentivirus-transduced cells were subcutaneously implanted into female NOD/SCID mice, and then surgically-implanted into the cervix of mice to verify if miR-21 could promote tumor proliferation and lymph-node metastasis in vivo. At days 14, 21, and 28 after implantation, primary tumors and lymph-node metastases were monitored with a fluorescent stereomicroscope and resected for histology.

Results: Expression of GFP and miR-21 were stably detected in lentivirus-transduced SiHa cells. Over-expression of miR-21 promoted proliferation, migration, and invasion of SiHa cells in vitro. The frequency of tumors formation was obviously increased in SiHa-
miR21-GFP but not SiHa-miRnc-GFP cells. An orthotopic xenograft model of human cervical cancer was successfully established in NOD/SCID mice. Over-expression of miR-21 resulted in an increase in the size of the primary tumors at the time of excision. The primary tumor size was directly correlated with lymph-node metastatic burden and an increased frequency of spontaneous lymph-node metastasis was observed in SiHa-miR21-GFP tumors.

Conclusions: We established an orthotopic xenograft model verifying that miR-21 may accelerate tumor growth and enhance the ability of tumor cells to metastasize to local lymph-nodes in cervical cancer. The use of this model should allow for investigation of novel factors that affect metastasis of cervical cancer and presents an opportunity to evaluate potential therapeutic agents as inhibitors of the spread of disease.

P0405
ROUTINE PAP’S SMEAR AND ITS CO-RELATION WITH HISTOPATHOLOGY IN UNHEALTHY CERVIX

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Objectives: The cervical cancer is a preventable disease, yet it remains the third most common cancer worldwide with over 5,30,232 (8.8%) new cases and mortality of 2,750,089 (8.2%) annually. The easy accessibility of the cervix to inspection, palpation and application of cytological and tissue sampling procedures has led to screening programs to detect pre-invasive and invasive lesions of the cervix. This study was done to study the Pap’s smear in patients presenting with unhealthy cervix and its co-relation to histopathology.

Method: This prospective study was conducted over a period of one year on women who attended Outpatient Department of Gynaecology, Sri Aurobindo Medical College and PG Institute, India. The patients with unhealthy cervix on appearance were evaluated by Pap’s smear and cervical biopsy and the results were compared. Inclusion criteria were married women with complaints of abnormal vaginal discharge, persistent vaginal discharge, abnormal uterine bleeding post-coital bleeding and post menopausal bleeding. Exclusion criteria were pregnant women and patients on oral contraceptive pills.

Results: The patients in the study group belonged to the age range from 30–78 years. Pap’s smear showed normal smear in 10%, atrophic smear in 4%, bacterial vaginosis in 2%, inflammatory smear in 49%, low grade and high grade squamous intraepithelial lesion in 10% each and cancer cervix in 5%. The histopathological diagnosis showed Cervical Intraepithelial Neoplasia (CIN) I in 4.5%, CIN II in 3%, CIN III/Ca-in situ in 2% and squamous cell carcinoma in 6% and the rest were chronic cervicitis 84.5%.

Conclusions: Most of the patients who had abnormal Pap’s smear and abnormal histopathological diagnosis were the patients who had high parity and had an early age at marriage. Two patients of atrophic smear and two patients of bacterial vaginosis had CIN I and CIN II lesions. So Pap’s smear had poorer sensitivity especially in the low grade squamous epithelial lesions of the cervix.

P0406
CHEST WALL RESECTION FOR LOCOREGIONAL RECURRENCE OF BREAST CANCER: A FEASIBLE AND EFFECTIVE OPTION

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Objectives: The purpose of this study is to analyze the results of surgical management of breast cancer chest wall recurrence.

Method: We reviewed 18 patients who underwent chest wall resection for breast cancer local recurrence in our institution from January 1998 to November 2011. The records analyzed were age, procedure, surgical margins, reconstruction techniques, operative morbidity and mortality, adjuvant treatment, recurrence and long-time mortality.

Results: The study population consisted of 18 women with a follow-up (5 to 162 months). Age The mean interval between the mastectomy and the chest wall recurrence was 3 to 108 months. Symptom control was achieved in 16 patients. All patients had length of survival at least 12 months. The mean of the survival length among the patients who died was 25.2 months (12 to 42 months). Six patients died due to distant recurrence of breast cancer and one patient died to inflammatory acute abdomen. Recurrence occurred in one (5.5%) patient.

Conclusions: We conclude that chest wall resection for locally recurrent breast cancer may be a good option in selected patients.

P0407
SCREENING PROGRAM IMPLEMENTATION IN THE REPUBLIC OF UZBEKISTAN

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Objectives: In Uzbekistan, sickness and mortality rates from Cervical Cancer increase every year, 350 (35.5%) out of 1000 diagnosed end up dying, i.e. mortality rate from cervical cancer exceeds maternal death in 2–2.5 times.

In recent years, the role human papillomavirus plays in genesis of cervical cancer was proven. Prove that cervical cancer is a consequence of papilloma virus, puts this virus in one row with potentially preventable diseases through vaccination and cervical cancer screening. Our goal is within framework of pilot project perform the screening of cervical cancer among women of reproductive age and vaccination amid teenage girls.

Method: Cytological screening (PAP- smear) was performed for 25,000 women in the age of 23–49 y.o in 4 different regions of Republic through random selection. Additionally, for 2000 women residing in adverse ecological areas of Uzbekistan (increased radiation, chemical industries) and those who work on Mining and Metallurgical factories, simultaneously Digene-test was conducted. 800 teenage girls in the age of 13–16 y.o. have been immunized with Gardasil (Merck) vaccination against cervical cancer after permission from parents side was received.

Results: As a result of screening 23.9% of women have been diagnosed with L-SIL/H-SIL. 16.3% of women L-SIL, inordinate and severe stages of dysplasia (H-SIL) as well as atypia of flat epithelium, not excluding severe dysplasia (ASC-H) that 7.7% of patients had. CIS and SCC diagnosed in 1.1% and 0.4% cases respectively. 1.2% women were identified with atypical glandular epithelium. 73.3% of women had normal cytological state.

Diagnostics of papillomavirus Digene-test showed that 15.4% of
women have high capacity (over than 5000 copies) of papillomavirus DNA and subsequently were included in a group with a high-risk of cervical cancer development.

Conclusions: Today, due to this project, screening centers for PAP-testing and vaccination for papillomavirus are established in regions of Republic. Due to timeserving screening we have detected women with the high risk of cervical cancer developing.

In order to evaluate the effectiveness of screening usually we need to conduct big randomized research. Introducing the regular mandatory inspections and usage of modern methods of diagnostics is especially topical for our country.

The concept of national program for cervical cancer prophylaxis in Republic of Uzbekistan was worked out according to the results of project realizations.

**P0408**

**CYTOREDUCTION FOR OVARIAN CANCER – A REVIEW OF SURVIVAL AND SURGICAL OUTCOMES AT MUSGROVE PARK HOSPITAL, TAUNTON, 2009–2013**

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Objectives: Current first-line treatment for advanced-stage ovarian cancer involves primary debulking surgery followed by adjuvant platinum-based chemotherapy. Optimal debulking is an important prognostic factor with the goal of surgery to leave behind no macroscopic disease. Recent randomized clinical trials (RCTs) suggest neoadjuvant chemotherapy followed by interval debulking is a safe alternative. There is debate about whether achieving macroscopic disease is merely prognostic or directly therapeutic.

We evaluated cytoreductive surgery in patients treated at Musgrove Park Hospital, Taunton, UK and compared local practice to standards from NICE and recent RCT data.

Outcomes include overall survival, rates of successful debulking and morbidity.

Method: All patients registered on the Somerset Cancer Register with a diagnosis of Ovarian Cancer between 2009–2013 were included.

Data was collected from hospital databases and paper notes.

Results: The sample comprised 147 patients. Median survival for Stage IV patients is 48 months.

Median post operative stay was 4 days. There was a significant reduction in length of stay over the 5 years (P=0.0061) reflecting the implementation of an enhanced recovery programme.

Achievement of debulking was affected by stage, with reduced macroscopic debulk in later stage patients (P<0.0001). For Stage 3 and 4 women, those who had neoadjuvant chemotherapy prior to surgery had reduced morbidity (length of stay (P=0.0009) and operative blood loss (P=0.008)) with no difference in overall survival (P=0.59).

Conclusions: We are able to demonstrate a significant reduction in Length of Stay over 5 years. Our success rates mirror those in the published literature, with comparable survival and morbidity rates. This demonstrates high quality patient care and supports neoadjuvant chemotherapy as a safe alternative to debulking surgery.
tumor of 7.5 cm x 9 cm x 4 cm. Bilateral inguinal lymphadenopathy is observed.

Results: The biopsies confirmed that the lesion was non-Hodgkin lymphoma, diffuse to large B-cells. As for the staging and classification, it is a Stage II according to Ann Arbor. They performed 4 series of chemotherapy based on: rituximab, cyclophosphamide, doxorubicin, vincristine. She has a complete remission of the mass. Actually the patient is asymptomatic and with regular controls with hematooncologist.

Conclusions: The female genital tract is an infrequent site for extranodal non Hodgkin lymphoma. It can be primary, when originated in any organ of the female genital tract, or more frequently, it can be secondarily involved, but sometimes difficult to distinguish them.

P0411 INTEGRATED MANAGEMENT PATHWAY FOR SCREENING OF OVARIAN CANCER IN THE COMMUNITY – A NOVEL APPROACH
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Objectives: Of the view that cases of ovarian cancer in the community are not being detected early, UK national guidelines released in 2011 advised primary care physicians (GPs) to arrange for CA-125 as a screening test for women aged 50 or over with a specified group of symptoms. The GPs were advised to refer patients with CA-125 value > 35 IU/L for ultrasound pelvis for a RMI score, which if > 250 should be referred to secondary care. The aim of this study were to determine whether streamlining these guidelines is resulting in earlier detection in those diagnosed with ovarian cancer.

Method: In order to streamline these guidelines, in 2013 the Pathology, Radiology and Gynaecology team at Medway Maritime District General Hospital developed a pathway in which patients with CA-125 > 35 IU/L were referred by the pathology team to radiology for an ultrasound, and subsequent referral to gynaecologist if the calculated RMI score was higher than 250. GPs were kept informed about their referred patients throughout. Data was collected to analyse the patient outcomes before and after the implementation of the pathway (during January - December 2012 prior to implementation and February 2013-February 2014 post implementation).

Results: Based on the National guidelines for screening of ovarian cancer in women age 50 and above, in 2012, 18 patients were identified having a raised CA-125 compared to 31 patients in 2013–14. 33% and 29% were diagnosed with ovarian cancer with mean age of 76 and 69 years respectively. The duration patients waited with a raised CA-125 to an ultrasound scan was reduced to 11 days from 23 days after the pathway was implemented. However the stage at which ovarian cancer was diagnosed remained unchanged with most being diagnosed at advanced stage, and the appointment time to gynaecology remained similar.

Conclusions: We believe that these initial results of our approach, the first of its kind in the UK is an important step for improving patient management cost effectively as they indicate that primary care physicians are referring more patients via this pathway, and patient management cost effectively as they indicate that primary care physicians are referring more patients via this pathway, and may be an option after radical vulvectomy.

P0412 CAN HYDROFIBER DRESSING BE A SECONDARY HEALING STRATEGY FOR DIFFICULT WOUND PRIMARY CLOSURE AFTER RADICAL VULVECTOMY? A SERIES OF FIVE CASES
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Objectives: Radical vulvectomy can result in significant loss of tissue. In instance such primary closure is not possible. Tension on the suture line is one factor contributing to wound breakdown most in patients with previous chemoradiation, severe contamination or patients with important comorbidities. In situation when primary closure with flap or graft is not possible, the strategy of using hydrofiber and secondary healing may be a good choice. The aim of this study was to describe this alternative (hydrofiber dressing).

Method: We prospectively analyzed 5 women referred to our institution with a diagnosis of vulvar cancer and who undergone vulvectomy with or without inguinofemoral lymphadenectomy between January 2011 to December 2013. During the wound closure, we left the wound open for secondary healing because of the impossibility of primary closure (3 patients with lesion nearby the clitoris and uretra, 1 with poor controled diabetis and hypertension and 1 submitted to previous chemoradication).

Results: All patients left hospital on the first postoperative day and were oriented to antibiotic therapy for 7 days and care of the wound by curative with hydrofiber every 8 hours for 4 weeks. It was found no cases of wound infection, and full vulvar healing was observed on the average of two months.

Conclusions: Secondary healing strategy with hydrofiber may be an option after radical vulvectomy.

P0413 WHAT CAN GYNECOLOGISTS FIND ON OVARIES AFTER SALPINGOO-OOPHORECTOMY IN PATIENTS WITH BREAST CANCER?
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Objectives: The differential diagnosis between primary and secondary ovarian lesions in patients with breast cancer is difficult. Patients with primary ovarian cancer have poorer prognostic than patient with secondary tumors. We proposed to study the prevalence of malignance in the patients with breast cancer submitted to salpingoo-oophorectomy treated in a cancer center in Brazil.

Method: Analysis of one hundred and seven patients treated at ICESP between 2009 and March 2015 with breast cancer diagnosis that were submitted to salpingoo-oophorectomy.

Results: One hundred and seven patients (age 30–74 years, mean = 44) with breast cancer diagnosis were analysed. The reasons of salpingoo-oophorectomy were: ovarian suppression 68 (63.5%), ovarian cyst 31 (28.9%), BRCA1/2 mutation or family history mutation 5 (4.7%) and endometrial diseases 3 (2.8%). The patients with ovarian cysts or masses 19.4% (6) had a diagnosis of metastatic breast carcinoma and 25.8% (8) had primary ovarian malignant epithelial tumors. No patient with BRCA1/2 mutation or family history mutation had any malignant diagnose. Among patients submitted to ovarian suppression salpingoo-oophorectomy, 19.1% (13) had occult breast carcinoma metastasis and no primary ovarian carcinoma was found.

Conclusions: Almost half of the patients with breast cancer submitted to salpingoo-oophorectomy have some ovarian malignancy prin-
incipit primary tumors. The early recognition of primary ovarian tu-

mors in these patients may modify their prognosis.

**P0414**

OVARIAN CANCER IN WALES: INCIDENCE, SURVIVAL AND MORTALITY

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**Objectives:** To provide an up-to-date analysis of time trends in incidence, survival and mortality from ovarian cancer in Wales.

**Method:** Cases of ovarian cancer registered between 1985 and 2012 were identified from the Welsh Cancer Intelligence and Surveillance Unit (WCISU). Age-standardised incidence rates were determined. Trends in survival and mortality rates were also analysed.

**Results:** A total of 10498 ovarian cancer cases were registered with the Welsh cancer registry from 1985 to 2012. The age-standardised incidence rate was 19.3 per 100000 with no significant change in incidence over the study period (p=0.851). The peak age of incidence is in the 60–69 age group (p<0.001), although there has been a significant increase in incidence in the 70–79 age group lately. One- and five-year relative survival have improved from 53.7 and 31.5 respectively in 1985–1989 to 64.2 and 39.9 respectively in 2000–2004. There was no corresponding change in mortality during the study period (p=0.894).

**Conclusions:** The incidence of ovarian cancer has remained fairly stable in Wales in the past 30 years. There has been a significant improvement in survival but no change in mortality. This suggests a probable increase in the rate of early diagnosis with no corresponding change in mortality.

**P0415**

HUMAN PAPILLOMAVIRUS GENOTYPES DISTRIBUTION IN 83 INVASIVE CERVICAL CANCER CASES FROM BRAZIL

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**Objectives:** Invasive cervical cancer is the second most common malignat tumor affecting Brazilian women. Knowledge on Human Papillomavirus (HPV) genotypes in invasive cervical cancer cases is crucial to guide the introduction and further evaluate the impact of new preventive strategies based on HPV. We aimed to provide updated comprehensive data about the HPV types distribution in patients with invasive cervical cancer.

**Method:** Fresh tumor tissue samples of histologically confirmed invasive cervical cancer were collected from 83 women attending a reference hospital from São Paulo State: ICESP. HPV detection and genotyping were performed by the Linear Array HPV Genotyping Test (Roche Molecular Diagnostics, Pleasanton, USA).

**Results:** 80 out of 83 valid samples (96%) were HPV DNA positive. The most frequent types were HPV16 (56.2%), HPV18 (12.5%), HPV31 (8.8%), HPV33 (6.2%), HPV45 (6.2%) and others high risk HPV type (6.1%). Most infections (75%) were caused by individual HPV types. Women with adenocarcinoma were younger than those with squamous cell carcinoma, as well, as women infected with HPV33 were older than those infected by other HPV types.

**Conclusions:** To our knowledge, this is one of the largest studies made with fresh tumor tissues of invasive cervical cancer cases in Brazil. This study depicted a distinct HPV genotype distribution on a reference center that may reflect the local epidemiology of HPV transmission among these populations. Due to the impact of these findings on cervical cancer preventive strategies, extension of this investigation to routine screening populations is warranted.
P0418
TIMING CHOICE FOR THE SURGERY IN PATIENTS WITH MIDDLE-LATE STAGE OF OVARIAN CANCER

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Objectives: To explore the operation time for comprehensive treatment of the middle-late stage of ovarian cancer (OC) patients.

Method: A retrospective analysis of 110 patients with the middle-late stage of OC was performed and these included 69 patients with primary cytoreductive surgery (the first group including type I OC: 41 and type II: 28) and 41 patients (the second group including type I OC: 15; type II OC: 26) with difficulty to achieve satisfactory cytoreductive effect for the initial operation (residual tumor <1cm).

The second group of OC patients should go ahead for 3–4 cycles of the neoadjuvant chemotherapy (TP regimen), and then be administered the intermediate cytoreductive surgery after the comprehensive evaluation of CT/MRI.

Results: The average amount of bleeding during operation of the patients in the second group (155.4±98.6ml) was significantly lower than that in the first group (311.3±121.5ml) (P<0.05). The average operation time of the patients in the second group (153.8±32.4h) was significantly lower than that in the first group (269.5±46.1h) (P<0.05). Furthermore, the proportion of satisfactory cytoreductive effect in patients with type I OC was markedly higher than those in type II OC in the first and second groups (P<0.05).

Conclusions: Neoadjuvant chemotherapy plays an important role in the operation of patients with the middle-late stage of OC and choosing the optimal timing of surgery before operation is critically important in achieving the satisfactory cytoreductive effect.

P0419
THE ERCC1 AND DNA PLOIDY ARE BIOMARKERS ASSOCIATED WITH THE SENSITIVITY OF NEOADJUVANT CHEMOTHERAPY FOR LOCALLY ADVANCED CERVICAL CANCER

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Objectives: To assess whether the expression of ERCC1 and DNA ploidy can be used as biomarkers to evaluate the effect of neoadjuvant chemotherapy (NACT) for locally advanced cervical cancer (LACC) and provide the theoretical basis for patients selection.

Method: 60 cases of biopsy specimens from LACC patients were collected before chemotherapy. All primary cervical cancer tissues were paraffin-embedded for use. Applied PCR combined with the fluorescence probe technique was performed to analyze the expression of ERCC1 and adopted the DNA quantitative analysis technique was used to analyze the expression of DNA ploidy. The relationship between the expression of ERCC1 and DNA ploidy and the NACT sensitivity of LACC was analyzed by statistics.

Results: In all 60 patients, 33 cases were found to be effective for chemotherapy, and the effective rate was 55% (33/60). Compared to the effective group, the expression of ERCC1 gene in the invalid NACT group was significantly higher (t=8.736, P<0.05). In addition, a correlation between DNA ploidy and the curative effect of NACT was also found (χ²=4.972, P<0.05, γ=0.288). Furthermore, we also demonstrated that the patients with higher expression of DNA diploid were much more sensitive to chemotherapy. However, no relationship was found between ERCC1 expression and DNA ploidy (z=1.922, P>0.05).

Conclusions: Our findings indicate that the expression of ERCC1 and DNA ploidy are biomarkers associated with the sensitivity of NACT in LACC patients and these two markers can be used to monitor chemotheraphy of LACC.

P0420
ACQUISITION OF EPITHELIAL-MESENCHYMAL TRANSITION AND CANCER STEM CELL PHENOTYPES IS ASSOCIATED WITH ACTIVATION OF THE PI3K/AKT/MTOR PATHWAY IN OVARIAN CANCER CHEMORESISTANCE IN VITRO

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Objectives: Chemoresistance is a major challenge in epithelial ovarian cancer (EOC) treatment. In this study, we aimed to investigate the role and association of epithelial-mesenchymal transition (EMT), cancer stem cells (CSCs) and the PI3K/Akt/mTOR signalling pathway in ovarian cancer chemoresistance using in vitro cell lines.

Method: Two pairs of EOC cisplatin resistant (EOC-CR) cell lines (A2780-cis and IGROV1-cis) and the corresponding parental cell lines (A2780 and IGROV1) were used for comparison of chemodrug response by MTT assay, and expression of EMT, CSC and PI3K/Akt/mTOR signalling pathway proteins by immunostaining and Western blotting. Combination of dual PI3K/mTOR inhibitor (BEZ235) with cisplatin was performed using these EOC cell line in vitro.

Results: Two EOC-CR cell lines showed cross resistance to 4 mostly clinical chemodrugs, including cisplatin, carboplatin, paclitaxel and docetaxel, an obvious increase in invasion and colony formation (P<0.05) and significantly reduced proliferation (P<0.05) respectively, compared to two EOC-control cell lines. In addition, enhanced EMT and CSC phenotypes and activation of the PI3K/Akt/mTOR signalling pathway were also found in EOC-CR cells. Furthermore, combination of a dual PI3K/mTOR inhibitor (BEZ235) with cisplatin chemotherapy effectively increased chemosensitivity and induced more apoptosis in EOC-CR cells, concomitantly correlated with the reduced expression of EMT/CSC markers and the PI3K/Akt/mTOR signaling pathway proteins compared with cisplatin chemotherapy alone.

Conclusions: Our findings indicate that EOC chemoresistance is associated with EMT and enhanced CSC phenotypes via activation of the PI3K/Akt/mTOR signalling pathway, and that the combination of BEZ235 with cisplatin chemotherapy is a promising modality to overcome chemoresistance in the treatment of EOC. This combination approach warrants future in vivo animal study and clinical trials.

P0421
ASSIGNMENT SCHEME OF ANTICOAGULATION THERAPY IN CANCER PATIENTS

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Objectives: To determine the optimal mode of appointment of antithrombotic prophylaxis in perioperative period in cancer patients.

Method: The study involved 889 patients with gynecological cancer in the perioperative period.

Group I: LMWH for 10 days before surgery 0.3 ml, cessation of therapy 24 hours before surgery, then 0.3 ml for 10 days postoperatively – 213 patients.

Group II: LMWH 24 hours before surgery, then 0.3 ml for 10 days in postoperative period – 212 patients.

Group III: LMWH 0.3 ml for 10 days postoperatively – 216 patients.

Group IV: unfractionated heparin 5000 IU 3 times a day for 10 days in the postoperative period – 248 patients.

Results: Before surgery rate of subcompensated DIC was 18.5–50%. After surgery rate of subcompensated DIC has increased significantly to 52–75%.
In group I, normal levels of DIC markers (TAT, PF4, F1+2) has been observed in 1–3 days.
In group II, normalization of DIC markers has been observed in 3–5 days.
In group III, DIC markers tended to normalize in 5–7 days.
In group IV, normalization of DIC markers has been detected only on the 7th day. D-dimer in some patients remained heightened for up to 10 days. In addition, 28 patients (13.7%) formed extensive bruising in the painful injection.

Conclusions: The proposed scheme prophylaxis: LMWH 10 days before surgery and cancel 24 hours prior to surgery, then 0.3 ml for 10 days in the postoperative period, virtually eliminates the risk of thrombosis and contributes normalization of DIC markers in 3 days. This scheme could be recommended for all cancer patients as a minimum program.

P0422
RARE LOCALISATION TROMBOSIS IN CANCER PATIENTS: FOCUS ON PROBLEM

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Background: Thrombosis of rare localizations: hepatic vein thrombosis, splenic, mesenteric, ovarian veins, brain, portal vein are life-threatening disorders, which often goes unrecognized. The most frequently atypical localizations develop thrombosis in patients with inherited defects of hemostasis – genetic thrombophilia. Rare localizations of thrombosis often accompanied acquired abnormalities of hemostasis, which include antiphospholipid syndrome, hypercoagulation in oncology.

Aims: The detection of thrombosis rare localizations required screening for genetic forms of thrombophilia and antiphospholipid syndrome and timely appointment of anticoagulant therapy.

Method: Since 2006 we have observed 1214 patients with gynecological cancer. In 10 cases we have observed unusual localization thrombosis.

In 56 y.o. patient with ovarian cancer despite of anticoagulation therapy with LMWH has been found mesenteric thrombosis in 2 day after surgery. In addition to the above mentioned mutations it was found ADAMTS13 gene mutation.

Results: Hepatic vein thrombosis (Budd-Chiari syndrome) – in 1 case, Splenic vein thrombosis – 2 cases, renal vein thrombosis – 1 case, thrombosis of retinal artery and vein – 3 cases, Cerebral venous thrombosis – 1 case, mesenteric thrombosis – 2 cases, one of them has lead to death in early postsurgery period.
The factor FV Leiden homozygous mutation was found 9 patients, except 1 patient with retinal vein thrombosis, the homozygous MTHFR mutation has been found in 9 patients, heterozygous in 2; prothrombin mutation in 9; PAI-1 polymorphism in all 10 cases, platelets glycoproteins polymorphism in 7 cases.

Conclusions: Presence of multigene forms of genetic thrombophilia and APA-circulation increase risk of rare localizations thrombotic complications in cancer patients, therefore such patients required in intensive permanent preventive maintenance with use of LMWH.

P0423
PREVENTION OF DIC AND THROMBOPHILIA DURING CHEMOTHERAPY IN OVARIAN CANCER PATIENTS

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Objectives: Chemotherapy are additional risk factor for thrombosis in cancer patients. The aim of the study was to determine necessary range of laboratory tests for a high-grade estimation of haemostasis state in patients undergoing chemotherapy.

Method: 116 patients undergoing chemotherapy divides at random on 2 groups: I group: 56 received biosimilar LMWH Hemapaxan 4000 IU before each chemotherapy curse II group: 60 without any anticoagulant prophylaxis during chemotherapy.

Laboratory tests: Platelet aggregation tests, DIC and thrombophilia marker tests: D-dimer, TAT complexes, F1+2 prothrombin. Fibri-no lytic activity tests: determine PAI level, Protein C and S levels before operation thrombophilia and DIC was detected in 65%, subcompensated forms was in 35%. In postoperative period in 96% were detected thrombophilia and DIC. The rate of subcompensated forms of DIC was 57%, decompensated 21%.

Results: We have detected the sign of thrombophilia and DIC in more than 90% patient during chemotherapy. The rate of the subcompensated forms of DIC was 30%, decompensated 23%. It was observed damage of fibrinolytic activity due to iatrogenic effects of chemotherapy: reduction in proteins C and S levels, increase PAI concentration, platelets hyperaggregation in ristotetin presence. In I group normalization of lab test results was detected during 2–3 days after chemotherapy course in comparison with II group normalisation was in 5–7 days in 22% and in 7–12 day in 58%, in 20% was not registered spontaneous normalisation.

Conclusions: Due to endothelium protection activity LMWH in ovarian cancer patients during chemotherapy significantly reduce intensity of thrombophilia and DIC. 85–90% patients with cancer of female genitals required permanent preventive anticoagulant prophylaxis.

P0424
THE EXPERIMENT RESEARCH OF CORRELATION BETWEEN PLASMA MIRNA EXPRESSION SPECTRUM AND CERVICAL CANCER

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Objectives: 1. To explore the expression level of plasma miRNA expression difference in patients with cervical cancer and the expression difference in different clinical stages. 2. To evaluate the plasma micrornas in the diagnosis of cervical cancer.

Method: From January 2013 to June 2013, we selected 12 women who had already been diagnosed cervical invasive cancer by cervical biopsy, diagnostic conization and pathohistology in department of gynecology of Nanjing Drum Tower Hospital. At the same time, we selected 12 cases of community medical staff as the control group. The two groups of screening of micrornas in plasma, we used real-time fluorescent quantitative PCR method for testing, then the data will be analyzed by the independent sample test.

Results: The test result from the independent test data set showed that there was a significant expression difference in cervical cancer group and the control group of miR-21, miR-34a, miR-200a and miR-214, and miR-21, miR-200a, miRNA-214 to express present differences in cervical cancer clinical stage. ROC (receiver operating characteristic curve) can be drawn, the area under the ROC curve (AUC) between 0.7–0.9, 0.767, 0.826, 0.874 and 0.727, respectively, show that the four plasma micrornas markers has certain accuracy.

Conclusions: Plasma miR-21, miR-34a, the miRNA-200a has high expression in patients with cervical cancer, while the miRNA-214 low expression. Plasma miR-21, the miRNA-200a in late cervical cancer (Ib and above) expression than early cervical cancer (Ia–IIa) expression is higher, the miRNA-214 in the late cervical cancer (Ib and above) expression than early cervical cancer (Ia–IIa) expression. Screening of micrornas in the diagnosis of cervical cancer has certain accuracy.
CERVICAL CANCER AND HIV AMONG WOMEN IN SOUTHERN PROVINCE, RWANDA
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Objectives: Noncommunicable diseases (NCDs) including cancer are a health care priority in Rwanda. Cervical cancer is the leading cause of cancer related death among Rwandan women. Initiatives to reduce cervical cancer death are in development including a national prevention, screening and treatment program. Current treatment options are limited due to restricted radiation therapy access, and women with advanced stage are relegated to palliative care. The purpose of this study was to determine the social, behavioral, and clinical characteristics of women diagnosed with cervical cancer in the Southern Province of Rwanda, as well as the prevalence of HIV infection among this population.

Method: This cross sectional study was carried out from December 1, 2011, to May 31, 2012. Female patients age 21 and older presenting to the eight district hospitals of the Southern Province of Rwanda with a cervical lesion underwent gynecologic examination and cervical biopsy. A questionnaire including demographic information, reproductive, obstetric, and social history was administered. A blood sample for HIV testing and CD4 count was also obtained. Informed consent was obtained from all patients. Data were analyzed using SPSS.

Results: Fifty women were included in the study. Forty percent of patients were stage IIb at diagnosis and 36% of patients were stage III or higher. Mean age was 56.7±12.3 years (range 36 to 78). All patients had low socioeconomic status and 66% never attended school. Fifty-two percent reported a history of smoking. Twelve percent were HIV-positive, compared to a general population prevalence of 3.7%. The average age of HIV-positive patients was lower than HIV-negative women (42.7±6.1 v 58.7±11.7 years, p=0.002). Mean parity was lower for women with early stage compared to advanced stage disease (4.8±1.4 v 7.5±2.6, p=0.005).

Conclusions: The majority of women from the Southern Province of Rwanda who are diagnosed with cervical cancer have advanced stage disease. This population is characterized by low socioeconomic status, lack of education and high parity. HIV infection is more prevalent among Rwandan women with cervical cancer than the general population. Screening for cervical cancer and educational initiatives are needed to reduce the prevalence of cervical cancer in the Southern Province of Rwanda and detect disease at earlier stage.

THE RECURRENT PATTERN OF RADICAL Hysterectomy AND RADICAL TRACHELECTOMY IN PATIENTS WITH EARLY CERVICAL CANCER
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Objectives: The purpose of this study was to evaluate the oncologic and obstetrical outcomes of radical trachelectomy and to analyze the distinct relapsed pattern between radical hysterectomy and radical trachelectomy in the treatment of early cervical cancer without lymph node metastasis.

Method: Forty-one patients with early-stage cervical cancer were treated by laparoscopic radical trachelectomy (LRT) from October 2004 to December 2009. Data regarding clinicopathologic characteristics, recurrence, and subsequent pregnancies were recorded. For the observation, 831 patients with early-stage cervical cancer were treated by laparoscopic radical hysterectomy (LRH) were analyzed.

Results: The median age at diagnosis was 29 years (range 22–37 years) and stage IA2 or IB1 cervical cancer were treated by LRT. Mean tumor size was 1.7 cm (range 0.4–3.5 cm) and there was no perioperative complication. Six patients were recurred after the initial treatment (14.6%); the recurrence rate was relatively higher than in patients treated with radical hysterectomy for early cervical cancer without lymph node metastasis (3.6%). The relapsed sites were all loco-regional locations, uterus stump or pelvic lymph node in LRT patients, whereas distant metastases including paraaortic lymph node, liver and lung were more common in LRH patients.

Conclusions: In conclusion, the relapsed pattern between radical hysterectomy and radical trachelectomy in the treatment of early cervical cancer without lymph node metastasis was obviously different. It is required to be cautious to prevent the dissemination of tumor cells in pelvic cavity.

STUDYING THE ROLES AND LINK OF EXPRESSION OF ERCC1 mRNA AND P53 GENE IN LOCALLY ADVANCED CERVICAL CANCER NEOADJUVANT CHEMOTHERAPY
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Objectives: To investigate association between expression of ERCC1 mRNA and P53 gene with the neoadjuvant chemotherapy (NACT) response and prognosis of locally advanced cervical cancer (LACC).

Method: A total of 60 biopsies from LACC patients were collected before chemotherapy in Henan Cancer Hospital, Zhengzhou, China. Using these paraffin embedded samples, the expression of ERCC1 mRNA was detected RT-PCR technique, and the expression of P53 protein was examined by immunohistochemistry (IHC).

Results: Our results indicate that 45 out of 60 patients demonstrated positive response to NACT, and the effective rate was 75%. In addition, the logistic regression analysis showed that expression of ERCC1 mRNA and P53 protein was negative factors for curative effect of NACT (P<0.05), whereas no correlation was found between over-expression of ERCC1 mRNA, P53 and stage, age group, pathological grade as well as tumor type (P>0.05). Over-expression of ERCC1 mRNA was found to be positively correlated with P53 protein (P<0.05). Furthermore, we also found high risk group of patients accounted for 68.9% (35), undergoing radiotherapy in the postoperative pathological results.

Conclusions: The over-expression of ERCC1 mRNA and P53 protein in LACC tissue is related to the resistance to NACT, which could be used to indicate whether a high risk exists based on the postoperative pathological results. In addition, expression of two markers demonstrates positive correlation.

RADICAL HYSTERECTOMY FOR UTERINE CERVICAL CANCER FIGO STAGE IIB
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Objectives: Cervical cancer is one of the common gynecological malignancy and the strategies of treatment for uterine cervical carcinoma stage II are different between United State and Our country. This study aimed to analyze the treatment and outcomes of cervical cancer stage IIb in our hospital.

Method: A total of 128 cervical cancer stage IIb cases were diagnosed...

P0429
THE COMPARISON OF EFFICACY BETWEEN MACT AND 5FU+ACT-D THERAPEUTIC REGIMEN FOR LOW-RISK GESTATIONAL TROPHOBLASTIC NEOPLASIA

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Objectives: To compare the efficacy between MACT therapeutic regimen and 5FU+ACT-D for low-risk gestational trophoblastic neoplasia (LR-GTN).

Method: The clinical data of 66 cases with LR-GTN treated in Beijing Obstetrics and Gynecology Hospital from January 2010 to April 2012 were analyzed retrospectively. Totally 32 of them treated with MACT therapeutic regimen and the other 34 patients with 5FU+ACT-D therapeutic regimen. The differences of efficacy, courses of treatment, hospital day and toxic side effects were compared.

Results: There was no statistical difference in CR between two groups. The hospitalization days in 5FU+ACT-D therapeutic regimen group (32.88 days) were longer than those in MACT therapeutic regimen group (22.09 days). Both total hospitalization expense and the average hospitalization cost of every courses in 5FU+ACT-D therapeutic regimen group were higher than those in MACT therapeutic regimen group. The severity degree of myelosuppression, nausea and vomiting, diarrhea, stomatitis and alopecia in 5FU+ACT-D therapeutic regimen group was more serious than that in MACT therapeutic regimen group. There was no statistical difference in severity degree of liver function damage between the two group.

Conclusions: There was no difference in CR between MACT and 5FU+ACT-D therapeutic regimen. Shorter hospitalization time, lower hospitalization expense and more slightly toxic side effects were observed in LR-GTN patients treated with MACT therapeutic regimen. MACT regimens can be applied to the first line chemotherapy for LR-GTN.

P0430
MIRNAS IN UTERINE MESENCHYMAL TUMORS AND CARCINOSARCOMAS: A PRELIMINARY STUDY

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Objectives: To identify microRNAs and to analyze their expression in uterine mesenchymal tumors and carcinosarcomas.

Method: Formalin-fixed, paraffin-embedded samples from 22 patients (2 myometrium as reference group, 3 leiomyomas, 6 carcinosarcomas, 7 leiomyosarcomas and 4 endometrial stromal sarcomas) were obtained from Gynecology Discipline of Obstetrics and Gynecology Department of Faculdade de Medicina da Universidade de Sao Paulo - Sao Paulo, Brazil. Total RNA was obtained using RNeasyPrepTM FFPE Total RNA Miniprep System (Promega). The miScript II RT Kit (Qiagen) was used to perform the cDNA synthesis. Real-Time PCR reaction was performed using the miScript miRNA PCR Array (Qiagen) and the miScript SYBR Green PCR Kit (Qiagen) for analysis of 84 miRNA sequences described as human cancer-related.

Results: Three miRNAs with down regulation of expression were selected for analysis among 84 miRNA sequences. As preliminary results: hsa-let-7c-5p, hsa-miR-143–3p and hsa-miR-23b-3p were down expressed in all subtypes of malignant uterine tumors. Leiomyomas did not show differences in the regulation of these molecules, comparing to miometrium. According to the literature, these miRNAs show tumor suppressor activity. They are decreased in different types of cancer as breast, stomach and colon. Studies demonstrate that hsa-miR-23b-3p is associated with metastatic suppression.

Conclusions: All uterine sarcomas showed changes in the expression of hsa-let-7c-5p, hsa-miR-143–3p and hsa-miR-23b-3p compared to leiomyoma and myometrium. Additional analyzes are ongoing with a large number of samples in order to associate the expression of miRNAs to clinical pathological features.

P0431
CORRELATION OF LYMPH NODE METASTASES WITH STAGE AND GRADE OF THE DISEASE IN CARCINOMA OF THE CERVIX

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Objectives: To find out pelvic and paraaortic lymph node enlargement with clinical stage of carcinoma of cervix; and also to see the histopathological correlation with lymph node enlargement.

Method: 110 patients were clinically staged and evaluated by CT. Treatment record of radiotherapy was available.

Results: Paraortic and lymph node involvement was seen to be increasing with advancing stage of carcinoma of cervix. Highest lymphatic involvement was seen with SCK type of histopathology.

Conclusions: With SCK tumor and advanced stage of disease, radiation fields may need to modified to include lymph nodes in paraaortic region. More studies need to be conducted in this area.

P0432
EVALUATION OF HISTOLOGICAL TYPE AND AGE OF PATIENTS AFFlicted BY Ovarian CANCER ADMitted TO THE REFERENCE HOSPITAL, BRAZILIAN INSTITUTE OF CANCER CONTROL (IBCC) IN SÃO PAULO, FROM 2010 AND 2014

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Objectives: To determine the prevalence of ovarian cancer in patients admitted to the Brazilian Institute of Cancer Control during 2010–2014 and to correlate histological types of ovarian cancer to the age of the patients.

Method: Data obtained from medical records dated from 2010 to 2014 at the Brazilian Institute of Cancer Control were analyzed. It was also conducted a search in the following databases: MEDLINE/PubMed, LILACS/SciELO, Cochrane library and Scopus for national and international articles and meta-analyses studies from the past 10 years, using as keywords “ovarian cancer and prevalence”, “histological type and ovary cancer”. Incidence and prevalence of data were determined by statistical analysis using Prism software (GraphPad).

Results: Pathological examination of patients affected by ovarian cancer (n=107) we diagnosed cystadenocarcinoma in 69.1% of cases, ovarian carcinoma in 15.8%, undifferentiated malignancy in 4.6%, granulosa cell tumor in 3.7%, and other non-invasive tumor or with low malignant potential (7.4%). The prevalent age range in which the cancer has installed reaching a larger number of cases was between 51–60 years (28%), followed by 22.4% between 61–70 years. Statis-
tically significant correlations between cases of cystadenocarcinoma and age showed the following age groups with the highest percentile of cases: 41–50 years (18.9%), 51–60 years (25.6%) and 61–70 years (22.9%).

**Conclusions:** According to the literature, ovarian tumors of surface epithelium/stroma are the most prevalent in the general population, reaching about 70% of cases. Our findings support the literature, since these tumors also include cystadenocarcinoma, in addition to serous, mucinous, endometrioid and Clara cell tumors. In this study there was a positive correlation between higher incidence of cancer in the age group of 45–70 years which coincides, at least in part with literature data showing higher incidence of malignancies between 45 and 60 years in the general population.

**P0433**

**BREAST CANCER IN YOUNG TUNISIAN WOMEN**

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**Objectives:** Our aim was to report the epidemiological and clinical characteristics of breast cancer (BC) in young women and to evaluate the therapeutic results in our unit.

**Method:** We report the results of a retrospective study over 7 years (2008–2014) including patients with BC aged less than 45 years.

**Results:** The mean age of our patients was 39.01 years, 15.38% were nulliparous, 8 women had family and personal antecedents breast cancer, 3 women were pregnant. First presentation with a palpable mass. The average tumor size is 3.86 cm, T2N0, node positive (N+), high grade (SBR II and III) and endocrine responsive tumors were the most frequent. Seven patients had metastatic disease. 29 patients underwent surgery which was conservative in 2 cases and followed by radiotherapy on 31 patients. Chemotherapy, was administrated to 88% of all patients. 81% patients received hormone-therapy. The median follow-up was 48.5 months. The 5 years overall survival was 68.3%.

**Conclusions:** In young breast cancer patients, stage, nodal involvement, lymphatic invasion, vascular invasion and ER/PR negativity were found to be significantly more frequent. Local-recurrence and mortality were observed more frequently in these patients and overall and disease-free survival rates were worse.

**P0434**

**LYMPH NODE METASTASIS IN WOMEN UNDERGOING INTERVAL DEBULKING SURGERY FOLLOWING NEOADJUVANT CHEMOTHERAPY FOR ADVANCED OVARIAN CANCER MAY INDICATE WORSE PROGNOSIS**

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**Objectives:** The role of systematic lymph node dissection (SLND) during interval debulking surgery (IDS) following neoadjuvant chemotherapy (NACT) in advanced ovarian cancer is debatable. Proponents of SLND claim an improved five year disease specific survival, depending upon the extent of dissection and number of nodes harvested. As an institutional protocol, we undertake SLND of both the pelvic and para-aortic region for all women undergoing IDS. This study investigates whether detection of metastatic lymph node by SLND has prognostic significance.

**Method:** This is a retrospective cohort study form a tertiary cancer care institute of India of all women undergoing IDS for Stage III and IV ovarian, primary peritoneal and fallopian tube cancer, between August 2011 and June 2013. Records of women were identified from the hospital electronic medical records who underwent IDS during the study period and followed up until December 2014. Women were divided into two groups, those who had histologically positive lymph nodes and those who did not. Disease progression rate to progression, and survival at 12 months were compared.

**Results:** SLND was carried out for 49 of 51 patients undergoing IDS. 27/49 (55%) had nodal positivity, either pelvic (42.9%), para-aortic (36.2%) or both (18.4%). In the node positive group, follow up data was available in 25 women, 18 (72%) had clinical or biochemical recurrence. In the lymph node negative group (n=20), follow up data was available in 17 women, 7/17 (41%) recurrent, 3/17 (17%) women in node negative group died compared to 3/7 (43%) women who had both pelvic and para-aortic nodes positive, 3/7 (43%) women with only para-aortic node and 5/11 (45%) with only pelvic node positive.

**Conclusions:** Preliminary data from our institution suggest that presence of metastatic disease in the lymph nodes for women with advanced ovarian cancer after receiving NACT could indicate a worse prognosis.

**P0435**

**MORTALITY PATTERN OF GYNECOLOGICAL CANCERS IN ZARIA, NORTHERN NIGERIA**


**Objectives:** To provide information and data on pattern of gynecological cancer death in Northern Nigeria that will assist in the reduction of incidence and prevalence of the disease.

**Method:** It is a retrospective demographic study. The data of patients who died in our Gynaecology unit of the Ahmadu Bello University Teaching Hospital, Zaria was extracted from ward and autopsy register from 2010 to 2014.

**Results:** A total of 789 cases were managed during the period under study with a total death of 116. Cancer mortality rate was 14.7%. The mean age was 47.75 years. Hausa-Fulani ethnic group accounts for 63.7% of the population and 74.6% were multiparous with low literacy level. Husbands are either farmers or petty traders. Average length of hospital stay was 14.8 days. The commonest gynecological cancer was carcinoma of the cervix accounting for 62.9%. More than 70% presents in advance stages.

**Conclusions:** Mortality rate was high and these are not unconnected with low level of literacy, poor health seeking behavior with late presentation which stems from lack of screening, screening programmes and lack of awareness. Low socioeconomic status of the people was a major factor in these patients. To overcome this tragedy is to address girl child education with women empowerment that is backed up by a sustainable government policy on cancer prevention.

**P0436**

**FZD3, FZD8 AND WISP1 ARE ASSOCIATED WITH POOR PROGNOSIS IN UTERINE LEIOMYOSARCOMAS**

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**Objectives:** To analyze Wnt signaling pathway-related genes expression profile and their value as prognostic markers in patients with leiomyosarcoma.

**Method:** The gene expression analysis was performed using Real Time Open Array Platform (Life Technologies, USA). We evaluate 112 genes expression in 176 samples (20 myometrium, 103 leiomyomas, 16 uncommon leiomyoma and 37 leiomyosarcomas cases). Patients were recruited at Obstetrics and Gynecology Department from the Hospital das Clinicas da Faculdade de Medicina da Universidade de Sao Paulo, Sao Paulo/Sao Paulo, Brazil. We apply statistical analysis to select differentially expressed genes.

**Results:** Among these expression analysis, we report that FZD3, FZD8 and WISP1 genes are statistically associated with poor prognosis in uterine leiomyosarcoma.
Sao Paulo (Sao Paulo/Brazil). All patients signed a preformed consent and the study was approved by our institutional ethical board. Tissue samples obtained by surgery were snap-frozen in liquid nitrogen or paraffin embedded until further processing.

Results: FZD3, FZD8 and WISP1 showed correlation with poor prognosis. The upregulation of these genes was associated with lower survival in the leiomyosarcoma patient. Conventional and uncommon leiomyomas samples showed decreased amount of these genes independent of the treatment or status.

Conclusions: The data indicated that FZD3, FZD8 and WISP1 high expression contributes for leiomyosarcoma aggressiveness. In the future, these markers can be useful for this tumor prognosis prediction.

P0437
KNOWLEDGE, ATTITUDE AND PRACTICES OF CERVICAL CANCER AND SCREENING AMONG WOMEN OF REPRODUCTIVE AGE ATTENDING GYNAECOLOGY CLINIC OF TERTIARY CARE HOSPITALS IN ISLAMIC REPUBLIC OF PAKISTAN: A CROSS SECTIONAL SURVEY
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Objectives: The objective of this study was to explore the level of knowledge, attitude and practices about cervical cancer and it’s screening among women of reproductive age group through a cross sectional survey. Due to sparse statistics on cervical cancer in Islamic Republic of Pakistan, the main purpose was to provide basic statistics that can help to formulate future policies in context of cervical cancer awareness, screening and introduction of HPV vaccine at national level. It also intends to highlight a need for implementation of cervical cancer awareness programme and further research in this area in Pakistan.

Method: The study was conducted in two well known tertiary care hospitals in the capital city of Pakistan. It took a positivist deductive approach and empiricism was the key component. Sample size was calculated by using an epidemiological tool and total 385 women were recruited by using convenience sampling technique. A structured questionnaire was built to collect data by the interviewer and pilot study was done to identify any errors in questionnaire. T-test was applied for continuous variables and percentages were calculated for categorical variables. Chi square test and p value was determined for categorical variables. Proportions were calculated by using an epidemiological tool and total 385 women were recruited by using convenience sampling technique. A structured questionnaire was built to collect data by the interviewer and pilot study was done to identify any errors in questionnaire. T-test was applied for continuous variables and percentages were calculated for categorical variables. Chi square test and p value was determined for categorical variables.

Results: Total 370 interviews were conducted as 15 participants either refused or gave incomplete information. Of all these women 85% were unaware of cervical cancer and its screening while 3% had heard of HPV and its association with cervical cancer. Only 10% women had pap smear once in their life and none of them had any information about vaccine availability. The eagerness to seek facts about cervical cancer was tremendous as 100% women showed interest in getting information about the disease through social media or community health programmes. Strong association between illiteracy, low socioeconomic status and lack of awareness was observed.

Conclusions: The survey clearly depicts knowledge gaps about cervical cancer screening and prevention among women of reproductive age group. It is concluded that being the fourth most common cancer among women internationally and second leading cause of death in developing countries, future research in cervical cancer is required in a Muslim developing country. Therefore it is important to design and implement national cervical cancer awareness programmes and to introduce national screening programme so that deaths due to cervical cancer can be prevented and economic burden due to this disease could be reduced.

P0438
POSTOPERATIVE INFECTIONS AND DEHISCENCE FOLLOWING RADICAL VULVECTOMY AND INGUINOFEOMORAL LYPHADENECTOMY
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Objectives: Aim of the study was to analyse factors associated with wound infections and dehiscence following radical vulvectomy with bilateral inguinofeomoral lymphadenectomy.

Method: Retrospective study of 135 radical vulvectomies with bilateral inguinofeomoral lymphadenectomies during a 6-years period. Standard surgical approach consisted of three incisions (vulva and both inguinal regions). We analyzed the following factors: age, stage of disease, presence of previous vascular diseases, ASA score, obesity and diabetes mellitus, occurrence of wound infections and dehiscence.

Results: Wound infections and dehiscence were present in 57 and 62% of cases, respectively. Stage of disease was the most important risk factor for wound infection. Dehiscence of vulva was present in greater of cases, while inguinal dehiscence complicated 75.6% of cases. Inguinal dehiscence was unilateral in 75% and bilateral in 25% of cases. The corrected percentage of inguinal dehiscence was 30%. Wound infection was identified in 59 (71%) of cases, the majority of which were late would infections. Wound infection and age of patients were noted as risk factors for wound dehiscence.

Conclusions: Advanced stages of disease were associated with more radical approach, higher rate of wound infections, and higher rate of wound dehiscences. Less radical surgery with a comparable oncologic outcome could be a worthy alternative in this subgroup of patients.

P0439
PROGNOSTIC MARKERS IN PATIENTS WITH CERVICAL TUMORS OR CERVICAL CANCER
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Objectives: Patients with high grade lesion or cervical cancer are submitted to excisional procedures, as high frequency surgery. Approximately, 23% of the women treated thus maintain positivity to HPV after the procedure, indicating the presence of remaining infected cells or tumor tissue. Most of these women are able to clear infection after a period of 6 months. However, some women cannot eliminate remaining cells, and are at risk of tumor relapse. The objective of this study is to find potential markers of relapse by evaluating gene expression profile of patients with and without relapse after excision.

Method: This is a retrospective study, comparing biopsies of patients that were HPV+ after lesion excision and had or not relapse within a period of 5 years. RNA was extracted from 8 patients/group, each with age and lesion matches. RNA expression will be evaluated by Real-time PCR after cDNA synthesis. We will used the Qiagen arrays for immune responses and oxidative stress. After identification of differentially expressed genes, their expression will be validated by immunohistochemistry in a collection of lesions from patients with and without relapse.

Results: We have successfully extracted RNA from formalin fixed, paraffin embedded biopsies. In average, we have obtained 70 ug of RNA per 80 um of tissue sections.

Conclusions: This is an ongoing project, where we hope to find markers that may allow us to determine which are the women in higher
and lower risk of disease relapse to better establish their follow up protocol after lesion removal.

**P0440**
SYSTEMIC EFFECTS OF CERVICAL CANCER ON THE PATIENT’S IMMUNE SYSTEM

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**Objectives:** The tumor microenvironment is complex and secretes a series of molecules that, depending on the tumor mass, may reach high enough concentrations to circulate systemically. Chronic secretion of tumor derived molecule, as well as antigen presentation, causes alterations in inflammatory and immune responses that may influence tumor fate. Therefore, the objective of this study was to investigate effects of cervical cancer on the status of cell signaling pathways in the patients’ immune system.

**Method:** Sixty patients with low, high grade cervical lesions and cervical cancer are to be recruited in the Gynecology ambulatory. Peripheral blood of patients with low grade, high grade lesions or cervical cancer was harvested to PBMCs, which were either stained with antibodies against cell surface molecules, fixed, permeabilized and stained with anti-phospho p65 (NFkB), or differentiated in vitro to dendritic cells and used as antigen presenting cells to allogeneic T cells from healthy donors. Biopsies were collected from patients with high grade lesion or cancer. Tests were run in parallel with blood samples from healthy volunteers.

**Results:** Our data shows that NFkB phosphorylation is significantly decreased in patients with cervical cancer, compared to normal subjects. (15 patients until now) Preliminary data shows us that there is a gradient of NFkB inhibition that correlates with lesion grade. In parallel, we observed that dendritic cells from patients with cervical cancer, but not with precursor lesions, inhibit allogeneic CD4 T cell activation, measured by both cell proliferation and expression of activation markers.

**Conclusions:** In conclusion, patients with cervical cancer display systemic indications of partial immune suppression that may facilitate tumor growth.

**P0441**
IMMUNOLOGICAL MARKERS IN CERVICAL CANCER PROGRESSION

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**Objectives:** In the natural history of HPV associated tumors, inflammatory and immune responses are fairly well understood in the infection initial stages and in cancer. However, there is little information on the characteristics and role of inflammation during lesion progression. Therefore, the objective of this study is to characterize the inflammatory infiltrate of cervical lesions through the different disease stages.

**Method:** In this study, conducted through the Gynecology Department of Hospital das Clínicas, we have enrolled a cohort of 100 women with cervical lesions in the following grades: cervicitis, CIN (cervical intraepithelial neoplasia) grade I, grade II, grade III and invasive cervical carcinoma. From each of these women, we have taken a cervical biopsy and a peripheral blood sample. We have characterized the inflammatory infiltrate in the biopsies and the antigen presentation potential of monocyte derived dendritic cells from the blood.

**Results:** Our results show that the total inflammatory infiltrate increases with lesion grade. Among other features, we observed a negative correlation between neutrophils and T cells in high grade lesions and cancer biopsies. Moreover, in co-cultures with T cells, isolated infiltrating neutrophils promote expansion of the frequency of CD25+ T cells, but not CD69+ T cells, indicating that they may promote regulatory responses.

**Conclusions:** In conclusion, we have observed that the ratio infiltrating neutrophils/T cell may be a marker of disease progression and that tumor infiltrating neutrophils may inhibit T cell responses in patients with high grade cervical lesion or cervical cancer.

**P0442**
ASSESSMENT OF THE HISTOLOGICAL TYPE AND CLINICAL STAGING OF PATIENTS AFFECTED BY OVARIAN CANCER ADMITTED TO THE REFERENCE HOSPITAL, BRAZILIAN INSTITUTE OF CANCER CONTROL (IBCC) IN SÃO PAULO FROM 2010 TO 2014

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**Objectives:** To determine the prevalence of ovarian cancer in patients admitted to the Brazilian Institute of Cancer Control during 2010–2014 as well as to correlate the histological type and staging of patients.

**Method:** Data obtained from medical records dated from 2010 to 2014 at the Brazilian Institute of Cancer Control were analyzed. A search was also conducted in the following databases: MEDLINE/PubMed, LILACS/SciELO, Cochrane library and Scopus for national and international articles and meta-analyses studies from the past 10 years, using as keywords “ovarian cancer and clinical staging”, “histological type and ovary cancer”. For statistical verification the Prism software program (GraphPad) was used.

**Results:** The most prevalent histological type in the cases analyzed was the cystadenocarcinoma, with a percentage of 69.1%. Still, among the stages, the most common was the IIIC, representing 27.1%. Other common stages were IA (14%) and IV (13%). The others (IVA, IIB, IIIC, IIC, IIB, IIA, II, IC, IB, IA, I and Y) had no more than 6% representation alone. Among the cases of cystadenocarcinoma, the IIIC stage was also the most frequent (31%), placing second the stage IA (14.8%) and third the stage IV (13.5%).

**Conclusions:** For general population, the most common histological type among the cases analyzed was the cystadenocarcinoma. Regarding the clinical stage, the most incident in patients with the cystadenocarcinoma or any other tumor was IIIC, demonstrating an extra pelvic dissemination and higher severity. According to the literature sought in this stage as well as in stage IV, the main prognostic factors are age, stage of cancer and the residual volume of the disease after surgery and pathological histology, taking into account that the mucinous tumors and clear cell are associated with worse prognosis. It’s obvious the importance between stage and neoplasm.

**P0443**
METACHRONIC LEIOMYOSARCOMA AND CARCINOMA IN SITU OF UTERINE CERVIX: A CASE REPORT


**Objectives:** To report a case of leiomyosarcoma associated with cervical carcinoma in situ in a patient in the post-menopause phase.

**Method:** This study was based on a retrospective review of medical records and analysis of histopathology of a woman with uterine sarcoma and carcinoma of the cervix. This patient was followed in Gynecology service of Hospital Municipal da Piedade in Rio de Janeiro, Brazil.
Results: FRDM, 54, menopause 4 years ago, referred continuous bleeding and increased abdominal size a year ago. The exam showed uterus 13cm, mobile and painless. Magnetic resonance imaging showed uterus 11.7×9.2×8.2 cm mass lesion showing of probable miamotasa nature with cystic degeneration/myxomatous 6.8×8.2×7.5 cm, compressing the endometrial cavity. Performed total abdominal hysterectomy and bilateral salpingo-oophorectomy. Histopathological examination revealed a uterine wall leiomyosarcoma of 8.5 cm without vascular invasion associated with squamous cell carcinoma in situ of uterine cervix. The patient was referred to the oncology clinic to complement the treatment.

Conclusions: The incidence of metachronic tumors are rare in the literature. The risk of a subsequent cancer to a cervical cancer varies from 1.3 to 2.6%. The most affected organs are the lungs, stomach and large intestine because they are related to a common risk factor - Tabacco. Cervix tumors and uterine body are more rare. These diseases point to a need for more studies on the subject as well as a demand for improvement in screening for early detection of cervical cancer.

P0444
SMALL CONDUCTANCE CALCIUM-ACTIVATED POTASSIUM CHANNEL 3 (SK3) INVOLVED IN ESTROGEN INDUCED HUMAN ENDOMETRIAL CANCER CELL MIGRATION THROUGH A CLOSE CONTROL OF CALCIUM ENTRY

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Objectives: To study the expression and functionality of small conductance calcium-activated potassium channel 3 (SK3) in human endometrial cancer (ECa) cells as well as their involvement in cell migration.

Method: In this study, we used the techniques of molecular biology, biochemistry, electrophysiology and calcium imaging to study the involvement of SK3 in human ECa cell migration.

Results: We showed that SK3 mRNA and protein were preferentially expressed in human ECa tissues, and inhibition of the SK3 potassium channel suppressed ECa cell migration. The expression of SK3 was increased by estrogen that mainly binding to classic estrogen receptor suppressing ECa cell migration. The expression of SK3 was increased by estrogen that mainly binding to classic estrogen receptor suppressing ECa cell migration.

Conclusions: The over expression of the SK3 channel is likely to promote cell migration and invasion in human endometrial cancer development.

P0445
EVALUATION OF THE RELATIONSHIP BETWEEN PATHOLOGIC ASPECTS OF BREAST CANCER AND MAMMOGRAPHIC FEATURES IN PREMENOPAUSAL WOMEN

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Objectives: The aim of this study is evaluation of the relationship between histopathologic aspects of breast cancer and mammographic features in premenopausal women who were referred to an educational hospital in north-east of Iran.

Method: In this study we retrospectively evaluate 891 patients with breast cancer, in which 190 patients were below 50 years old and premenopause, during a 8 years in the department of oncology and radiotherapy of Ghaem hospital and also their pre-operation mammography were present in their files.

Results: Number of involved axillary lymphopathies had a coherence with number of breast masses. There was a relationship between tumor size in pathology report and density of breast, opacity of mass and number of masses in mammography. Also the tumor grade in histology with number of masses and with spiculation of mass in mammography, are correlated. The spiculation had a coherence with the age of involved patients, while other components of pathology report such as insitu component, histologic type and background histology of breast had no relation with the mammographic findings.

Conclusions: Tumor size and histologic grade had more relationship with mammographic findings than other features of breast cancer. In contrast, there was no correlation between histologic type of cancer, insitu component and background histology of breast tissue with mammographic features.

P0446
PRIMARY FALLOPIAN TUBE CARCINOMA: A RARE PRESENTATION AS PELVIC INFLAMMATORY DISEASE AND ACUTE RENAL FAILURE

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Objectives: Primary fallopian tube carcinoma is an uncommon gynecologic tumor, accounting for 0.14% to 1.8% of genital malignancies. Either way, its frequency is underestimated, mainly due to frequent ovary involvement and a late diagnosis, rarely made pre-operatively. Contributing factors and physiopathology of the primary fallopian tube carcinoma are still not well understood, and its overall surviving rate is quite low.

Our main objective is to relate an extremely rare event, bringing awareness and sharing clinical knowledge to improve diagnosis, therapeutical approach and prognosis to patients with primary fallopian tube carcinoma.

Method: We describe a clinical case of primary fallopian tube carcinoma with an infrequent initial presentation, with pelvic inflammatory disease and acute renal failure.

Results: 44 y.o. woman, presented to our emergency room with rapid abdominal distention. On examination, a right anexial heterogeneous mass and a voluminous ascites were revealed and an acute renal failure diagnosed. Serum CA 125-level was markedly elevated at 691 U/ml. Immediate hemodialysis was started.

Conclusions: Primary carcinoma of the fallopian tube is a very unusual gynecologic malignancy. Precocious clinical manifestations prompt earlier diagnosis, improving the overall prognosis. However, tubal malignancies are often silent until late stages of the disease. In our case, it was presented in an uncommon form, as a paraneoplastic syndrome, mimicking a pelvic inflammatory disease and inciting a multiorgan dysfunction. Diagnosed in an advanced stage, residual disease was left in place after the surgical approach, and chemotherapy was initiated 4 weeks after. Progression of the disease was unavoidable, with peritoneal carcinomatosis, multiple lymphadenopathies and recurrent ascites, despite 3 cycles of chemotherapy.
P0447
THE PREVALENCE OF FOURTEEN HUMAN PAPILLOMAVIRUS TYPES IN WOMEN OF KHORASAN RAZAVI PROVINCE, NORTHEAST IRAN
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Objectives: Cervix cancer is one of the most common malignancies among women, and papilloma virus has been recognized as its major cause. This cancer can be largely prevented through screening and vaccination. The purpose of this study is to assess the prevalence of twelve high-risk and two low-risk genotypes of human papilloma virus in Khorasan Razavi, Northeast Iran.

Method: In this population based study 900 subjects were studied who were randomly selected from 8 urban and 12 rural centers. The samples were taken from cervix of participants using DNA cytobrush then the virus type was determined using Polymerase Chain Reaction (PCR).

Results: The prevalence of HPV in our studied population was 4.1% among which the high-risk types included the 70.2% and low-risk ones included the 19%. In 10.8% of positive women, we detected a combination of high-risk genotype. The higher prevalence (6.4%) was seen in women aged 25–29 years. Among studied risk factor oral contraceptive pills usage and smoking were risk factor for HPV infection.

Conclusions: Although the 4.1% prevalence of papilloma virus in Khorasan Razavi province is less than the statistics of most of the other parts of the world, however, including the vaccination to the civil guideline would reduce the prevalence of pre-malignant and malignant cervix lesions.

P0448
PREGNANCY AFTER BILATERAL DYSGERMINOMA OF THE OVARY
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Objectives: This study was conducted with the objective to evaluate the fertility status of ovarian dysembryoma patients treated with conservative surgery and BEP chemotherapy.

Method: Patients of bilateral dysembryoma who underwent conservative surgery and chemotherapy with cisplatin 20 mg/m2 and etoposide 100 mg/m2 day 1 to 5 and bleomycin 30 mg on day 1, 8 and 15 of three weekly cycles were eligible. A normal AFP and beta HCG at baseline was required. Post treatment CT scans of abdomen and pelvis were obtained. Patients were regularly followed on monthly basis. Pregnancy was allowed 2 years after completion of last cycle of chemotherapy.

From January 2010 to December 2013, 11 patients were enrolled. Median age was 16 years (range 13–18).

Results: All patients had complete disappearance of disease after treatment. Treatment related amenorrhea did not last beyond one year. All patients conceived and a total of 14 pregnancies were completed successfully on a median follow up of 5 years. Three patients required use of clomiphene citrate for ovulation induction. No patient was treated with gonadotrophins. Six patients underwent lower segment caesarean section for obstetric indications and seven delivered vaginally. All babies were healthy without the signs of birth abnormalities or retardation.

Conclusions: With conservative surgery and BEP chemotherapy for treatment of bilateral dysgerminoma the fertility is retained with good pregnancy outcome, when conception occurs at least two years after the last dose of chemotherapy.

P0449
HITTING TWO BIRDS WITH ONE STONE: PROVIDER INITIATED COUNSELING AND TESTING FOR HIV AND CERVICAL CANCER

Objectives: To describe acceptability and feasibility of integrating HIV testing in cervical cancer screening and treatment service delivery setting in Tanzania, so as to promote scale up of integrated services.

Method: Analysis of service delivery data from 21 facilities in four Regions of the country screened in 2010–2013 was done to examine integration of HIV testing within cervical cancer screening and treatment services in Tanzania. Analysis included: proportion of clients offered and accepting the HIV test, reasons why testing was declined, and proportion of clients with HIV positive results who were offered HIV testing and counseling. Data was taken from routine service delivery and stripped of any identifiers before analysis.

Results: A total of 24,996 women were screened for cervical cancer; of these approximately 26% were referred in from HIV care clinics. Among the women of unknown HIV status (n=18,539), 60% were offered an HIV test. The proportion of women offered an HIV test varied over time. Unavailability of HIV test kits at facility level was the most common reason for clients not to be offered an HIV test (71% of 6321 cases). Almost all women offered (94%) accepted testing and 5% of those tested (582 women) learned for the first time that they were HIV positive.

Conclusions: It is feasible to roll out integrated services that include HIV testing and cervical cancer screening. Integrating HIV testing into cervical cancer screening services was highly acceptable and effective approach of reaching HIV positive women who did not know their status. However, its feasibility will most likely be hampered by shortage of HIV test kits for effective cervical cancer prevention service delivery. Integration of cervical cancer screening services with HIV testing should be prioritized in HIV endemic setting. The program in low resource setting should work to improve access of integrated services, treatment options of pre cervical cancer lesions while addressing barriers to promoting HIV testing.

P0450
SCALING UP COMPREHENSIVE CERVICAL CANCER PREVENTION AS A NATIONAL PRIORITY OF THE GOVERNMENT OF TANZANIA
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Objectives: Proposed panel presentation highlights key issues to address a major public health priority in Tanzania; lessons learned in scaling up comprehensive cervical cancer prevention program. The model demonstrates how bringing together different components of the program implementation has supported scaling up of high quality cervical cancer prevention services.

Method: Since 2008, the Ministry of Health Tanzania has worked in partnership to roll out cervical cancer prevention services using visual inspection with acetic acid and treatment with cryotherapy approach. To improve access to screening services with support from partners; the Ministry has implemented a model that includes; ensuring standards of care in cervical cancer prevention through development of the national guideline, training package, information system tools, communication materials and training health care providers. The Ministry has also endorsed provision of integrated cervical cancer prevention services under the reproductive and child health unit and few linked to HIV care clinics.

Results: Since 2010, national service delivery guideline, data collection tools and communication materials were developed and disseminated in more than 15 regions. With a strong focus on health system strengthening, more than 240 cervical cancer screening ser-
services has been established in 15 regions in Tanzania. To strengthen service delivery component, capacity building of 37 VIA/Cryotherapy trainers has been done who have trained more than 500 health care providers. Several community mobilization events have been conducted to improve access of cervical cancer screening and treatment services. To strengthen the health information system and dat reporting, 11 national cervical cancer screening program indicators has been included in the district health information system.

Conclusions: Working in collaboration with key stakeholders and partners, experience from Tanzania has shown contributes significantly in scaling up cervical cancer prevention services. Partnership efforts underpinned by a model of implementation that strengthens specific component of the program such as: policy/guideline development of standards based practice, capacity building, service delivery, information system, community mobilization and the referral system is a cornerstone for comprehensive scale up of cervical cancer prevention services. This model represents an approach for strengthening health care system structures that influence access to evidence based focused cervical cancer screening and treatment services.

**P0451**

**IMPACT OF TIME INTERVAL FROM DEFINITIVE SURGERY TO INITIATION OF ADJUVANT CHEMOTHERAPY (ISC) ON SURVIVAL FOR ADVANCED EPITHELIAL OVARIAN CANCER**


**Objectives:** We investigate the prognostic impact of the interval from surgery to initiation of chemotherapy (ISC) in advanced epithelial ovarian cancer.

**Method:** We enrolled patients with advanced epithelial ovarian cancer (FIGO stage III and IV) who were treated at Samsung Medical Center from January 1, 2001 to December 31, 2010. We excluded the patients who had neoadjuvant chemotherapy.

**Results:** 507 patients (stage III; 448, stage IV; 59) were enrolled and median ISC was 9 days (range 4–84). Delayed ISC is associated with increased HRs of overall survival only in optimal group (n=206, 40.6%). Consultation to general surgery department (HR, 2.744; 95% CI: 1.345–5.599; P=0.006), and platinum resistance (HR, 7.175; 95% CI: 4.112–12.52; P=0.007) were significantly associated with poor overall survival. On multivariate analysis, ISC remained to be significant poor prognostic factor (HR, 1.018; 95% CI: 1.003–1.033; P=0.022), and HR started to be significantly increased on the 17 days of ISC (HR, 2.744; 95% CI: 1.345–5.599; P=0.006).

**Conclusions:** Our data suggest that delayed chemotherapy after surgery might entail negative impact on overall survival in advanced epithelial ovarian cancer patients who had optimal cytoreduction.

**P0452**

**EFFECT OF BMI ON TREATMENT OUTCOME OF PATIENTS WITH CERVICAL CANCER (IB1 TO IVA)**


**Objectives:** To investigate the effect of body mass index (BMI) on treatment outcomes of patients with cervical carcinoma.

**Method:** This retrospective cohort study included all patients with cervical carcinoma (IB1 to IVA) who were treated at Samsung Medical Center between April 1996 and December 2007. The height and weight of the patients based on the medical chart were used to calculate BMI (kg/m^2) which was measured within 1 month before treatment began.

**Results:** In 1003 patients with cervical cancer, median follow up time was 52 months (range, 1–181) and 5-year overall survival rate was 86.3%, 174 (17.3%) recurrences/progressions and 124 (12.4%) deaths occurred during study. Median age and BMI of patients were 50 years (21–85) and 23.6 kg/m^2 (15.4–38.5). In univariate analysis, low BMI (<18.5 kg/m^2) was associated with decreased progression and overall survival, but not statistically significant. In multivariate analysis, higher BMI was significantly associated with better overall survival (HR: 0.941, 95% CI; 0.892–0.993). Age (R^2=0.167, P<0.001), hypertension (R^2=0.167, P<0.001), and lymphocyte count (R^2=0.167, P<0.001) were independent factors associated with patients’ BMI.

**Conclusions:** Cervical cancer patients with lower BMI at pretreatment had diminished overall survival. Patients with lower level of pre-treatment lymphocyte count in peripheral blood were associated with lower BMI at pre-treatment.

### High Risk Pregnancy

**P0453**

**COMPARISON BETWEEN NITROGLYCERIN DERMAL PATCH AND NIFEDIPINE FOR TREATMENT OF PRETERM LABOR, A RANDOMIZED CLINICAL TRIAL**

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**Objectives:** Preterm labor and delivery is one of the most important complications of pregnancy which is a major cause of neonatal mortality and morbidity. Management of preterm labor and prevention from preterm delivery in order to lower these risks is always under serious concern.

The purpose of the present study was to compare the effect of nifedipine and nitroglycerin (NG) dermal patch for taking control of preterm labor.

**Method:** The study was performed as a randomized clinical trial on women who had been admitted in the hospital with the complaint of preterm labor. In one group, nitroglycerin (NG) dermal patch and in the other group, nifedipine were prescribed. Then the women of the 2 groups were followed up to delivery and compared according to arrest of labor for 2 hours, 48 hours, 7 days, gestational age at the time of delivery and their adverse effects. The primary outcome was to postpone delivery for 48 hours in order to have enough time for prescribing corticosteroids.

**Results:** The women of the 2 groups did not have significant difference according to age, BMI, primary Bishop Score, gestational age at the time of tocolytic therapy. In more women in NG group delivery was postponed for 2 hours (p=0.001), for 48 hours (p=0.016) and also, for 7 days (p=0.046), than nifedipine group. Apgar score of minute 5, (p=0.03) and neonatal weight (p=0.04), were more and cesarean deliveries, NICU admission and duration of NICU stay were less in NG group. Adverse effects were similar, minimal and negligible in both groups.

**Conclusions:** NG patch is more effective method for preterm labor control than nifedipine with minimal side effects.

**P0454**

**CASE STUDY COMPLETE MOLE WITH COEXISTENT LIVE FETUS DELIVERED AT EARLY TERM**

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**Introduction:** Hydatidiform moles are in the spectrum of gestational trophoblastic disease, with a rare incidence of 1 in 1500 pregnancies. Malignancy can follow this gestations with greater predisposition in the case of complete moles (up to 32%). Encountered less
frequently, are complete mole pregnancies coexisting with a normal fetus, with an incidence of 1 per 100,000−100,000 pregnancies. The management of this entity remains controversial.

**Case:** 35 years old woman, gravida 4 para 2, at 37 0/7 weeks of gestation admitted for scheduled primary cesarean section for intrauterine growth restriction and breech presentation of dichorionic - diamnionic twin gestation with complete mole and co-existing normal fetus.

**Results:** In our case elective cesarean section was performed at 37 0/7 weeks for breech presentation. It is also remarkable that the patient was able to reach early term, as most of this gestations end with a preterm delivery (7).

**Conclusions:** As noted by ACOG, there are no clear guidelines for the management of twin molar pregnancies so in our case, decision was made to have strict outpatient follow up with monthly thyroid function test and growth scans every 4 weeks, in an attempt to ensure fetal welfare by early diagnosis of possible complications. Antepartum care should be tailored to the patient condition.

**P0455**

**BREECH DELIVERY AT TERM: DO THE PERINATAL RESULTS JUSTIFY A TRIAL OF LABOUR?**

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**Objectives:** This retrospective study to compare neonatal mortality and morbidity in term singleton breech infants delivered either vaginally or by cesarean section.

**Method:** The maternal and neonatal records for all singleton term breech (≥ completed weeks of gestation) delivered at teaching hospital. All women were admitted in active labour, and continuous FHR monitoring was undertaken.

In this hospital, there is no policy of routine cesarean section for breech presentation and the choice between vaginal and abdominal delivery depends on the circumstances of each case except patients with foetal breech and fetuses weighing > 3.80 kg.

**Results:** A total of 308 women delivered term singleton infants presenting by the breech. This represent about 3% of the total births during the study period.

Of these 50 (16.2%) were delivered by elective cesarean, 109 (35.4%) by emergency cesarean section, and 149 (48%) vaginally.

There were no differences in the ages and parity between these two groups.

There were two intrapartum and three neonatal deaths in the group managed by vaginal delivery an incidence of 35 per 1000. There are two neonatal deaths delivered by C/S due to RDS, an incidence of 13 per 1000.

**Conclusions:** Careful case selection and labour management in a modern obstetrical setting may achieve a level of safety similar to elective C/S.

Planned vaginal delivery of breech at term remains a safe clinical option that can be offered to women after providing them with clear, objective, and complete information. Many recent prospective reports of vaginal breech delivery that follow specific protocols have excellent neonatal outcomes.

ECV is a safe alternative to vaginal breech delivery or C/S, reducing the C/S for breech by 50%.

**P0456**

**A RARE CASE OF PLACENTA MESENCHYMAL DYSPLASIA**

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**Objectives:** To increase awareness of clinicians regarding placental mesenchymal dysplasia (PMD), and that it should be considered in the differential diagnosis of every placential abnormality, especially in specific sonologic findings of enlarged cystic placenta.

Method: This is a case of an 18 year old Gravida 2 Para 0 (0–0–1–0), with an ultrasonographic finding of an enlarged cystic placenta, with pregnancy complicated with intrauterine growth restriction (IUGR) and oligohydramnios. TORCH panel was positive for cytomegalovirus (CMV) IgG. The prenatal diagnosis only included molar pregnancy with a live twin fetus and CMV infection. Postnatal evaluation of the placenta was done to confirm the diagnosis.

**Results:** Grossly, cut sections of the placenta revealed multiple cystic spaces filled with watery fluid. Microscopically, there were large hydropic villi and dilated thick-walled vessels without trophoblastic proliferation. Immunohistochemical study was further done and showed dysplastic villi that were immunoactive to desmin and negative to smooth muscle actin (SMA) and Ki-67. These findings were consistent with placental mesenchymal dysplasia.

**Conclusions:** Placental mesenchymal dysplasia is a rare placental abnormality associated with adverse pregnancy outcome. Patients should be counselled regarding complications. Heightened surveillance with assessment of fetal well-being should be always be considered. A detailed histologic, immunohistochemical and also genetic analyses are essential for accurate diagnosis.

**P0457**

**ABORTION HYSTERECTOMY AT 11 WEEKS’ GESTATION DUE TO UNDIAGNOSED PLACENTA ACCRETA (PA): A CASE REPORT AND REVIEW OF LITERATURES OVER THE PAST 20 YEARS**

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**Objectives:** Herein we report a case of abortion hysterectomy at 11 weeks’ gestation due to undiagnosed first trimester placenta accreta. Also we reviewed medical literatures over the past 20 years for case reports of first trimester PA diagnosed after occurrence of severe bleeding during the abortive curettage or in the post abortive period.

**Method:** A Case report and a detailed review article of 23 similar case presented in English literatures over the past 20 years.

**Results:** In a survey of medical literatures over the past 20 years (23 cases) we found that regarding first trimester PA, which was diagnosed during the abortive curettage or in the post abortive period (before 12 weeks’ gestation), hysterectomy was the standard treatment.

**Conclusions:** Women at high risk of PA could be considered for detailed sonographic examination during the first trimester. Early diagnosis may allow earlier elective intervention that prevents maternal morbidity and mortality. Clear evidence guiding screening diagnosis and management are needed. Considering the rising rate of Cesarean deliveries, the incidence of PA in early gestation will increase.

**P0458**

**DECREASED LEVELS OF UBE2Q1 AND CHIP IN THE PLACENTAS OF INFECTION-RELATED PRETERM BIRTH**

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**Objectives:** Preterm birth has emerged as a major public health concern. Ubiquitin proteasome system (UPS) is speculated to be involved in the pathogenesis of infection-related preterm birth.

**Method:** In the present study, we examined the mRNA and protein levels of UBE2Q1 and CHIP in the placenta by immunohistochemistry, real-time RT-PCR and western blotting to explore the role of UPS in the infection-related preterm delivery.

**Results:** We found that the mRNA levels of UBE2Q1 (0.48±0.05 vs. 0.67±0.07, p=0.047) and CHIP (1.59±0.23 vs. 5.62±1.00, p=0.002) in the placentas of preterm delivery were significant lower than those of term delivery. The protein levels of UBE2Q1 (0.64±0.09 vs. 1.49±0.22,
p < 0.001) and CHIP (0.76 ± 0.08 vs. 1.33 ± 0.23, p = 0.001) in the placentas of preterm delivery were also significantly lower than those of term delivery.

Conclusions: Decreased levels of UBE2Q1 and CHIP were both found in the placenta of preterm birth, which was speculated to induce preterm birth through the autophagy pathways.

P0459
FETAL OUTCOME IN PRE-ECLAMPTIC WOMEN WITH HIGH URIC ACID LEVEL
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Objectives: To determine the fetal outcome in pre-eclamptic women with high uric acid.

Method: This descriptive case series study was carried out in the department of obstetrics and gynaecology wards of Liaquat University Hospital Hyderabad for six months from 1st March 2013 to 30 August 2013.

Results: This study was carried out on 130 pre-eclamptic women. In the present study 73 (56.0%) mothers had normal serum uric acid levels (Non-hyperuricaemic and 57 (44.0%) mothers had higher serum uric acid (Hyperuricaemic). There was significant difference of serum uric acid levels (p < 0.0001) between study groups. Among 57 patients who had hyperuricaemia, 54 (95.0%) babies had IUGR. Among 73 patients who had no hyperuricaemia, intrauterine growth restriction was present in 46 (63.0%) babies. This difference was statistically significant (P-Value 0.02).

Conclusions: High uric acid associated with PE is an important risk factor for poor fetal outcome.

P0460
EVALUATION OF OBSTETRIC OUTCOMES FOLLOWING EXAMINATION OR ULTRASOUND INDICATED CERCLAGE IN TWIN GESTATIONS WITH A CERVICAL LENGTH LESS THAN 15MM
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Objectives: To evaluate obstetric outcomes following examination or ultrasound indicated cerclage in twin pregnancies with cervical length (CL) < 15mm compared to expectant management.

Method: A retrospective case-control study was performed at a single academic center. All twin pregnancies (2003–2012) with CL < 15 mm between 17–26 weeks were included. The study group included twin pregnancies with CL < 15 mm receiving a cerclage. The control group included twin pregnancies with CL < 15 mm managed expectantly. Subgroup analysis was performed in twins with and without an open cervix. The primary outcome was mean latency from time of diagnosis of CL < 15mm. Other outcomes analyzed were gestational age at delivery and delivery < 32 and < 28 weeks. Regression models were fit for differences in demographic and clinical variables.

Results: There were 29 cases and 18 controls. The mean GA at diagnosis was earlier for the cerclage group (20.4 ± 23.4 wks; p < 0.004), as was GA at delivery (28.6 ± 32.4 wks; p < 0.001). There was no significant difference in latency between the groups (8.2 ± 9 wks; p = 0.6), or in the subset of subjects with dilatation (7.2 vs. 8 wks, p = 0.73). In a regression model controlling for dilatation, prostaglandine, indomethacin, antibiotics, smoking and BMI, cerclage was not associated with increased latency (p = 0.82). Cerclage placement was not associated with a decreased frequency of delivery < 32 weeks (p = 0.13) but was associated with increased risk for delivery < 28 weeks (OR 5.1, 95% CI: 1.3–20.1).

Conclusions: This is the largest study evaluating twin gestations complicated by mid-trimester cervical shortening < 15 mm. Cerclage was not superior to standard obstetric management in twins with a CL < 15 mm with or without cervical dilatation. These findings underscore the need for a prospective randomized trial.
P0463
COMPARATIVE STUDY OF LOADING DOSE OF MAGNESIUM SULFATE WITH THAT OF STANDARD REGIME (LOADING WITH MAINTENANCE DOSE) FOR CONTROL OF CONVULSION IN ECLAMPSIA IN CMCH

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Objectives: To determine the loading dose of magnesium sulfate is as effective as standard regime (loading with maintenance doses) in controlling convulsion in eclampsia.

Method: This cross sectional clinical trial was conducted in Department of Obstetrics and Gynaecology, Chittagong Medical College & Hospital, Chittagong, during 1st January 2010 to 31st December, 2010. Eclamptic patients who were eligible for magnesium sulfate (MgSO4) therapy were randomly selected. Besides anticonvulsant patients of both the groups was managed by the same protocol for eclampsia management, prepared by Eclampsia Working Group, Chittagong, Bangladesh. Efficacy of both the regimes were assessed by measuring the rate of recurrent convolution.

Results: There were no significant differences between the two groups in terms of age (23.0±4.4 vs 22.3±3.0 years), parity (70.0% vs 64.0% primi), type of eclampsia (72.0% vs 78.0% antepartum eclampsia), number of convulsions (2.9±1.6 vs 4.8±2.5 times), gestational age (35.5±3.3 vs 35.8±2.5 weeks), SBP (164±21.3 vs 161±19.5 mmHg) and DBP (107.4±24.9 vs 109.2±20.8 mmHg). Recurrent convolution rate was almost the same in both the groups (10.0% in study group vs 20.0% in control, P>0.05); 80% patients of the study group and 76.0% of the control group regained consciousness after initiation of treatment.

Conclusions: Only loading dose of MgSO4 can control convulsion in eclampsia and it is as effective as standard regime.

P0464
HYPERHOMOCYSTEINAEMIA AND BAD OBSTETRIC HISTORY

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Objectives: The aim of this study was to determine the association between plasma homocysteine level and bad obstetric history, and is relevance as a potential marker for predicting bad obstetric history.

Objectives: 1. To compare serum homocysteine levels in pregnant women with bad obstetric history and in normal pregnancy. 2. To find out correlation between homocysteine concentration and factors like prematurity, preeclampsia, still birth and IUGR.

Method: A total number of 65 cases were taken. Out of which 45 cases had BOH and 20 cases had normal pregnancy. The study was carried out in Department of Obstetrics and Gynaecology, Gauhati Medical College and Hospital, Guwahati. The study was conducted from August 2012 to july 2013. It was an Observational study. Blood sample was drawn from the ante cubital vein and serum homocysteine level was measured.

Results: Mean serum homocysteine levels in the control group were 9.23±mol/l and that of in BOH group was 25.91±mol/l and it was statistically significant. In the BOH group with diagnosed pre-eclampsia cases had elevated serum homocysteine levels. There was a significant relationship between the systolic and the diastolic blood pressure and serum homocysteine levels. As the systolic and diastolic blood pressure increases, serum homocysteine levels also increased significantly (p<0.001). There was a significant relationship between hypothyroidism, PPBS and serum homocysteine levels. Statistically significant association was seen between serum homocysteine levels and IUGR and preterm delivery (p<0.05).

Conclusions: The study showed raised serum homocysteine levels in patients with bad obstetric history compared to normal pregnancy.

P0465
GRAND MULTIPARA WITH MULTIPLE ENCOUNTERS IN A TERTIARY LEVEL HOSPITAL OF BANGLADESH

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Objectives: Grandmultiparity is considered as “high risk” because of the associated maternal and fetal complication. Grandmultipara has almost disappeared in the western countries but prevalence remains high and still a major obstetric hazard in Bangladesh. In modern obstetric practice it demands special attention. The purpose of the study was to evaluate the impact of grandmultiparous women on obstetric outcome (maternal and perinatal). The data generated from the study will help planning, intervention for reduction of maternal and perinatal mortality in women with grandmultiparity.

Method: This cross sectional study was conducted in the Department of Obstetrics & Gynaecology, Chittagong Medical College Hospital over a period 6 months from 01 November 2013 to 30 May 2014 to observe the maternal and fetal outcome of grandmultipara. A total of 100 pregnant women who had previously given birth at least 5 or more viable babies with or without labor pain at last trimester of antenatal period were included in the study. Data were processed and analyzed using Statistical Package for Social Sciences; version 11.5. Descriptive statistics were used to analyze the data.

Results: Total 154 grandmultiparous women were admitted (prevalence 2.7%). Common antepartum complications were preeclampsia (16%), Eclampsia, placenta praevia and oligohydramnios (around 6% each). IUGR and abruptio placenta were 4%. Among intrapartum complications 23% had preterm labor, 13% malpresentation, 12% obstructed labor and 6% ruptured uterus. Hand prolapse and prolonged labor each was 6%. Multiple pregnancies were 4%. Caesarean sections were needed in 41%, 18% wound infection, 9% postpartum haemorrhage and 4% puerperal sepsis. 2 mothers died with postpartum complications. Stillborn, neonatal death and intrauterine death were 12%, 10% and 4% respectively. LBW were 29% and birth asphyxia 27%.

Conclusions: It is concluded from our study that grandmultipara is still an obstetrical challenge. In developing countries like Bangladesh the tradition of early marriage results high birth rate and so many young women become grandmultiparas. Excellent maternal and perinatal outcome is possible with improvement in health care system. Increasing women’s literacy and making provision of safe and effective contraceptive will hopefully reduce the incidence of grandmultiparity.

P0466
MATERIAL AND FETAL OUTCOME OF HYPERTENSIVE DISORDERS IN PREGNANCY AT BPKIHS

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Objectives: To study the maternal morbidities and mortality and fetal outcome in patients with hypertensive disorders in pregnancy.

Method: A descriptive cross- sectional study of all pregnant patients with hypertension admitted in antenatal ward at B.P.Koirala Institute of Health Sciences (BPKIHS) from March 2011 to August 2011 were enrolled in the study and followed up till delivery. Clinical and laboratory parameters were used to stratify the type of hypertension. Maternal outcome identified were pulmonary edema, acute renal failure, HELLP (hemolysis, elevated liver enzymes, low platelet), ascites, DIC (disseminated intravascular coagulation), seizures, abruptio, PPH (postpartum hemorrhage) and death. Fetal outcome were lowbirth weight, prematurity, stillbirth and need for admission.

Results: Total of 96 patients were enrolled, comprising 2.4% of total deliveries. Mild preeclampsia was in 36.5% of patients, 53.1% had
severe preeclampsia and 10.4% had gestational hypertension. 46.9% of patients delivered vaginally while 44.8% underwent cesarean section. The maternal complications found were: 21.9% patients had ascites, 15.6% seizures, 13.5% postpartum hemorrhage, 7.3% abruption, 4.2% each of acute renal failure and acute pulmonary edema, 2.1% HELLP syndrome, and 1% DIC. There were 104 babies delivered including 8 twin pregnancy. 2/3rd were preterm while 50% had low birth weight. Antepartum/Intrapartum death was found in 11.5% of the babies. 27.8% babies required admission.

**Conclusions:** Hypertensive disorders in pregnancy are common and also associated with significant maternal and fetal morbidity and mortality and hence deserve immense concern in obstetric practice.

**P0467**

**PREVALENCE AND PREDICTORS OF ALCOHOL CONSUMPTION DURING PREGNANCY IN A LOW INCOME COUNTRY**

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**Objectives:** This study determined the prevalence and predictors of alcohol consumption during pregnancy in Enugu, South-eastern Nigeria.

**Method:** It was a cross-sectional study of 261 consecutive parturients at the University of Nigeria Teaching Hospital, Enugu, Nigeria. Statistical analysis was both descriptive and inferential at 95% confidence level using the Statistical Package for Social Sciences (SPSS) computer software version 16. A p value of less than 0.05 was considered statistically significant.

**Results:** The prevalence of alcohol consumption in pregnancy was 22.6%. Occasional alcohol drinkers were 83.1% (n=49), while 16.9% (n=10) drank regularly (also binge drinkers). Approximately 35.6% (n=93) of the respondents were aware of the harmful effects of alcohol on the fetus, of whom 30.1% (n=28) got their information from health professionals. Younger age of ≤30 years, and being of the Anglican denomination were factors significantly associated with alcohol consumption during pregnancy after adjusting for other variables in the multiple logistic regression analysis (p<0.05).

**Conclusions:** The prevalence of alcohol consumption in pregnancy among women in Enugu, Nigeria is high. The predictors of alcohol consumption in the study population were younger age of ≤30 years and belonging to the Anglican denomination. There is need for health professionals in Enugu to intensify efforts at counseling pregnant women on the deleterious effects of alcohol consumption during pregnancy.

**P0468**

**PROFILE OF BIRTH IN HIGH RISK MATERNITY REFERENCE AT BAIXADA FLUMINENSE, RIO DE JANEIRO, BRAZIL**


**Objectives:** – Elucidation of technical indicators of humanization in the Unit (2014); – Strategies and action plans for progressive and continued implementation of best practices in childbirth.

**Method:** Survey and analysis of the following health care indicators (Jan to Dec, 2014): rate of caesareans; births with episiotomy; lacerations of the birth canal; births in vertical position; births attended with non-pharmacological measures for pain relief; births attended with pharmacological measures for pain relief.

**Results:** 1. Rate of Caesarean sections: 4624 births.2158 C-sections; overall C-section rate 46.7% (41.7–48.5%). 2. Episiotomy: 1049 episiotomies in 2466 vaginal births, episiotomy rate 42.5% (33.5–49.2%).

3. Perineal lacerations: 635 perineal lacerations in 2466 vaginal births, overall rate 25.7% (19.8–31.7%), percentage of 3rd and 4th degree lacerations: 0.4% (10 cases). 4. Births in vertical position: 1863 of 2466 births, overall percentage of 75.5% (68.2–87.8%). 5. Percentage of non-pharmacological measures of pain relief: 1420 of 2466 normal births, global rate: 57.6% (29.6–82.1%). 6. Percentage of non-pharmacological measures: 1420 of 2466 normal births, global rate: 57.6% (29.6–82.1%).

**Conclusions:** Actions for good practice in labour ward: welcoming the companion as an active participant of labour permanent projects continued multidisciplinary education; systematic review of medical records; dialogue with the support network for adequacy of the risk profile; project for implementation of midwifery.

**P0469**

**DEMOGRAPHIC PROFILE AND FETO-MATERNAL OUTCOME IN WOMEN WITH MORBID ADHERENT PLACENTA: OBSERVATIONS FROM A NORTH INDIAN TEACHING HOSPITAL**

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**Objectives:** To evaluate the demographic profile and feto-maternal outcome in women with morbid adherent placenta.

**Method:** It was a retrospective evaluation of case series of clinically suspected and/or histologically confirmed cases of morbid adherent placenta admitted at a tertiary care teaching hospital, in the Department of Obstetrics & Gynecology, King George’s Medical University, Lucknow, India over one year period. The study was approved by institutional ethics committee.

**Results:** Of the 6422 deliveries during the period, 21 met the criteria of morbid adherent placenta (MAP). The incidence of MAP was 1 per 306 deliveries. Amongst them 57.1%, 23.8% and 19.0% had accreta, increta and percreta respectively. The mean age of women was 29.0 years. Previous LSCS with placenta previa was the commonest risk factor. Of all, 85.7% underwent cesarean hysterectomy. There were 5 maternal deaths. The mean gestational age and birth weight were 31.9 weeks and 1859.5 g respectively. 8 neonates had mean 5 minute Apgar score of 8, 9 neonates required NICU transfer and there were 4 stillborn fetuses.

**Conclusions:** Morbid adherent placenta is associated with poor maternal and perinatal outcome.

**P0470**

**CORRELATIONS BETWEEN LOW LEVELS OF PIBF WITH THE OCCURRENCE OF PRETERM LABOR IN PREGNANT WOMEN WHO EXPERIENCE PARTUS PREMATURUS IMMINENS**

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**Objectives:** To identify the relationship between low levels of PIBF with the incidence of preterm labor in pregnant women who experienced PPI.

**Method:** Observational study in the form of Analytic Cohorts performed prospectively in the delivery room and obstetrical care Dr. Saiful Anwar Hospital Malang and Bangli. This research will be start from September with total sample. Populations is pregnant with PPI who went to delivery room Dr.Saiful Anwar Hospital Malang, and RSU Bangli in accordance with predetermined inclusion criteria. First step of PIBF test is to determine the amount used in the microtiter well prepared by the laboratory physiologist Brawijaya Univ. Absorbance value readings done at OD 492nm.

**Results:** To determine relations between two variables we use Spearman rho correlation coefficient of 0.806 means that relationship between two variables is very strong, because value of Spearman rho correlation coefficient is positive (+), means that lower levels of PIBF hence higher risk of preterm delivery in pregnant women who experience PPI. ROC curve obtained with the intersection of the sensitivity
value specificity value lies in the 0.1. This value is used as guidelines for cut off point PIBF levels. Values are obtained PIBF levels lie between 23.3265 to 23.6545, the average value of the cut off point at 23.4905.

Conclusions: There were very strong relationships among low levels of PIBF with the incidence of premature delivery in pregnant mothers who experienced lower levels of PPI PIBF means that higher risk of preterm delivery in pregnant mothers who experienced the PPI. Based on other research we also get cut off point of new urinalysis PIBF levels in pregnant women who had PPI on 23.4905 ng/m, which can be assumed that pregnant women who experience levels of PPI with PIBF urine pregnancy more than 23.4905 can be maintained, if the following urine concentration 23.4905 PIBF hence more frequent premature labor.

P0471

OPTIMAL URINARY CATHETERIZATION TECHNIQUE IN LABORING WOMEN WITH TYPE III FEMALE GENITAL MUTILATION

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Objectives: Urinary catheterization in women with Type III female genital mutilation (FGM) has always been challenging. There is a lack in the literature regarding the best and different approaches that can achieve this safely and avoid defibulation. The aim of this study is to discover the optimal urinary catheterization technique in laboring women with Type III FGM.

Method: Randomization of 18 women with Type III FGM presenting in labor to King Abdulaziz University Hospital, Jeddah, Saudi Arabia from December 2013 to April 2014. 8 Women (44.4%) were catheterized using the metal retractor technique and 10 women (66.6%) using the finger technique.

Results: The mean age of the presenting women was 30.6 (±5.6 SD), and mean parity 2.4 (±4.0 SD), none of which reported any difficulty voiding antenatally. Urinary catheterization was easily and successfully achieved in all women without resorting to defibulation. However, the metallic retraction technique was reported more uncomfortable in 12.5% of the women in that group. There was no catheter related infections reported in either group.

Conclusions: Urinary catheterization for women in different stages of labor can be safely and effectively achieved with either method without the need of defibulation.

P0472

NEONATAL BRACHIAL PLEXUS PALSY: INCIDENCE, PREVALENCE, AND TEMPORAL TRENDS

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Objectives: Epidemiological knowledge of the incidence, prevalence, and temporal changes of neonatal brachial plexus palsy (NBPP) should assist the clinician, avert unnecessary interventions, and help formulate evidence-based health policies.

Method: A summary of 83 publications in the English language with over 37 million births and 24,000 NBPPs is notable for six things.

Results: First, the rate of NBPP in the US and other countries is comparable: 1.5 vs. 1.3 per 1000 total births, respectively. Second, the rate of NBPP may be decreasing: 0.9, 1.0 and 0.5 per 1,000 births for publications before 1990, 1990–2000, and after 2000, respectively. Third, the likelihood of not having concomitant shoulder dystocia with NBPP was 76% overall, though it varied by whether the publication was from the US (78%) vs. other countries (47%). Fourth, the likelihood of NBPP being permanent (lasting at least 12 months) was 10–18% in the US-based reports and 19–23% in other countries.

Conclusions: Fifth, in studies from the US, the rate of permanent NBPP is 1.1–2.2 per 10,000 births and 2.9–3.7 per 10,000 births in other nations. Sixth, we estimate that approximately 5000 NBPPs occur every year in the US, of which over 580–1050 are permanent, and that since birth, 63,000 adults have been afflicted with persistent paresis of their brachial plexus. The exceedingly infrequent nature of permanent NBPP necessitates a multi-center study to improve our understanding of the antecedent factors and to abate the long-term sequela.

P0473

MACROSOMIC BIRTH: A SURVEY OF MATERNAL CHARACTERISTICS AND FETAL OUTCOME

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Objectives: To evaluate the association of maternal characteristics and macrosomic births.

Method: A case control comparison of maternal characteristics and pregnancy outcome of macrosomic deliveries and selected normal birth weight deliveries.

Results: The mean maternal weight and gestational age of mothers with macrosomic deliveries was higher compared to the control group, (85.87±19.39kg vs 74.92±19.11kg P<0.01; and 41.51±1.46 vs 39.02±1.29, P<0.001). Caesarean section rate was higher in the macrosomic deliveries (41.2% vs 15.7%, P<0.001). Asphyxia and shoulder dystocia occurred more in macrosomic babies (P<0.001). Majority of the asphyxiated babies in the study group were following vagina delivery compared to caesarean delivery, (65.6% vs 34.4%) p=0.001. There were 3 cases of still birth in the macrosomic deliveries but no maternal deaths.

Conclusions: Macrosomic births could be tragic. Although delivery outcome seems better with a caesarean section, good fetal outcome can only be assured on the premise of astute labour and delivery management.

P0474

A CASE REPORT: OBSTETRIC OUTCOMES AND COMPLICATIONS AFTER VAGINAL RADICAL TRACHELECTOMY (VRT)

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Objectives: Pregnancy after radical trachelectomy is not uncommon nowadays as women choose to delay child bearing age for professional and financial reasons. This has led to an increased number of fertility sparing surgeries (VRT) performed for early cervical cancer. In this case report, we aim to identify and recognize the possible obstetric complications in pregnant women after radical tracheectomy (RT) and learn from it.

Method: We report a healthy 35 year-old primigravida with a history of vaginal trachelectomy, cervical cerclage and laparoscopic pelvic lymphadenectomy done for stage 1b1 cervical cancer. She had a spontaneous conception with appropriate antenatal care. She presented at 23+5 weeks gestation with leaking of liquor. PPROM was confirmed and her ultrasound showed oligohydramnios. She was admitted and despite intravenous antibiotics, developed chorioamnionitis. Emergency caesarean section was performed due to maternal sepsis from chorioamnionitis. The baby was admitted into NICU after intubation due to extreme prematurity. Maternal post-op recovery was complicated by wound infection that required extended antibiotics and regular wound care.

Results: Literature review has shown that pregnancies are possible after RT, with 41–79% of women able to conceive subsequently. However, the obstetric outcomes reported an increased incidence of preterm labour, chorioamnionitis, PPROM and miscarriages with only 70–75% of pregnancies delivered at term. RT attributes to the increased incidence of obstetric complications. Therefore, all pregnant women with history of cervical surgery should be followed up vigilantly by a high-risk obstetric team to reduce the risks and provide
early intervention should complications arise. Expert advice should be sought and timing of delivery planned particularly in pregnancies complicated with PPROM.

**Conclusions:** At present, expert opinion suggests all pregnancies after radical trachelectomy should be managed in a high risk obstetric clinic with close surveillance owing to its recognised obstetric complications. Erythromycin should be given in cases of PPROM based on the RCOG green-top guidelines and caesarean section arranged in the event of chorioamnionitis. While classical caesarean section with a low vertical incision is recommended due to the risk of lateral extension of a transverse incision leading to uterine vessel injury and massive haemorrhage, the decision should be individualized on case by case basis. Senior obstetrician input is necessary.

**P0475**

**CASE STUDY – PREGNANCY AFTER CABGDR**

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**Objectives:** Clinical diagnosis in a young woman presenting with chest pain may be difficult as it is not common to suspect coronary disease.

**Method:** A 31 year old lady underwent coronary artery bypass graft for critical left main coronary branch ostial stenosis of 99%. A coronary artery bypass graft was performed with LIMA graft to LAD and RIMA graft to OM1 for 99% left main stem stenosis. After 7 years she presented in her third pregnancy. Since she could not tolerate aspirin she was given clopidogrel in pregnancy which was stopped at 34 weeks and at 35 weeks an emergency Caesarean section was performed under general anesthesia for fetal intrauterine growth restriction.

When seen in postnatal period both the mother and baby were doing well.

**Results:** Pregnancy following coronary artery bypass graft is very rare. This case is presented because of its rarity as it is unusual for young women to have pregnancy following CABG.

**Conclusions:** There is limited information on Clopidogrel usage in pregnancy. If monitored closely and stopped well in advance intra or postpartum hemorrhage with Clopidogrel could be avoided.

**P0476**

**BIRTH DEFECT OF THE NOSE DUE TO DRUG INDUCED EMBRYOPATHY: A CASE SERIES**

**D. Deka, V. Dadhwal. All India Institute of Medical Sciences, New Delhi, India**

**Objectives:** Neonatal outcome of four cases of nasal embryopathy whose mothers were on warfarin therapy, and of one mother on Imatinib.

**Method:** Five fetuses were diagnosed on ultrasound with depressed nasal bridge and small nasal bones; couples were counseled regarding the abnormality in the child.

**Results:** One couple opted for terminating the pregnancy at 17 weeks of gestation. All rest 4 babies had flat faces, depressed nasal bone. One baby needed permanent tracheostomy, other three needed ventilatory support and were stable after a couple of weeks.

**Conclusions:** Prenatal Ultrasound led to early diagnosis of the nasal hypoplasia in high risk cases. Delivery at our tertiary care center, immediate neonatal tracheostomy and ventilatory support and nasal care resulted in successful outcome in all fetuses where pregnancy was carried on.

**P0477**

**TWIN PREGNANCY – ONE ANENCEPHALY AND ONE NORMAL BABY**

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**Objectives:** This case is presented here for its relative rarity.

**Method:** A primi gravida lady of 22 years attended the OPD with watery discharge P/V for last 2 hours at her 33 weeks of pregnancy. She was mildly anaemic and normotensive. Abdominal examination revealed that SFH was 35 cm. Liquor seems to be more than normal clinically. More than two foetal pole, multiple foetal parts and two foetal heart sounds were audible. P/V examinations revealed that watery discharge coming through external os, cervix soft, os closed. USG findings showed live twin pregnancy. One normal and one anencephalic diaphragmatic, dichorionic with mild polyhydramnios.

**Results:** Labour pain was started spontaneously. She delivered P/V one baby of 1.2 kg and another baby of 500 gm which was anencephalic. Both are living. Anencephalic baby was died 30 minutes after birth. And another baby was admitted in NICU and discharged at the age of 6 weeks.

Patient’s condition was good and was discharged on 3rd postnatal day.

**Conclusions:** Twin pregnancy is common. Twin with congenital anomaly is also common. But one normal and one with congenital anomaly is relatively uncommon.

**P0478**

**BIOCHEMICAL MARKER FOR FETAL OUTCOME IN PREGNANCIES COMPPLICATED BY INTRAUTERINE GROWTH RESTRICTION**

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**Objectives:**
- To analyze Lactic acid dehydrogenase as a predictor of IUGR;
- To analyze the diagnostic efficiency of LDH levels in prediction of etiology of IUGR;
- To study the diagnostic efficiency of LDH levels with fetal outcome in IUGR infants.

**Method:** This prospective case control study was done between a period from July 2007 to Dec 2014 at QMH KGMU, and Department of M&RH, SGPGIMS, Lucknow. 490 women attending the antenatal clinics were recruited between 32–36 weeks for the analysis for serum Lactic dehydrogenase levels in triplicate. Maternal and fetal outcome was noted. The statistical analysis included ANOVA, chi square test and student’s t-test. ROC curve was used to attain the sensitivity and specificity of the test. Keeping confidence interval at 95%, significance was determined if p-value was <0.005.

**Results:** Out of the patients recruited, 210 cases and 180 controls could be followed for outcome, rest of them defaulted for various reasons. The mean serum LDH in mothers was 296.334 IU/ml in the control arm whereas the mean was 456.36 IU/ml in the study group (ftest=0.000002; p=0.0024). At the cut off of 315IU/m, the sensitivity was 72.5% and specificity was 60.5%.
- Maternal serum LDH levels are significantly raised in the study group.
- Increased levels are associated with increasing severity of the condition.
- Fetal morbidity is increased with increase in levels of serum LDH.

**Conclusions:** Maternal serum LDH is a good prognostic marker to predict for maternal and fetal outcome. It can be used in regular risk scoring systems for methodological analysis of the prognosis of outcome at delivery.
P0479
PREGNANCY OUTCOMES IN PREGNANT WOMEN WITH RETORCHIOIR HEMATOMA IN THE I TRIMESTER
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Objectives: Several researchers agree that small, asymptomatic subchorionic hematomas do not impair the patient's prognosis, according to others researchers, pregnancy with retrochorial hematoma ends in miscarriage in a high percentage of cases, in the case of prolongation of pregnancy, patients with retrochorial hematoma have higher risk of maternal and neonatal complications. However, even among those who find a connection between retrochorial hematoma and late complications of pregnancy, there is no unanimity in the nature of these complications. The objective is to study the peculiarities of pregnancy and its outcomes in patients with subchorionic hematoma in the I trimester.

Method: The study was conducted in the Rostov-on-Don State “Perinatal Center” for the period from 1 January 2013 to 1 January 2015. The study group included 53 pregnant women with subchorionic hematoma in a period of 6 to 12 weeks (group I). The control group (group II) were 63 apparently healthy pregnant women. We analyzed the mode of delivery (vaginal delivery, cesarean section) and the frequency of perinatal complications (preterm delivery, fetal growth retardation, placental previa and accrete, premature detachment of normal placenta, premature rupture of membranes, the abnormal discharge of placenta, hypotonic bleeding).

Results: The frequency of cesarean section and vaginal delivery in the study group was 65% (34) and 35% (18), in the control group – 38% (24) and 62% (39), respectively. Premature birth in the study group was observed in 13% (7), in the control group – in 2% (1). Chance of cesarean delivery relative risk (RR): 1.7884; confidence interval [95% CI]: 1.1741, 2.7240; odds ratio (OR): 3.0694, 95% CI: 1.4285, 6.5952; p-value = 0.00357 and risk of preterm birth [RR 1.1339; 95% CI: 1.0162, 1.2652; OR 9.4348; 95% CI: 1.1215, 79.3733; p-value=0.01033] in the study group was significantly higher than in the control group.

Conclusions: The analysis of perinatal outcomes in patients with retrochorial hematoma showed that the risk of preterm birth is higher in 9.4348 times compared to apparently healthy women (without RCH). Besides, the chance of delivery by cesarean section in the study group is 3.0694 times higher.

P0480
INVESTIGATION OF RELATIONSHIP BETWEEN INFERTILITY TREATMENT AND THE INCIDENCE OF GESTATIONAL HYPERTENSION
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Objectives: Gestational hypertension is one of the main cause of high maternal and perinatal morbidity and mortality. There have been some reports describing that infertility treatments may elevate the risk for gestational hypertension and preeclampsia. However, it remains unknown which types of treatments may have high risk of gestational hypertension. We have reviewed the cases in our hospital and investigated relationship between infertility treatments and the incidence of gestational hypertension.

Method: 1373 cases of delivery in our hospital in 2014 were reviewed retrospectively. Any cases of stillbirth, multiple pregnancy and uncertainty of their treatments were excluded. We compared the incidence of gestational hypertension in spontaneous pregnancies and in those with infertility treatments, such as clomiphene, gonadotropin, intrauterine insemination (IUI), in vitro fertilization/embryo transfer (IVF-ET), intracytoplasmic sperm injection (ICSI) and oocyte donation.

Results: The incidence of gestational hypertension was 6.09% (82/1347) in all; 5.56%, 0%, 0%, 8.62%, 8.77%, 8.14% and 60% in natural pregnancy, clomiphene, gonadotropin, IVF-ET, ICSI, and oocyte donation, respectively. Oocyte donation had significantly higher morbidity of gestational hypertension.

Conclusions: This review suggested that infertility treatment did not have any risk for following gestational hypertension except oocyte donation.

P0481
PATHOGENIC PROPHYLAXIS PRE-ECLAMPSIA IN PATIENTS WITH THROMBOPHILIA AND PRE-ECLAMPSIA IN ANAMNESIS
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Objectives: Evaluation of effectiveness of antithrombotic prevention of recurrent preeclampsia in women with thrombophilia.

Method: 107 women with genetic and acquired forms of thrombophilia and pre-eclampsia (PE) in anamnesis: Group I: 55 patients with PE in anamnesis – prophylaxis treatment was initiated since the fertile cycle and during pregnancy. Group II: 52 patients with PE in anamnesis – prophylaxis treatment was initiated during pregnancy (from 6 to 13 weeks of gestation). Control group – 65 women with uncomplicated pregnancy.

Lab methods: DIC-syndrome markers: D-dimer, TAT, prothrombin time, prothrombin fragments F1+2, level of fibrinogen, AT III, aggregation of platelets, homocystein level, function of protein C, APA, gene tests.

Results: IUGR was in 11 patients (4 patients, group I and 7 – group II). PE moderate and severe was prevented. Preterm caesarean section was not in group I and control group; in group II in 2 (5%) cases. Preventive therapy include: LMWH (Enoxaparin 20–60 mg), antioxidants, vitamin B, folic acid, aspirin. Patients with APA received natural progesterone. LMWH was discontinued 24 hours prior cesarean section and resumed after 6–8 hours after birth. In all cases was performed caesarian section, in control group in 12 (24%) cases. Alive and healthy children were born (100%).

Conclusions: All the patients with PE in anamnesis need to be tested for thrombophilia (acquired and genetic). Detection of thrombophilia (acquired, genetic or combined) in the patients with PE in anamnesis gives us the possibility for pathogenetic justification of effective prevention of this complication in subsequent pregnancies. In order to prevent the repeated PE in subsequent pregnancy one need to start the therapy from fertile cycle, continuing it during the pregnancy, childbirth and in postnatal period. Therapy shall include LMH, group B vitamins, antioxidants and micronized progesterone.

P0482
HEPATIC HYDATID CYST DURING PREGNANCY
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Objectives: We present a case of hydatid disease of the liver which was diagnosed late in pregnancy and was successfully treated surgically at Hospital mongi slim, marsa.

Method: We give details about the case of one patient managed in...
our unit with a hydatid liver cyst diagnosed for the first time during pregnancy. We reviewed the literature using pubmed and medline search.

**Results:** A 24-year-old was admitted at 27 weeks because of fortuitous diagnosis of Hepatic hydatid maternal cyst during the pathology scan. On examination a palpable abdominal tumor was found extending in the right upper abdomen. On ultrasound showed a hepatic tumor 20cm in diameter filling the right hypochondrium. Fetus had a multiple renal cysts right. The rest of the ultrasound examination was normal. Our decision was to deliver the patient by cesarean section at 37 weeks. The newborn had right renal dysplasia. Two month after delivery, women was was operated on his Hepatic hydatid cyst.

**Conclusions:** The hydatid cyst is rare during pregnancy. Ultrasonographic examination is the gold standard in the diagnosis of hydatid cysts during pregnancy. In addition to showing the pregnancy status, sonography reveals the location, number, size of the hydatid cysts and their relation other abdominal viscera. Serological tests are less reliable in pregnancy because of the usual immunological changes. Hydatid cystic disease can be prevented by adopting public health measures to eradicate infected animals and dogs in order to break the cycle of transmission.

**P0483**

**ASSOCIATION BETWEEN THE INCREASING INCIDENCE OF PLACENTA PREVIA AND IVF TREATMENT IN NULLIPAROUS WOMEN**

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**Objectives:** To describe the incidence of placenta previa in nulliparous women and to assess risk factors between nulliparous and multiparous women with placenta previa after adjustment for previous dilatation and curettage, in vitro fertilization (IVF), smoking, previous cesarean section and maternal age.

**Method:** A retrospective study was conducted based on the descriptive and statistical analysis risk factors of placenta previa and maternal and fetal prognosis of 184 patients who underwent cesarean section for placenta previa between January 2010 and December 2014 in Busan Paik hospital. We divided the patients into two groups, nulliparous women and multiparous women, and compared with cause of previa and prognosis.

**Results:** Eighty nine women was nulliparous women and 95 patients was multiparous women. Nulliparous women were significantly younger than multiparous women (32.4±3.4 years old vs 34.7±4.5 years old, \( P=0.0001 \)). Placenta previa with no risk factor more occurred in nulliparous women (62.1% vs 37.9%, \( P=0.0097 \)). In the multiple logistic regression analysis the strongest independent risk factor of placenta previa was IVF between nulliparous and multiparous women (75.0% vs 25.0%, \( P=0.024 \)). There was no significant difference in the incidence of postpartum hemorrhage (PPH) but was significantly different in management. Cesarean hysterectomy for PPH was significantly increased in multiparous women (3.4% vs 82.4%, \( P=0.0161 \)).

**Conclusions:** Increasing maternal age and in vitro fertilization (IVF) treatment are all risk factors for placenta previa in nulliparous women in this study. Therefore the strategies to prevent placental previa in nulliparous women undergoing IVF are urgently needed.

**P0484**

**A STUDY OF CLINICAL CHARACTERISTICS, PREDICTABILITY AND FETOMATERNAL OUTCOME OF OBSTETRIC PATIENTS IN INTENSIVE CARE AND HIGH DEPENDENCY UNIT**

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**Objectives:** To assess the clinical characteristics of obstetric patients requiring admission to the ICU and HDU in a tertiary referral hospital and their maternal and perinatal outcome in order to identify their adverse prognostic factors and clinical outcome.

**Method:** Prospective study conducted over 50 patients in high dependency and intensive care unit at a tertiary care hospital over a period of 5 years (October 2009–October 2014). Inclusion criteria: critically ill women admitted during pregnancy as well as first 6 weeks of the postpartum period. Data collection and analysis was done.

**Results:** 44 patients belonged to the age group of 20–30 years accounting for 88% of admission. 30 patients i.e. 60% of patients were primipara and 20 patients i.e. 40% were multipara. 35 patients i.e. 70% were admitted in the ante partum period, remaining 30% i.e. 15 patients were in the postpartum period. 42 cases were referred from another institution. 20 cases accounting for 40% were in the gestational age of 30–36 weeks.

Caesarean section was an important risk factor amounting to 65% of patients. 12 cases i.e. 24% had undergone emergency hysterectomy due to PPH.

**Conclusions:** The findings of the present study reinforce the statement by the WHO that “there is a story behind every maternal death. Understanding the lessons to be learnt can help to avoid such outcomes.”
P0486
ACQUIRED ADAMTS-13 DEFICIENCY AND RECURRENT THROMBOSIS IN PREGNANCY

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Objectives: We present an unclear clinical case of thrombotic storm associated with pregnancy.

Method: Patient Z. 24 years old, at presentation in 2007 pregnancy 15 weeks. In 2005 after the emergency cesarean section for obstetric indications developed PE, treated by LMWH. After the artificial abortion in 2006 recurrent PE was diagnosed. After acute treatment with LMWH patient was switched to warfarin.

Results: Despite intensive research, arterial and venous thrombosis and to evaluate the efficiency of antithrombotic prophylaxis in pregnancies with fetal weight discordancy were analyzed. All monochorionic twin pregnancies included following patients: with two or more scars after CS, multiple pregnancy, placenta previa and placental abruption, fetal macrosomia, polyhydramnios.

Conclusions: Prophylaxis uterine tamponade by Zukovskiy balloon is an effective method for preventing obstetric complication after cesarean section in a group of high risk patients for hemorrhage.

P0488
AN INITIAL EXPERIENCE OF USING PROPHYLAXIS INTRAPERITONEAL TAMPOONADE BY ZUKOVSKIY BALLOON AS A WAY FOR PREVENTION OF HEMORRHAGE DURING AND AFTER CESAREAN SECTION

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Objectives: Postpartum hemorrhage is still one of the major causes of maternal mortality around the world. Cesarean section increases the risk of hemorrhage several times. Ob/Gyns are looking for methods for reducing the incidence of obstetric hemorrhage.

Method: We have summarized our experience of using the Zukovskiy balloon for the prevention of hemorrhage in the group of patients at high risk in a big perinatal center in Tyumen region, Russia. The group included following patients: with two or more scars after CS, multiple pregnancy, placenta previa and placental abruption, fetal macrosomia, polyhydramnios.

Results: Among 117 cases of using prophylaxis intrauterine tamponade by Zukovskiy balloon, abnormal blood loss (more than 1000 ml) was detected in two cases - 1400 and 1600 ml respectively, that has required to use the additional B-Lynch’s compression sutures. All patients were discharged on day 4–5-th of postpartum period. There were no cases of postpartum inflection morbidity.

Conclusions: Prophylaxis uterine tamponade by Zukovskiy balloon is an effective method for preventing obstetric complication after cesarean section in group of high risk patients for hemorrhage.

P0487
PREGNANCY AND DELIVERY IN PATIENTS WITH HISTORY OF VENOUS THROMBOSIS AND ISCHEMIC STROKE

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Objectives: Despite intensive research, arterial and venous thromboembolism (VTE) still account for significant maternal mortality and morbidity. Our aim was to determine thrombophilia in patients with history of thrombosis and to evaluate the efficiency of antithrombotic prophylaxis.

Method: Group I: 57 (28.7±4.2 years) women with history of VTE, group II: 59 (32±5.5 years) women with history of stroke and 60 healthy pregnant women (controls) were screened for genetic thrombophilia and antiphospholipid antibodies (APA). Subgroup la (n=20 with history of VTE) and subgroup lla (n=22 with history of stroke) received prophylaxis with low molecular weight heparin (LMWH) in preconception period, during pregnancy and at least 6 weeks postpartum. In 17 women with history of VTE (subgroup lb) and 20 women with history of stroke (subgroup llb) LMWH was started from II-III trimester.

Results: In the group I thrombophilia was detected in 94.1%: FV Leiden +/− (23.5%), prothrombin G20210A +/− (13.7%), multigenic fibrinolytic defects (64.7%), APA (49%), hyperhomocysteinemia (45%) (p<0.001 vs. control). Thrombophilia was detected in 88.2% with history of stroke, including fibrinolytic defects (76.5%), FV Leiden +/− (21.6%), prothrombin G20210A +/− (11.7%), APA (41.2%; p<0.001), hyperhomocysteinemia (19.6%; p<0.05). In subgroup la and lla no one had severe obstetric complications. All pts were delivered at term and all babies were alive. In subgroup lb and llb moderate to severe obstetric complications were noted (43.7% and 47%) (p<0.05 vs subgroup la and lla).

Conclusions: Thrombophilia might be the essential pathogenetic mechanism of thrombosis in women of childbirth age. LMWH was effective for prevention of recurrent thromboembolism and obstetric complications. Women with personal or family history of thromboembolism or with history of obstetric complications should be screened for thrombophilia.
paring with the patients without IUGR (43.3% vs 6.3%). Single IUFD in two patients and the highest rate of low Apgar score – 33.3% was in the group with discordancy > 25%. Pathological neurosonographic findings were 33.3% and 46.3% in the twins with discordancy ≤20% and > 20% accordingly.

Conclusions: Thus fetal weight discordance (>20%) is associated with the high risk of adverse perinatal outcomes. Monochorionic discordant twin pregnancies especially with IUGR require careful antenatal monitoring and timing of delivery.

P0490
SUCCESSFUL CONSERVATIVE MANAGEMENT OF CESAREAN SCAR PREGNANCY
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Objectives: To give details about early diagnosis features and medical treatment modalities of Cesarean scar pregnancies.

Method: We report two cases of cesarean scar pregnancies (CSP) diagnosed and managed in our unit.

Results: In the first case, the diagnosis of a 7-week CSP was made sonographically in a 38-year-old woman. The patient received one ultrasound guided injection of Methotrexate (MTX) in the amniotic fluid, followed by an equivalent dose of MTX intra muscularly. The patient had mild bleeding at the 25th day with beta-human chorionic gonadotrophin normalization. In the second case, an CSP was diagnosed by transvaginal sonography in a 33-year-old woman. This patient was treated with two intramural injection of MTX. The patient had mild bleeding at the 25th day with a spontaneous expulsion of the gestational sac.

Conclusions: CSP is a very unusual and possibly life-threatening complication of pregnancy. Decisions on treatment options should be dictated in part by gestational age, β-HCG levels, the presence of fetal cardiac activity, the desire of future fertility and the experience and facilities available.

P0491
A NEW MODEL OF OBSTETRICAL PESSARY – PREVENTION AND TREATMENT OF CERVICAL INSUFFICIENCY AND HABITUAL ABORTION
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Objectives: Cervical insufficiency is one of the most common causes of preterm labor. Obstetrical pessary can be used as an efficient alternative. The study of variety of pessaries available on the market revealed a number of faults in their construction and possible complications from their use.

Method: A new model of obstetrical pessary designed by the authors is made of high quality silicone of determined flexibility and density providing the optimal application of the pessary. The outstanding feature of the ring is availability of two or four symmetrical semicircular slots on the external surface of the ring and two or four bulges on the internal surface of the ring. Application of pessary is simple and painless.

Results: Research of new model of obstetrical pessary was conducted on a group of pregnant women (80 patients) with cervical insufficiency or history of habitual abortion and pregnancy of 14 to 37 weeks of gestation. All pregnancies were followed to term.

Conclusions: Application of the new model of obstetrical pessary considerably increases the chances of successful development of pregnancy in women with cervical insufficiency and habitual abortion. The optimal timing for use obstetrical pessary is from the 14 week of pregnancy to the 37th week of pregnancy with the subsequent removal of the pessary.

P0492
BREAST CANCER IN PREGNANCY – A SINGLE CENTRE CASE SERIES
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Objectives: Breast cancer is the most common malignancy occurring in pregnancy. The incidence of breast cancer increases with age and so the diagnosis of breast cancer is expected to rise as there is an increasing trend for women to delay the first pregnancy. Maternal treatment is essential, however potentially harmful to the fetus. This case series aims to present demographic data and pregnancy outcomes for patients diagnosed with breast cancer in pregnancy. This will be beneficial for future practice as we carefully analyse the various diagnostic and therapeutic modalities for both the mother and fetus.

Method: This will be a retrospective case series looking at patients diagnosed with breast cancer in pregnancy from 2006 to 2015. We will look at 15 patients who have delivered at Westmead Hospital, Sydney, Australia. Demographic data includes age at diagnosis, gravidity and parity, gestational age at diagnosis, staging, histology, treatment modalities and mode of delivery. Maternal outcomes include effects on breastfeeding, disease free interval, recurrence and further treatment modalities. Neonatal outcomes include weight, apgars, gestational age and length of neonatal intensive care (NICU) or special care nursery (SCN) stay. Data will be analysed using appropriate statistical analysis.

Results: We are currently still collecting data for the 15 subjects who were diagnosed with breast cancer in pregnancy during 2006 - 2015 and delivered at Westmead Hospital.

Conclusions: Although we cannot comment on the results of the case series, we will have finished data collection and statistical analysis ahead of time for the XXI FIGO World Congress. The results will be valuable for and future practice. We hope to statistically analyse the data and assess maternal and neonatal outcomes of breast cancer diagnosed in pregnancy.

P0493
THE SYSTEM OF ANGIogenic FACTORS and CYTOKINES in WOMEN with PHYSIOLOGICAL and COMPLICATED PREGNANCY in SECOND and THIRD TRIMESTERS in DEPENDENCE ON Fetal sex
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Objectives: Significant violations of angiogenesis, which are accompanied by changes in expression of endothelial growth factors and interleukins, are observed in placental insufficiency. However, peculiarities of its expression depending on the sex of the fetus are not completely understood. The objective of this study was to explore the peculiarities of angiogenic factors and cytokines system in women with physiological pregnancy and in case of placental insufficiency in dependence on fetal sex.

Method: We studied 2 groups of women: 390 women with physiological pregnancies (203 women with male fetuses and 187 with female fetuses) and 345 women with placental insufficiency (176 women with male and 169 with female fetuses). The levels of VEGF-A, EGF, PIGF, ET-1, TNE-, IL-1, IL-6, IL-10, IL-12 were determined in blood serum with the help of ELISA method in II and III trimesters of gestation.

Results: We detected a higher expression of VEGF-A (1.5 times), ET-1 (2.5 times), EGF (1.6 times) in physiological pregnancy in women with female fetuses than in women with male fetuses. Higher levels...
of IL-1β (1.5 times), IL-6 (1.8 times) and IL-10 (5.7 times) were revealed in mothers of girls in pregnancies with placental insufficiency. Our study showed that changes in expression of angiogenic factors and cytokines contribute to the development of oligohydramnios (11.4%), polyhydramnios (9%), preeclampsia (6.8%) and unfavorable indices of fetal biophysical profile in pregnant women with male fetuses.

**Conclusions:** Identified differences in the expression of angiogenic factors and cytokines suggest the existence of a special “request” from the utero-placental-fetal complex defined by the sex of the fetus. High activity of angiogenic factors and cytokine system in women with female fetus both in physiological and complicated pregnancies indicates a higher adaptability of its “mother-placenta-fetus” system.

**P0494**

**FETO-MATERNAL OUTCOME IN PATIENTS WITH SICKLE CELL ANAEMIA AT THE UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL, PORT HARCOURT, NIGERIA: A TEN YEAR RETROSPECTIVE REVIEW**

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**Objectives:** To evaluate maternal and fetal outcome in pregnant women with sickle cell anaemia at the University of Port Harcourt Teaching Hospital, Port Harcourt, south south Nigeria.

**Method:** A retrospective study of 17 pregnancies in 13 patients with sickle cell anaemia over a 10-year period was conducted at the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria. (January 2003–December 2012). The data retrieved were analysed using SPSS version 17.0.

**Results:** The age range of women in the study group was 25–38 years. Nulliparous women accounted for 47.1%. Anaemia was present in all the women. Other complications included urinary tract infection in 64.8%, hotalo policy in 17.7% and osteomyelitis in 5.9%. Maternal mortality rate was 9.7 per 100,000 deliveries. There were 3 stillbirths with a stillbirth rate of 0.1 per 1000 live births for the study period. The mean birth weight was 2752.9g. Preterm delivery occurred in 5 pregnancies. Major fetal complications included moderate birth asphyxia occurring in 5.5% of the babies, 47.1% had neonatal jaundice while 23.3% had neonatal sepsis.

**Conclusions:** Sickle cell anaemic patients are at increased risk of poor fetal and maternal outcome in pregnancy especially in low resource centres and therefore should be managed in centres with adequate personnel and facilities. A concerted effort and emphasis on improvement in health seeking behaviour and pre-conception care will improve outcome in this high risk group.

**P0495**

**MANAGEMENT OF PREGNANCY IN WOMEN WITH CHRONIC MYELOID LEUKEMIA**

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**Objectives:** Management of pregnancy and treatment options in women with chronic myeloid leukemia (CML) are still controversial because of limited experience. The main issues in monitoring pregnancy in women with CML are the prevention of disease progression and fetus safety. This study was aimed to analyze pregnancy outcomes and management of CML during pregnancy.

**Method:** All women were observed from 2006 to 2015. 54 pregnancies in 46 women with Ph+positive CML were analyzed. Chronic phase CML was diagnosed in 44 women, accelerated phase was in 2 women. In 24 of 38 cases treatment interventions (interferon alpha in 9 cases, hydroxychemabamide in 2 and tyrosine kinase inhibitors (TKI) in 12 cases) were performed in the 2nd–3rd trimester and in 2 cases treatment was carried out throughout entire pregnancy. Among analyzed characteristics were treatment and monitoring of CML, pregnancy complications and outcomes, characteristics of newborns.

**Results:** The pregnancy outcomes were following: 38 (70.4%) deliveries, 5 (9.3%) spontaneous abortions, 2 (3.7%) antenatal deaths and 9 (16.6%) medical abortions. The infants born under TKI exposure had no birth abnormalities. However, a low weight (<2500 g) was observed in 6 of 12 newborns and 5 of these cases were delivered prematurely. Two cases of premature delivery and antenatal death were in females non-compliant to TKI with no treatment at pregnancy and hematologic relapse. Among 5 cases of spontaneous abortions 3 patients conceived on imagining, for 2 data were not obtained.

**Conclusions:** Management of CML during pregnancy is based on careful assessment of risks for mother and fetus. Treatment approaches highly depend on grade of remission and pregnancy term. Although successful outcomes of TKI use in pregnancy are possible on late stages of pregnancy, risks of TKI exposure on human fetus remain unknown. A safe way for reducing the risks in this group of women of reproductive age is to avoid pregnancy until achieving stable deep molecular disease remission.
failed with ritodrine (n=94), and the other group failed with atosiban (n=90).

Results: The patient group failed with atosiban was younger (p<0.001) and had higher weight (p=0.010) and parity (p=0.030) with significance. The patient group failed with ritodrine had higher level of potassium (p=0.007) and lower level of creatinine (p=0.012) at the admission. In the logistic regression, potassium (p=0.030) and creatinine level (p=0.002) at the admission were statistically different between two groups. Our logistic regression model derived from 2 variables, predicted failure rate was 77.9%.

Conclusions: The comparison of patient group failed with ritodrine or atosiban showed that age, weight, parity, level of potassium and creatinine at the admission were significantly different. We can infer from this finding that we can decide which tocolytic agents to use based on some clinical characteristics. Further studies are needed to determine the optimal models using those clinical characteristics.

**P0498**

ASSOCIATION BETWEEN 1-HOUR GLUCOSE TOLERANCE TEST AND PERINATAL OUTCOMES

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Objectives: The aim of this study was to evaluate the relation between subcategories of 1-hour 50g glucose challenge test results and perinatal outcomes.

Method: We reviewed the medical records of 2631 pregnant women who normal 1-hour 50g glucose tolerance test between March 2001 and April 2013. Glucose challenge test result category was further stratified into categories of 10-unit increments for comparison (<100 mg/dl, 100–109mg/dl, 110–119mg/dl, 120–129mg/dl, 130–139mg/dl). Therefore, we compared maternal and perinatal outcomes among five groups.

Results: Maternal body weight before and after pregnancy were statistically significant among five groups (p<0.001). In addition, there were significantly differences in BMI of prepregnancy and delivery time (p<0.001). All of the above factors tended to increase depending on higher glucose level. Also, cesarean section rate were 35.1%, 39.2%, 42.7%, 42.9%, and 47.2% in less than <100 mg/dl, 100–109mg/dl, 110–119mg/dl, 120–129mg/dl and 130–139mg/dl group, respectively (p <0.001). Risk of large for gestational age fetus was significant higher depending on blood glucose level (p<0.001).

Conclusions: Maternal and perinatal outcomes could be different depending on blood glucose level in the normal glucose challenge test group. Increasing blood glucose level in the normal glucose challenge test group was associated with the adverse outcomes.

**P0499**

THE IMPACT OF OXIDATIVE STRESS ON THE SEVERITY OF PREECLAMPSIA


Objectives: The objective of this study was to evaluate the relationship between the severity of preeclampsia (PE) and plasma levels of 8-iso-PG F2α, a marker of oxidativ stress.

Method: This prospective study included 114 preeclamptic women and a group of 42 pregnant women with normal pregnancies. PE was defined according to the criteria of the International Society for the Study of Hypertension in Pregnancy. Preeclamptic women were represented by 32 cases with gestational hypertension, 64 cases with mild PE and 18 cases with severe PE. To all these pregnant women was determined plasma levels of 8-iso-PG F2α from the beginning of the third trimester of pregnancy.

Results: We correlated plasma levels of 8-iso-PG F2α with the severity of preeclampsia, and we found that the highest mean value was present in severe PE. Making pANOVA test to compare mean values of 8-iso-PG F2α at each type of PE, we found a difference between severe PE and all other types of PE, with a highly significant statistical correlation, p<0.0001. 15 of 18 cases with severe PE, were represented by the early onset preeclampsia (<34 weeks), these cases having the highest plasma levels of 8-iso-PG F2α (p<0.05).

Conclusions: In PE we have an exacerbation of oxidative stress. There have been demonstrated statistically significant differences between most of the parameters evaluated during normal pregnancy and PE. The average level of 8-iso-PG F2α was significantly higher in women with preeclampsia than in normotensive pregnant women.

**P0500**

OUTCOMES OF PREGNANCY IN WOMEN WITH HEMATOLOGICAL MALIGNANCIES

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Objectives: In recent years treatment of some hematological malignancies (HM) has improved considerably due to more profound understanding of their pathogenesis, implementation of new medicines and optimization of accompanying therapies. For this reason the issues pertaining to the realization of reproductive function in this category of patients are becoming a very important subject.

Method: We analysed 163 pregnancies in 155 women with different HM. Among the observed women 27 suffered from Hodgkin lymphoma (HL), 15 - from Non-Hodgkin lymphoma (NHL), 67 - from myeloproliferative neoplasms (MPN), 46 - chronic myeloid leukemia (CML). The chemotherapy treatment during pregnancy was performed in 9 women with HL, in 10 - with NHL. Women with MPN were treated with interferon alpha, aspirin, anticoagulants. 9 women with CML were treated with interferon alpha, 2 - with hydroxycarbamide and 12 - with tyrosin kinase inhibitors. Among women who didn't receive special treatment were: 18 with LH, 5 with NHL and 14 with CML.

Results: The chemotherapy regimens during pregnancy were: ABVD in 8 women with HL, COPP in 1 case, women with NHL were treated with VACOP in 5 cases, R-EPOCH - in 3 and R-CHOP - in 2 cases. Pregnancy outcomes in women with HM were: 135 (82.9%) deliveries, 9 (5.5%) spontaneous abortions, 2 (1.2%) antenatal deaths and 17 (10.4%) artificial abortions mainly for medical reasons. Preterm labour occurred in 32 (23.7%) cases. Totally 141 children were born (6 twins). The infants born under chemotherapy exposure had no birth abnormalities.

Conclusions: Treatment of women with HM in pregnancy is possible and must be done according to the protocols containing drugs which are safe in pregnancy. Women suffering from CML must achieve stable deep molecular disease remission as well as patients with myeloproliferative neoplasms. There is no difference between the health of infants born by mothers in HM even after the special treatment and the newborns from general population.

**P0501**

DOES MASSIVE PROTEINURIA HAVE EFFECTS ON MATERNAL AND FETAL MORBIDITIES IN PREECLAMPSIA?

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Objectives: Preeclampsia, which is now updated to preeclampsia...
syndrome, is pregnancy-specific syndrome that affects every organ. Abnormal protein excretion, named proteinuria, was essential condition for diagnosis of preeclampsia, but overt proteinuria is now considered as one of abnormal multi-systemic symptoms. Moreover, severe proteinuria over 2 g/24h is no more indicator of severity. The aim of this study was to investigate that massive proteinuria in preeclampsia have the effects on maternal and fetal complications.

**Method:** From January 2012 to November 2014, we retrospectively reviewed the clinical records of 168 patients who were diagnosed as preeclampsia. We excluded the patients with previous renal diseases. We divided the preeclampsia patients into two groups by amount of proteinuria. Massive proteinuria group was defined by urine excretion exceeding 5000 mg/24h. We evaluated the clinical characteristics, maternal complications including abruptio placentae, pulmonary edema, acute renal failure, hepatic dysfunction, thrombocytopenia, serum albumin, retinal detachment and eclampsia, and neonatal complications including preterm delivery, intrauterine growth restriction (IUGR) and neonatal death. Outcomes were analyzed using Mann-whitney test or chi square test.

**Results:** There were no significant differences in clinical characteristics between two groups, except the gestational age at diagnosis (32.5±4.0 vs. 31.3±3.3 weeks, p=0.013). Among maternal complications, an increase of the serum creatinine level (0.66±0.48 vs. 0.76±0.16 mg/dL, p=0.0001), a decrease of the serum albumin level (2.88±0.38 vs. 2.55±0.29 g/dL, p=0.0001), and the prevalence of pulmonary edema (26.2 vs. 49.1%, p=0.005) were more significantly developed in preeclampsia patients with massive proteinuria. But, other maternal complications were not more frequently developed in massive proteinuria group. Moreover, fetal complications were also not significantly different between two groups.

**Conclusions:** Massive proteinuria alone does not have strong association with major complications in women with preeclampsia, such as eclampsia, abruptio placentae, acute renal failure, hepatic dysfunction, retinal detachment, IUGR and neonatal death. However, massive proteinuria might have effect on renal albumin excretion related morbidity such as pulmonary edema and low serum albumin. When considering the management of preeclampsia, we should not make hasty decisions based on severity of proteinuria alone.

**P0502**

**VERTEBRAL HAEAMANGIOMA IN PREGNANCY – 2 CASES**

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**Objectives:** Low back ache and paresthesia of lower limbs in pregnancy are often ignored as physiological, but need not be always. 2 cases where these innocent looking symptoms led to severe morbidity presented to highlight this.

**Method:** Case report of 2 cases which occurred in a span of one year at Amala Institute of Medical Sciences.

**Results:** Both term primi’s with low backache, strain while walking. Power right leg was 4/5, first one came back with inability to walk, urinary retention. There was sensory loss below mid thorax, bladder was atonic, power grade 2, B/L planter extensor. MRI S/o haemangioma. Planned for emergency LSCS, but developed leaking and progressed fast and delivered by vacuum. Underwent D4 laminectomy. In second case after 2wks numbness increased. There was sensory loss both feet, B/L planter extensor, grade 3 power both lower limbs. MRI – same. Emergency LSCS and microdecompression done. HPR – Cavernous haemangioma of vertebra. Both gradually improved.

**Conclusions:** Incidence of vertebral haemangiomas are 10–20% and only 1% is symptomatic. Pregnancy make them symptomatic by pressure effect and hormonal action. Begins as low backache/radiculard pain and leg paraesthesia which rapidly progress to paresis and urinary involvement. By that time its might cause irreversible damage. Hence early diagnosis is the keyword. Few extra minutes dedicated for patients with these type of symptoms might prove fruitful. If found out timely morbidity can be minimised. Miscellaneous symptoms in pregnancy can be mischievous at times.

**P0503**

**COMMUNITY HEALTH CARE WORKER KNOWLEDGE AND MANAGEMENT OF PRE-ECLAMPSIA IN INDIA**

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**Objectives:** This study aimed to describe the current state of knowledge regarding pre-eclampsia and eclampsia among community health care workers (Auxiliary Nurse Midwives, Accredited Social Health Activists, staff nurses) in India. Furthermore, this study will describe the treatment approaches by various cadres of community health workers for these conditions.

**Method:** Data were collected as part of a larger study aimed at assessing the feasibility of community-based treatment for pre-eclampsia using community health care workers. Eight focus group discussions were conducted in 2012–2013 in Karnataka State, India: four with staff nurses and Auxiliary Nurse Midwives and four with Accredited Social Health Activists. In addition, 12 self-administered questionnaires were distributed to Auxiliary Nurse Midwives and staff nurses. The purpose of this survey was to reveal health worker competence and self-efficacy in the identification and management of pre-eclampsia. Qualitative data were audio-recorded, transcribed verbatim and translated for thematic analysis using NVivo 10.

**Results:** Community health workers described the origin of hypertension and seizures in pregnancy. Psychological explanations of hypertension were most common: stress, tension, and fear. The most common explanation for eclampsia was not receiving a tetanus vaccination. These community health workers demonstrated a good grasp of the potential consequences of hypertension in pregnancy. According to Auxiliary Nurse Midwives and staff nurses, if hypertension was detected they encouraged rest, decreased salt intake, iron supplementation and tetanus vaccination. In addition, some staff nurses administered antihypertensives, MgSO4, or other anticonvulsants. All Auxiliary Nurse Midwives had awareness of MgSO4, but none had administered it themselves.

**Conclusions:** There is limited knowledge of pre-eclampsia among community health workers in India, some misconceptions are prominent. Pre-eclampsia was most commonly attributed to mental stress and tension. Responses from the self-administered questionnaire demonstrated varied levels of comprehension and confidence in screening and referring cases of pre-eclampsia and eclampsia.

**P0504**

**ADDITION OF LIGNOCAINE IN INTRAMUSCULAR INJECTION OF MAGNESIUM SULPHATE: DOES IT REDUCE PAIN IN WOMEN WITH SEVERE PREECLAMPSIA AND CONSCIOUS ECLAMPTIC WOMEN? A RANDOMIZED CONTROL TRIAL**

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**Objectives:** To assess the pain with visual analog scale in IM Magnesium Sulphate with Lignocaine versus IM Magnesium Sulphate alone.

**Method:** This is a Randomized control study done at labour room of teaching hospital attached to Dr KLE’s Prabhakar Kore Hospital and Obstetrics and Gynaecology, Belgaum, Karnataka, India.
Medical Research Centre. Sample size of 72, 36 in each group including loss for follow up whose pain is assessed using visual analog scale. Analysis of study is done by measuring mean score in both groups and severe degree of pain in each group which is compared using students unpaired “t” test.

Results: A total of 39 women were studied till now of which group A 18 and group B 21 cases completed the study. There was no significant change in pain score in both the groups.

Conclusions: Pain scoring is mainly dependent on individual perception of pain. Till now 39 cases were studied of which no significant difference in pain score was observed. However final analysis could be provided after completion of the study.

P0505
A CASE OF HEMORRHAGIC SHOCK COMPLICATED BY A COMPLETE HYDATIDIFORM MOLE DURING PREGNANCY INVOLVING A DD TWIN FETUS

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Objectives: We report our experience with an extremely rare triplet pregnancy involving a DD twin fetus and complete hydatidiform mole.

Method: Wanting a child, she underwent clomifene therapy administered by a previous physician. Under treatment, she became pregnant with a twin fetus. However, pregnancy checkup on week 13 day 3 revealed a tumor-like mass 10cm in diameter in the uterine cavity. A large mass with a cystiform ultrasonographic image was observed in the inferior portion of the uterine cavity, above which were 2 healthy placenta containing 2 fetuses. A triplet pregnancy with a DD twin fetus and complete hydatidiform mole was diagnosed on ultrasonography. Examinations on week 15 day 6 revealed high human chorionic gonadotropin (hCG) level at 1.39 million mIU/mL.

Results: On week 17 day 4, she was admitted to the hospital for management. On week 18 day 4, a large amount of genital bleeding occurred suddenly, and the patient went into hemorrhagic shock. High-dose infusion and blood transfusion were administered, but the excessive genital bleeding persisted and the shock state did not improve. Thus, intrauterine curettage was performed under emergency laparotomy. After hysterotomy, a large amount of hydatidiform mole was suctioned from the uterine cavity. Next, the 2 placenta and 2 fetuses were removed. The postoperative course was normal, and no secondary changes were observed on computed tomography or MRI.

Conclusions: Triplet pregnancies with a DD twin fetus and complete hydatidiform mole are rare but are reported to result in live births in about 10% of the time. In this case, a sudden major hemorrhage led to a shock state. The patient’s life was saved, but the pregnancy had to be terminated. Triplet pregnancies with a DD twin fetus and complete hydatidiform mole need to be managed carefully because of the risk of a major hemorrhage.

P0506
COMMUNITY HEALTH CARE WORKER KNOWLEDGE AND MANAGEMENT OF PRE-ECLAMPSIA IN MOZAMBIQUE

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Objectives: Two hundred and eighty nine thousand women died in 2013 from pregnancy related causes, the vast majority of these deaths were in Sub-Saharan Africa. Mozambique’s maternal mortality ratio is estimated at 480 deaths per 100,000 live births. Women in rural areas, with limited access to health facilities are at greatest risk. To reach these vulnerable women, in 1978 Mozambique introduced a community health worker programme known as Agentes Polivalentes Elementares. This study aimed to describe the current state of knowledge regarding pre-eclampsia and eclampsia by these community health workers in southern Mozambique.

Method: This mixed method study was conducted in Maputo and Gaza Provinces, in southern Mozambique in 2013. Eighty one self administered questionnaires were completed by community health workers. In addition, eight interviews were conducted with district medical officers, community health worker supervisors and gynaecologists and obstetricians, and five focus group discussions were convened with matrons. The data were translated from local language to Portuguese for analysis using NVivo 10.

Results: Ninety three percent of community health workers demonstrated an awareness of various pregnancy-related complications. Forty one percent were able to describe the signs and symptoms of hypertension. In cases of eclampsia, community health workers claimed to immediately refer pregnant women to the health facility. This quick action indicates their limited knowledge and skills to manage complications independently. Over half of the community health workers surveyed believed they could neither measure blood pressure nor proteinuria, and only 57% were confident in providing oral medications (47%) of any kind. Even fewer reported confidence in providing oral antihypertensive (14%) and injections (5%).

Conclusions: These results illustrate the limited knowledge of community health workers and the need to enhance their training to include curative activities including the management of pre-eclampsia. As community health workers are the first point of contact for primary care, particularly in rural areas where other services are difficult to access, these providers must be equipped with the knowledge to identify, stabilize, and refer obstetric emergencies.

P0507
CAUSES OF STILLBIRTH AT A LARGE UK TERTIARY REFERRAL CENTRE BEFORE AND AFTER THE INTRODUCTION ON NATIONAL GUIDANCE ON THE MANAGEMENT OF SMALL-FOR-GESTATIONAL-AGE FETUSES

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Objectives: Stillbirth is a devastating pregnancy outcome which affects all nations. Little progress has been made in the United Kingdom to reduce the stillbirth rate significantly, which was 4.7 per 1000 total births in 2013 in England and Wales. The Royal Victoria Infirmary (RVI) serves the city of Newcastle Upon Tyne in North East England and delivers 7600 babies annually The purpose of this study is to ascertain the rate and causes of stillbirth before and after the introduction of new national guidance on the diagnosis and management of the small-for-gestational-age (SGA) fetus at the RVI.

Method: All cases of stillbirth at the RVI are recorded via the risk management process. The case notes of all patients suffering stillbirth during the months June-July 2014, prior to the introduction of new SGA guidance, and December 2014-January 2015, after the introduction of the new guidance, were studied. Data for each case was recorded and recorded on a predesigned proforma and entered anonymously into an excel spreadsheet for analysis.

Results: During the months June and July 2014 there were 12 recorded still births. Following the introduction of new SGA guidelines still birth numbers decreased to 4. The causes for still birth in June-July was utero-placental insufficiency (n=7), placental abruption (n=3), musculoskeletal abnormality (n=1), Potter’s sequence (n=1) and fetal hydrops (n=1). All fetuses were classified as SGA at
Objectives: Intrauterine growth restriction (IUGR) is a major neonatal health issue associated with increased perinatal morbidity and mortality. The etiology is multifactorial as fetal growth depends on genetic, placental and maternal factors. Early diagnosis and timely intervention improves perinatal outcomes.

Method: This was a retrospective cohort study. All mothers antenatally diagnosed with IUGR delivering at SQUH during 24 to 37+6 weeks gestation from 1st April 2012 to 31 March 2014, formed the study group. Data was collected from the maternity register, neonatal register and electronic patient record system which included demographic data, BMI, previous IUGR babies, antenatal complications like hypertension, pre-eclampsia, diabetes, gestational age at delivery, mode of delivery and baby details. Exclusion criteria were multiple pregnancy.

Results: The total number of deliveries during the study period was 7657. After excluding multiple pregnancy, 564 women with IUGR fetuses were identified giving a prevalence of 7.37%. The mean maternal age was 28.3 years and BMI 28.3. Primigravidae formed 35.8%, Gravida 2-5 were 53.4% and > Gravida 5, 10.8%. Major maternal risk factors were haematological disorders 12.1%, diabetes 9.9%, hypertensive disorders of pregnancy 8%, placental and cord abnormalities 7.8%. Previous IUGR babies, antenatal complications like hypertension, pre-eclampsia, diabetes, gestational age at delivery, mode of delivery and baby details were used as a baseline for future studies.

Conclusions: The prevalence of IUGR in the current cohort of Omani women was 7.37%. This is comparable with other studies which report a prevalence of 6-10%. Haematological disorders, hypertensive disorders of pregnancy, diabetes, placental and cord anomalies were found to be major risk factors. The association of Cesarean sections at 12.4% needs further study.

This is the first study in Oman addressing this issue and would serve as a baseline for future studies.
Results: Pregnancy carried till 32 weeks with estimated fetal weight of 1.3 kg and AFI of 9. No evidence of chorioamnionitis or pretext labor so far. Plannin to terminate at 35–36 weeks. Delivered by elective Cesarian section a baby girl, 1.9 kg with good Apgar score without any complications. Both mother and baby had uneventful course in hospital and were discharged on 29th April 2015.

Conclusions: Conservative management and successful pregnancy feasible in extremity preterm PROM with recurrent miscarriage with in situ cervicla Macdonald cercele.

P0511
GIANT PLACENTAL CHORIOANGIOMA – A CASE REPORT AND LITERATURE REVIEW
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Objectives: A case report of a pregnancy complicated by a large chorioangioma detected in third trimester will be demonstrated together with images of placental histopathology and ultrasound images. A review of the current available literature on prenatal diagnosis and management of placental chorioangioma will also be conducted.

Method: Case report: We illustrate a 32 year old South Asian primigravida from a consanguineous relationship with diet controlled gestational diabetes and hypothyroidism. Antenatal diagnosis of a large 9.7cm placental chorioangioma was made at 32+4 weeks gestation. The patient was monitored closely with Doppler ultrasound weekly and thrice weekly CTG assessment. At 35+1 weeks, ultrasound examination showed severe polyhydramnios (AFI of 40cm) and raised MCA PSV of 75cm/s which is in the transfusion Zone A. Four days later, she was diagnosed with fetal death in utero and subsequently delivered a 2455g female stillborn.

Results: We report a large placental chorioangioma (9.7cm) complicated by polyhydramnios and raised peak systolic velocity in the middle cerebral artery resulting in fetal death in utero.

Conclusions: Large placental chorioangiomas (>5cm) occur in one in 9000 to one in 50000 pregnancies [1]. It is associated with serious pregnancy complications such as polyhydramnios, fetal anemia (secondary to hemolysis or arteriovenous shunting), hydrops, fetal growth restriction, preterm delivery and fetal death. If complications develop late in pregnancy, planned delivery could be considered, depending on fetal maturity status and local neonatal facilities [2].

References:

P0512
THE PROGNOSIS OF MONOCHORIONIC CO-TWIN AFTER SINGLE INTRAUTERINE FETAL DEMISE
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Objectives: To analyze the surviving monochorionic co-twin after single intrauterine fetal demise (sIUFD).

Method: Retrospectively analyzed the twin pregnancy cases admitted in Peking University Third Hospital between Jan 2008 and Feb 2015. We recorded perinatal characteristics, neuroimage in co-twin, and followed up the neonatal outcome.

Results: 47 cases were found. Median gestational age at sIUFD was 27 weeks. Median interval between sIUFD and birth was 3.3 weeks. Median gestational age at birth was 34.2 weeks. The likely cause of sIUFD were: MCMA (2/47), sIUGR (11/47), TTTS (11/47) or TTTS complicated with sIUGR (3/47). In the sIUGR pregnancies, sIUFD occurred all in the growth-restricted fetus. In the TTTS pregnancies, sIUFD occurred all in donors. Among the live births (41/47), fetal cranial ultrasound showed that 7 neonatus got intraventricular hemorrhage. All of the 34 survivors whose follow up from 1 to 44 months, didn’t found cerebral palsy.

Conclusions: sIUFD always occurred in the growth-restricted fetus and the donor-twins. There was nobody had cerebral palsy in the survivors.

P0513
HEALTH CARE PROVIDER KNOWLEDGE AND REGULAR MANAGEMENT OF PRE-ECLAMPSIA IN PAKISTAN
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Objectives: The maternal mortality ratio is estimated to be 93–320 per 100,000 live births in Pakistan. Eclampsia is responsible for every tenth maternal death despite the fact that management of this condition is inexpensive and the medications have been available for decades. There are widespread health care shortages in low and middle-income countries combined with limited formal training in high-risk obstetrics. Hence, this study aimed to explore the knowledge of various cadres of health care providers regarding aetiology, diagnosis and treatment of pre-eclampsia and eclampsia in Pakistan.

Method: This qualitative study was conducted in Hyderabad and Matiari Districts in Sindh Province, Pakistan in 2012. Focus group discussions and interviews were conducted with community health care providers, which included Lady Health Workers and their supervisors, traditional birth attendants and facility-based doctors. In total, ten focus groups and twenty-six interviews were held. Data were transcribed verbatim and analyzed in Sindhi. NVivo 10 was used for analysis and to identify emerging themes and sub-themes.

Results: Health care providers had longstanding experience providing care for pregnant women; all but two had been working in the field for at least ten years. According to community health care providers, the origin of pre-eclampsia was due to the stresses of daily life, excessive strenuous labour, and short birth spacing. All health care providers, except traditional birth attendants, correctly identified the signs, symptoms and complications of pre-eclampsia. Community providers referred women suspected of pre-eclampsia and eclampsia to tertiary facilities. Only doctors were aware of MgSO4 as the drug of choice for eclampsia, nevertheless, fears regarding the use of MgSO4 persisted.

Conclusions: This study found several gaps in knowledge regarding aetiology, diagnosis and treatment of pre-eclampsia among the various cadres of health care providers. Findings suggest that limited exposure to women with pre-eclampsia, the lack of refresher training, and no written guidelines for the management of pre-eclampsia are important factors leading to inadequate knowledge. It is suggested that regular health worker training include management of pre-eclampsia and that management protocols are made available at all health facilities.

P0514
PROGNOSTIC SIGNIFICANCE OF PLATELET TO LYMPHOCYTE RATIO IN PREECLAMPSIA
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Objectives: The aim of this study is to evaluate the clinical usefulness of platelet to lymphocyte ratio (PLR) in preeclampsia and compare with various maternal hematological markers as a diagnostic marker of preeclampsia.
Method: 180 healthy pregnant women and 181 pregnant women with preeclampsia who delivered in Gangnam Severance Hospital from January 2007 to December 2013 were evaluated, retrospectively. We analyzed platelet to lymphocyte ratio (PLR), neutrophil lymphocyte ratio (NLR), platelet distribution width (PDW), mean platelet volume (MPV), and other serum markers. 

Results: The levels of platelet (p < 0.001), lymphocyte (p < 0.001), PDW (p = 0.02), MPV (p < 0.001), and PLR (p < 0.001) in preeclampsia group were significantly different from those of normal pregnancy group. There was a significant association between the decreased PLR and severity of preeclampsia (p < 0.001). Another inflammatory marker, NLR, showed no significant difference when compared to normal group values (p = 0.797). In ROC curve analysis, PLR was superior to PDW, MPV, and NLR as a predictive value in women with preeclampsia (Area under the curve = 0.807 vs. 0.763, 0.714, 0.650).

Conclusions: Compare to other markers, PLR is the best predictive marker of preeclampsia. The PLR is inexpensive and easily accessible biomarker. In this study, we identified the possibility of PLR as a useful diagnostic marker of preeclampsia.

P0515
OBSTETRICAL MANAGEMENT OF PREGNANCY IN PATIENTS WITH KLIPPEL-TRENAUNAY-SYNDEME
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Objectives: To present the obstetrical management of two patients with diagnosis of Klippel-Trenaunay-Weber (KTW) syndrome; as well as their evolution throughout gestation and puerperium. KTW is a rare congenital disorder that consists of vascular-cutaneous nevi, varicose veins, venous malformations, soft and hard-tissue hypertrophy, all of which affects one or more limbs. The morbidity of this disease is associated with the presence of vascular abnormalities. In this subset of patients, pregnancy is not encouraged because it places the woman in a high obstetrical risk and potential complications. There are few cases reported this disease associated with gestation.

Method: Consultation and revision of medical records of these two patients with the diagnosis of Klippel-Trenaunay-Weber (KTW) syndrome; both of which received close follow up during prenatal care and anticoagulation at prophylactic doses additional to aspirin during gestation and puerperium. Obstetrical management in both cases resulted in delivery by means of cesarean section. Revisions and analysis of both medical records was undertaken with a thorough literature-associated revision.

Results: Case 1) 19-year-old woman with KTW syndrome and 38.5-week pregnancy complicated with gestational diabetes mellitus and preeclampsia. C-section was performed (male – 3340 gr, Apgar 8/9). Case 2) 23-year-old primigravid, with KTW, 37-week gestation and type 1 intrauterine growth restriction. Anticoagulation with 100mg daily aspirin and 20 mg of subcutaneous enoxaparin, both started during the second trimester. A C-section was performed because of a breech presentation (female – 2430 gr, Apgar 8/9 respectively. During surgery of both patients multiple uterine tortuous varicose veins where encountered. These two patients course an uneventful puerperium.

Conclusions: The expected physiological changes undertaken during gestation can exacerbate the complications of this syndrome. There is doubt of the benefit of anticoagulation therapy either with aspirin or low-molecular-weight heparins in this subset of patients. The most commonly reported complication in these patients is coagulopathy including deep vein thrombosis. There is currently no evidence to establish C-section as a method of delivery. During puerperium distinct recommendations point toward profilactic anticoagulation therapy. As of date, no other cases are reported of KTW syndrome in a pregnant woman with either gestational diabetes mellitus, preeclampsia or intrauterine growth restriction.

P0516
INVESTIGATION OF FACTORS DETERMINING THE PROGNOSIS OF EXTREMELY PRETERM INFANTS

Objectives: Preterm birth is one of the most serious obstetrical complications, which may be caused by spontaneous preterm labor, rupture of the membrane, pregnancy induced hypertension, or other maternal issues. We have investigated the causes that affect the prognosis of the extremely preterm neonates.

Method: We have reviewed the extremely preterm deliveries in a single tertiary center. Medical records were reviewed retrospectively. Ninety-one pregnancies those completed before 26 weeks from 2009 to 2013 were reviewed. One intrauterine death, one fetal severe anomaly, and ten multiple pregnancies were found and excluded from the study.

Results: Among seventy-nine pregnancies, eight were complicated with hypertension (GHS) and seventy-one were complicated by spontaneous labor or rupture of membrane (SLs). Seven of eight neonates among GHS were survived with over eight point in Apgar score of five minutes (APS). Among the SLs, only fifty of seventy-one neonates were over eight in APS and three of them had died. Comparing birth weight, GHS were significantly smaller than SLs (p < 0.001).

Conclusions: Although gestational hypertension may affect to fetal growth even in the extremely preterm period, the neonates were born in significantly small body weight possibly being expected better prognosis than spontaneous progression of delivery.

P0517
EMERGENCY PERIPARTUM HYSTERECTOMY AND MANAGEMENT OF PLACENTA ACCRETA IN A REGIONAL HOSPITAL IN AUSTRALIA
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Objectives: Worldwide, there is a rising incidence of placenta accreta (PA) and post partum haemorrhage (PPH). The absence of a fail-safe technique to diagnose PA, or for predicting which women may require an emergency peripartum hysterectomy (EHP) complicates planning the management of these patients in both tertiary and regional centres. The aim of this study was to review the recent incidence, management and outcomes of PA and EHP in an Australian regional hospital, and to determine if women with a suspected antenatal diagnosis of placenta accreta could be managed safely in this setting.

Method: A retrospective chart review of all patients diagnosed as having a morbidly adherent placenta or who underwent EHP at Nambour General Hospital between 2008 and 2013 was performed to review the antenatal history, diagnosis, indications for and surgical procedures performed, the outcomes and complications of care, and neonatal outcomes. A database was collated using Microsoft Excel™ and descriptive statistics performed using SPSS™.

Results: There were 32 cases of clinically and histologically diagnosed PA (0.2/100 deliveries). 3 cases of PA were diagnosed antenatally (9%). 4 patients underwent EHP, 2 for PA, 2 for intractable PPH. 21% of cases were elective caesarean sections. 65% of patients had previous uterine surgery. Average estimated blood loss (EBL) was 1840mL (range 200–7300mL). 40% of patients received a blood transfusion, 25% required large volume transfusion (>4 units PRBC), 6% were admitted to intensive care (ICU). Results have shown similar
rates of EBL and transfusion, with low complication, ICU admission and reoperation rates compared with that previously reported from tertiary centres.

**Conclusions:** Given the inaccuracy of diagnosing PA antenatally, the reluctance of women to travel long distances to a tertiary centre, where they may have to wait several weeks before delivery, and the absence of gynaecological oncologists in a regional hospital setting, it is essential for such hospitals to have a realistic management plan in place for dealing with these women, and for generalist Obstetrician-Gynaecologists working in regional hospitals to have adequate surgical training to enable them to perform EPH if required.

**P0518**

**MATERNAL AND FOETAL OUTCOMES AMONG SICKLE CELL DISEASE PATIENTS IN LAGOS NIGERIA**

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**Objectives:** The increased understanding of basic pathology and management of sickle cell diseases has resulted in improved outcome. The effect of the improved management on the outcome of pregnancy complicated by sickle cell diseases remains controversial and inconclusive. The maternal and foetal outcome of pregnancies complicated by sickle cell disease in a city with a large population of women with the disease is reviewed.

**Method:** Information on maternal and neonatal events were obtained from the case records of women whose pregnancy were complicated by sickle cell diseases in a dedicated maternity hospital in Lagos over a 12 month period. Analysis was with SPSS for windows version 19.0.

**Results:** Of the 9,346 pregnant women managed over the study period, 45 (0.48%) were complicated by SCD. The average age of the patient was 26.30 years (range 19–37), while the average birth weight was 2.50kg. 42 (93.3%) of the patients had blood transfusion. Bone pain crisis was the commonest complication at 44.44% (20). The genotype of the patients, (HbSS, HbSC), did not significantly influence need for blood transfusion (p=0.017). C/S rate was 82.22% (n=37). Mode of delivery did not significantly influence need for transfusion. (p=0.083). The still birth delivery rate was 8.88% (n=4). Maternal mortality ratio is 11,111 per 100,000 live births.

**Conclusions:** Sickle cell disease is a high risk pregnancy as reflected by the high C/S rate and high maternal mortality ratio. This is about twenty times the National average. The need for blood transfusion is high in all the variants of the disease. There was no difference in the mode of delivery among the variants of the disease. Advocacy effort to promote pre-conceptional clinic attendance to optimize this category of patients could reduce the need for blood transfusion and risk of dying in pregnancy.

**P0519**

**SUCCESSFUL PREGNANCY OUTCOME IN THE "SHORTEST ACHONDROPLASTIC DWARF"**

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**Objectives:** Reptoting an interesting case of pregnancy in the shortest Achondroplastic dwarf with successful maternal and foetal outcome.

**Results:** Cases of Achondroplasia are rarely seen. It is very rare to come across such a case of pregnancy with successful feto-maternal outcome. Apart from her abnormal bony architecture there were major problems encountered during pregnancy (Early onset preecclampsia & severe IUGR) and delivery (Anaesthetic & surgical).

**Conclusions:** There is pressing need for adequate counseling of the couple in the pre pregnancy as well as during the antenatal period. The biology of FGFR3 and the molecular and cellular consequences of the Achondroplasia mutation are being elucidated, providing a more complete understanding of the disorder and a basis for future treatments targeted directly at relevant pathogenetic pathways. Most of the serious complications can be modified favorably or prevented by anticipation and early treatment. Possible future treatments include chemical inhibition of receptor signalling, antibody blockade of receptor activation, and alteration of pathways that modulate the downstream propagation of FGFR3 signals.

**P0520**

**THROMBOPHILIA AS A RISK FACTOR FOR NONPROGRESSIVE PREGNANCY AND ANTENATAL FETAL DEATH**

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**Objectives:** Elaboration of pathogenetic prophylaxis of antenatal fetal death in patients with genetic and acquired forms of thrombophilia.

**Method:** 64 women with fetal loss syndrome: I group: 38 patients have antenatal fetal death episode, II group: 26 women has non-progressive pregnancy before 12 weeks of pregnancy. Control group – 50 women with uncomplicated pregnancy and 50 nonpregnant women.

**Results:** In I group multigenetic thrombophilia found in 28 (73.6%), II group – 19 (73.1%), 4 (8%) control and in nonpregnant 5 (10%). Anticoagulation therapy by LMWH prescribed to all patients in I and II groups.

In 64 pregnancies term labor was 57 (89.1%) and 7 (10.9%) antenatal death. 19 (29.7%) was normal delivery and in 9 (30%) – caesarean section. In II group patients term labor was in 25 (83.3%) cases: in 10 (40%) cases was normal delivery and in 15 (60%) – caesarean section. Because of impairment of placental circulation for 4 (6.25%) patients have been performed preterm urgent caesarean section.

**Conclusions:** APA circulation and genetic thrombophilia detection in patient with nonprogressive pregnancy and antenatal fetal death allow to prescribe them pathogenetic prophylaxis with high effectiveness. Anticoagulation therapy should began in fertile cycle and follow during pregnancy and it's allow in 89.1% cases to prevent recurrent fetal loss and thrombophilia associated complication of pregnancy.

**P0521**

**THE ROLE OF ANTIPHOSPHOLIPID ANTIBODIES CIRCULATION IN PATIENTS WITH FETAL LOSS SYNDROME IN THE ANAMNESIS**

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**Objectives:** To estimate patogenetic value of antiphospholipid antibodies circulation in pregnant women with fetal loss syndrome.

**Method:** 45 women with fetal loss syndrome in the anamnesis have antenatal fetal death episode, II group: 26 women has non-progressive pregnancy before 12 weeks of pregnancy.

**Results:** Circulation of aCL IgG/IgM has been detected in 11 (27.5%) patients; LA circulation – 29 (72.5%), 12 (41%) – proteins-cofactors of APA antibodies; Coagulation discordances: 27 (67.5%) – DIC-syndrome markers (D-dimer, TAT); 31 (77.5%) – hyper- and hypogoagulation; 78% – platelets hyperaggregation; 3 (7.5%) – consumable thrombopaenia; 14 (35%) – protein C deficiency.

Anticoagulants (LMWH) prescribed to all patients. Impairment of placental circulation have antenatal fetal death episode, II group: 14 (35%) patients: IA stage 9 (22.5%); IB – 1 (2.5%); IIA 3 (7.5%), IIB 1 (2.5%). Improvement of placental circulation observed in all cases except 1 patient IIB stage.

44 (96.77%) delivered alive babies. Apgar scale was 3 (6.67%) 5–7
points, another has 7–8 points. In one case we diagnosed intranatal fetal death.

**Conclusions:** Anticoagulation therapy should began in fertile cycle and follow during pregnancy and it’s allow in 97.7% cases to prevent recurrent fetal loss and thrombophilia associated complication of pregnancy.

**P0522**

**PREGNANCY OUTCOME OF ISOLATED CASES OF INTER-TWIN FETAL WEIGHT DISCORDANCE ESTIMATED BY ANTENATAL ULTRASOUND**


**Objectives:** To investigate the pregnancy outcome of isolated cases of inter-twin fetal weight discordance estimated by antenatal ultrasound.

**Method:** This is a retrospective cohort study of women with twin pregnancy delivered at or beyond 35 weeks of gestation in Samsung Medical Center from January 2007 to December 2013. Estimated fetal weight (EFW) discordance was defined as a difference of more than 20% in EFW between a twin pair calculated as 100 × (EFW of the larger twin − EFW of the smaller twin)/EFW of the larger twin. Complicated pregnancies such as preterm labor, premature rupture of membranes, placenta previa, preeclampsia, diabetes, twin-to-twin transfusion syndrome, monoamniotic twin and congenital fetal anomaly were excluded.

**Results:** Among a total of 253 twin pregnancies, 32 cases were identified as isolated EFW discordant twins. The sensitivity, specificity, positive predictive value and negative predictive value of EFW discordance in predicting the birth weight discordance was 65.6%, 89.1%, 46.7% and 94.7%, respectively. Composite neonatal morbidity, defined as having more than one of respiratory distress syndrome, admission to neonatal intensive care unit and neonatal death, decreased as gestational age at delivery increased (60.6%, 16.7%, 11.1% and 0% at 35, 36, 37 and 38 weeks respectively, P < 0.01 by linear-by-linear association). Fetal death occurred in 1 case (3.1%).

**Conclusions:** The results of our study show that the sensitivity of EFW discordance in predicting the birth weight discordance was low, and neonatal adverse outcome was significantly associated with gestational age at delivery. Therefore, neonatal risk of elective early delivery for isolated discordant twin diagnosed by ultrasound should be balanced with the risk of fetal death.

**P0523**

**APA PROFILE IN WOMEN WITH FETAL LOSS SYNDROME**

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**Objectives:** As it is known pregnancy loss is a marker and the most striking manifestation of APS. We wanted to evaluate the importance of different antiphospholipid antibodies, especially antibodies to annexin V and anti-prothrombin antibodies that are not included in diagnostic criteria of APS.

**Method:** We have investigated anticardiolipin, antiannexin V, anti-b2-GPI, antiprothrombin and anti-b2-GPI antibodies using ELISA method and LA circulation in 146 women with history of recurrent miscarriage and 60 age matched healthy pregnant women. The study included 74 first trimester pregnant women (I group) and 72 second and third trimesters women (II group) who had a history of unexplained recurrent miscarriage.

**Results:** 34.2% women were diagnosed APS. LA circulation – 14%, anticardiolipin – 31.5%, anti-annexin V – 31%, anti-b2-GPI – 22.6%, anti-prothrombin – 10.3%. Combination of LA, anti-b2-GPI, anticardiolipin was in 12.1%, LA, anti-annexin V and anti-b2-GPI – in 13.7%, anti-prothrombin and anti-b2-GPI – in 8.9%, LA, annexin V and b2-GPI – in 7.9% and was associated with more severe complications. In women treated before the pregnancy early miscarriage in the next pregnancy occurred in 1.6%. In II group the frequency of obstetric complications was higher compared with women of I group (p < 0.05) but still significantly lower compared their history without therapy.

**Conclusions:** In spite of the fact that antibodies to annexin V are not included to the APS criteria, their level prevailed in the women with history of fetal loss. We consider it as a risk factor of recurrent fetal loss. Also the combination of various antibodies at the same time in women with more severe obstetric history demonstrates the diagnostic value of the determination of different groups of APA.

**P0524**

**PREVALENCE OF LOW BIRTH WEIGHT BABIES AMONG THE OBSTETRIC POPULATION FROM MALAYSIAN TERTIARY HOSPITALS: A CROSS SECTIONAL STUDY FROM THE NATIONAL OBSTETRICS REGISTRY, MALAYSIA**

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**Objectives:** Birth weight (BW) is an important determinant of child survival. Low birth weight (LBW) was defined by WHO as BW <2500g. Very low birth weight (VLBW) is weight <1500g and extremely low birth weight (ELBW) is BW <1000g. Global data on LBW shows that it is highest in South Asian region. This study was to look at prevalence and risk factors for LBW among the obstetric population in Malaysian tertiary hospitals and what possible measures are to be taken to reduce the incidence of LBW.

**Method:** This is a retrospective cohort study using data from the National Obstetrics Registry (NOR). NOR is a clinical data base that compiles obstetric data from 14 tertiary hospitals in Peninsular Malaysia and East Malaysia. All babies with BW <2500g were included. The study period was from 1st January 2011 to 31st Dec 2012. Variables analysed were maternal demographic characters, income as well as clinical variables analysed. The analysis was performed using STATA statistical software. Descriptive statistics was obtained initially followed by multinomial regression to explore odd ratio of risk of LBW.

**Results:** There were a total of 260,959 deliveries captured in NOR during the study period. 82.1% (n=214,344) babies weighed more than 2500g. The prevalence of LBW was 16.6% (n=43,402) of which 6.7% (n=2889) were VLBW and 5.6% (n=2433) were having ELBW. Women aged 10–19 years had a higher risk of LBW (Crude odd ratio (OR) 1.3% (n=3313) were excluded from study due to unknown BW. Women aged 10–19 years had a higher risk of LBW (Crude odd ratio (OR) 1.72 (1.64, 1.80) P < 0.001) VLBW (OR 2.12 (1.85, 2.44) P < 0.001) and ELBW (OR 1.82 (1.55, 2.14) P < 0.001). Other factors that contributed to LBW were ethnicity, primigravida, income, BMI, smoking, marital status, anaemia, preeclampsia, prematurity and IUGR.

**Conclusions:** LBW indirectly measures the health of mother and child. Risk of Caesarean Section as mode of delivery was high in this study. We also see first time mothers with LBW babies. Educating women on importance of antenatal care, advice on quitting smoking and educating adolescents to delay child bearing by knowing their reproductive and sexual rights is an important measure to minimize LBW. Efforts must be made to improve maternal nutritional status particularly anaemia and management of high risk pregnancies. There were insufficient numbers to conclude if multiple pregnancies, alcohol and drug abuse as variables leading to LBW.
P0525
OUTPATIENT VERSUS HOSPITAL MANAGEMENT AFTER 3 DAYS OF LATENCY IN PPROM

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Objectives: To evaluate whether outpatient management after initial admission in women with pPROM > 24 weeks is a safe alternative for prolonged hospital stay.

Method: Retrospective cohort study including all women admitted between January 1, 2007 and June 30, 2014 with a diagnosis of preterm prelabour rupture of membranes (pPROM) between 24 and 36 days. All women were admitted to the hospital for at least 7 days if undelivered. Erythromycin was administered during this period. Prior to 34 weeks pulmonary maturation was enhanced by corticoids. Starting from January 2011 outpatient follow-up was offered to all undelivered women after 7 days. Pregnancy complications and perinatal outcome were analyzed. Statistical analyses were realized with SPSS 20 for windows.

Results: Of 138 women undelivered after 72 h, 36.9% (n=51) were managed as outpatient. Characteristics of both groups were comparable. Latency time until delivery (p=0.001) and gestational age at delivery were higher in the outpatient group (p=0.004). More chorioamnionitis was found in hospital group (p=0.006). Combined perinatal morbidity was significantly higher in the hospital group, (p=0.01). A subgroup analysis of women, undelivered after 7 days of hospital admission (n=88) confirmed that outpatient management was associated with a significantly longer latency period, higher gestational age at birth and shorter neonatal hospital stay.

Conclusions: Outpatient management after initial admission is associated with a longer latency period until delivery and better perinatal outcome than prolonged hospital stay. Prospective studies are indicated in order to reduce selection bias and better define criteria for the selection of candidates who benefit from this approach.

P0526
IDENTIFICATION OF CLINICAL COMORBIDITIES PREVALENCE IN OUTPATIENT CARE HIGH RISK PREGNANCY


Objectives: The purpose of this study was to evaluate the profile of women who were in the outpatient clinic at High Risk to identify factors that increase the risk of these pregnancy pregnant, grouping effects and comorbidities.

Method: It is a primary, cross-sectional, descriptive and retrospective study performed at the Hospital of Samuel Libanious (HCSL) Pouso Alegre, Minas Gerais, Brazil where 100 records assisted in the clinic High Risk of HCSL pregnant women were studied in the period October 2012 to August 2014. Age, parity (number of pregnancies, births, abortions, neonatal deaths, stillbirths), obstetric history. Patients were identified through the record book of the prenatal care of high-risk HCSL. The following variables were evaluated obstetric complications in previous pregnancies), gestational age at onset of care in the ambulatory high-risk, intercurrent diseases and pathologies in the current pregnancy.

Results: 40 due to maternal age, 19 for diabetes (diabetes mellitus 10 and 9 gestational diabetes), 25 were by presenting hypertension, 13 obesity, 12 per past obstetric pathology, 9 per twin pregnancy, fetal evil 4 for training, 3 for hypothyroidism, 4 thrombosis, 4 by HIV, 4 by depression. Other diseases found were. 7 patients had risk age (under 18 years and 35 years or more) and diabetes (mellitus and gestational). Among obese (BMI> 30), 3 had diabetes. Among the patients with an age of risk, 15 had hypertension and 6 also were obese.

Conclusions: We conclude that population attending at the high-risk pregnancy of HCSL, period January to July 2007, primarily consists of patients with hypertensive disorders (25%), maternal age risk (40%) and diabetes mellitus (19%). It was also shown a relationship between maternal age and hypertension and between obesity and other coomorbididades as Diabetes. Considering the importance of high-risk pregnancies in the binomial health-maternal-fetal disease, early identification of these pregnancies is needed, so that it is possible to provide adequate medical care and obtain satisfactory results, since the deaths resulting from complications of pregnancy are at their most preventable.

P0527
A COMPARISON OF THE ETIOLOGY OF EARLY VERSUS LATE INTRAUTERINE FETAL DEATH FROM SINGLE CENTER

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Objectives: To compare aetiologies in early versus late Intrauterine fetal death (IUFD).

Method: A retrospective cohort study of all cases of intrauterine fetal death presented to a university hospital from 2006 to 2013. Study population was based according to WHO as a baby born with no signs of life at or after 20 weeks of gestation. Cases were classified in to two groups early IUFD (20–33 weeks) and late IUFD (34 weeks and above).

Results: Total number of births during the study period was 26539 births including 304 cases (1.14%) of IUFD. 24 cases were excluded from analysis, due to missing records or being incorrectly coded. The cases included 130 cases (46.4%) in group 1 (from 20 weeks to 33 weeks) and 150 cases (53.6%) in group 2 (34 weeks and more). There were no significant differences identified in the aetiology of IUFD such as obstetrical complications, maternal medical diseases, fetal congenital anomalies, umbilical cord abnormalities, and maternal/fetal infections between the 2 groups except for IUGR and GDM which were significantly higher in late IUFD group.

Conclusions: Intrauterine fetal death is not a rare incidence. Intrauterine growth restriction and GDM are associated with late IUFD in comparison to early IUFD.

P0528
WHAT FACTORS PREDICT PROLONGED NEONATAL LENGTH OF STAY IN TERM BABIES?

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Objectives: To determine the maternal demographic, obstetrical and intrapartum factors that may predict prolonged neonatal length of stay (LOS) with term delivery.

Method: We obtained the obstetrical electronic records of over 8,000 term (> 37 weeks) singleton neonates delivered in 2013 in our health system and analyzed the neonatal LOS using Chi-square, student T test and regression analysis as indicated.

Results: There were 6791 valid neonatal LOS: the mean SD was 1.05 (0.21), and the median was 1.0 day. Prolonged LOS defined as > 4 days occurred in 319 (4%). Prolonged neonatal LOS was significantly positively associated with maternal BMI, drug abuse, smoking, diabetes, hypertensive disorders, chorioamnionitis, antepartum hemorrhage, second stage of labor duration and cesarean section, whilst being married and Asian ethnicity seem to be protective. Intrapartum treatment (antibiotics, antihypertensives and magnesium sulfate), umbilical blood gases and Apgar scores also showed significant correlations with prolonged neonatal LOS.

Conclusions: Prenatal and medical complications, especially those requiring treatment during labor, seem to be associated with neon-
tal compromise, which leads to prolonged hospitalization of the newborn.

**P0529**
**PROFILES OF INTRA UTERINE FETAL DEATH IN A NIGERIAN TERTIARY HOSPITAL**

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**Objectives:** To determine the prevalence, causes and recurrent rate of intra uterine fetal death (IUFD).

**Method:** This retrospective study was conducted at department of Obstetrics and Gynecology, Nnamdi Azikiwe University Teaching Hospital, Nnewi, south-east Nigeria over a five-year period. In this study death of the fetus in-utero after 28 weeks of pregnancy was taken and death of the fetus during labour was excluded.

**Results:** During the time period the total number of deliveries was 6239 and the total number of patients with IUFD was 124 (1.99%). Majority (95.2%) occurred at term while 4.8% occurred at preterm gestation. The peak incidence was seen among women 26–30 years of age with most of them being primiparous (29.8%). Among 124 cases there were 122 singleton pregnancies (98.4%), while 2 (1.6%) were multiple with both fetuses dead. In majority of cases, the cause was unexplained (32.3%), followed by abruptio placenta (11.3%), preeclampsia (5.6%), and chorioamnionitis (4.0%). Twenty two women had previous IUFD, given a recurrent rate of 17.7%.

**Conclusions:** The prevalence of IUFD was high and majority are unexplained with high predisposition of occurrence at term gestation. The recurrent rate was 17.7%. There is need to strategize means of preventing and identifying danger signs of imminent IUFD during antenatal period.

**P0530**
**ADOLESCENT PREGNANCY AND OBSTETRIC COMPLICATIONS IN NORTHERN GREECE**

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**Objectives:** The aim of this study is to report on pregnancy rate and obstetrical complications in adolescent women at two University Hospitals in Northern Greece.

**Method:** A ten year (2004–2014) retrospective study of medical records from both departments was conducted. During the latter, socioeconomic characteristics, type of delivery, and complications, such as first trimester miscarriages, preterm labor and preeclampsia were recorded.

**Results:** Adolescent pregnancies (729) accounted for 5.5% of all deliveries (12800), with an average maternal age of 15.2 years (range 14–17). 161 pregnancies were managed in Thessaloniki's department and 569 in Thrace's. The difference may be due to the significant proportion of Muslims and immigrants in Thrace's population. Moreover, 168 patients (23%) had first trimester complications, including miscarriages (96.1%), three hydatidiform mole pregnancies and two with fetal congenital malformations. Vaginal delivery was accomplished in 441 (60.5%) whereas Cesarean delivery in 288 (39.5%). The rate of preterm birth in teen mothers was 35.7% (260) and hypertension was evident in 11% (80).

**Conclusions:** The incidence of teenage pregnancies depends on socioeconomic factors. Teenage pregnancies are considered as high risk for obstetrical complications and are often unplanned with inadequate prenatal care. Prevention of adolescent pregnancy, by means of effective contraception programs and sexual education would decrease its frequency. Intensive care of pregnant adolescents could further reduce pregnancy complications.

**P0531**
**VALIDATION OF REGISTER-BASED INFORMATION ON SPONTANEOUS SECOND TRIMESTER DELIVERIES**

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**Objectives:** To validate the diagnoses of spontaneous second trimester deliveries (16+0 to 27+6 weeks) recorded as miscarriages in the Danish National Patient Registry (the Patient Registry) or spontaneous deliveries in the Danish Medical Birth Registry (the Birth Registry).

**Method:** In a cohort of 2908 women with a first spontaneous delivery in the second trimester and a subsequent delivery in 1997–2012, we reviewed a representative sample of 688 medical records. We searched for clinically important information and calculated positive predictive values of the registry diagnoses stratified by type of registry, as well as sensitivity, specificity, and positive predictive values of risk factors, obstetric complications and prophylactic interventions.

**Results:** Spontaneous preterm delivery in the second trimester was confirmed in 621/688 patients (90.3%). There was a good agreement (kappa > 0.6) between medical records and the registries regarding risk factors, pregnancy complications and prophylactic procedures of cerclage. However, a correct diagnosis of cervical insufficiency had a sensitivity of 45% and a low kappa value (37%). Some important maternal, fetal and placental conditions were only available in the birth registry, whereas information such as antepartum fetal death, infections, clinical presentation and cervical length at admission were missing in both registries.

**Conclusions:** The two medical registries together identify 90% of spontaneous second trimester deliveries. Register-based information on presumed etiology and relevant fetal and maternal variables need to be improved. We suggest that all pregnancies ending after a viable fetus has been seen by ultrasound at the start of second trimester are included in the Birth Registry and described by appropriate variables.

**Human Sexuality**

**P0532**
**DETERMINANTS OF COITAL SEXUAL FREQUENCY AND ADAPTATIONS DURING PREGNANCY IN A SOUTH-WESTERN NIGERIAN TOWN**

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**Objectives:** To determine the trends in the frequency of coital intercourse in pregnancy, the factors responsible for these changes and adaptations by couples in Sagamu, Southwestern Nigeria.

**Method:** This cross-sectional survey, was conducted among 364 pregnant antenatal clinic attendees, selected by simple random sampling at the Olabisi Onabanjo University Teaching Hospital, Sagamu. A structured interviewee-administered modification of the “Pregnancy and Sexuality Questionnaire” was used to obtain data. Data obtained was analysed with the use of SPSS version 17.
Results: Decline in coital frequency occurred in (51.3%) of respondents; with increasing maternal age (p=0.016, 95% CI: 0.013–0.017), monogamous marriage setting (p<0.001), duration of marriage (p<0.001) and awareness of HIV status (p<0.001) having significant deterrent effects. Parity (p=0.355, 95% CI: 0.345–0.364) and co-habitation with spouse (p=0.094, 95% CI: 0.088–0.099), however had no similar effect. Although Sexual dysfunction was observed (29.6% of respondents), this decline in frequency was caused mainly, by uncomfortable position (51.7%). Consequently, the commonest change noted was decreased use of the man-on-top position from 83.4% of the participants before pregnancy; to 32.7% during pregnancy. Most of the participants (76.6%) recommended continued coital activity in pregnancy.

Conclusions: Coital sexual decline in pregnancy observed in Sagamu is less prevalent than reported and physical discomfort is mainly responsible for this decline. Health care providers can help couples maintain positive sexual behaviour in pregnancy against STIs and HIV.

P0533
COMPREHENSIVE MARITAL COUNSELLING FOR IMPROVING SEXUAL DESIRE AND SEXUAL INITIATION: A NARRATIVE REVIEW
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Objectives: The new perspective in the sex therapy field is desire, pleasure, and satisfaction. The old perspective was focused on arousal, intercourse, and orgasm. This narrative review was conducted for exploring of comprehensive marital counselling for improving sexual desire and sexual initiation.

Method: In this study, researchers conducted their computer search in public databases Google Scholar general search engine, and then more specific: Science Direct, ProQuest, SJD, Magiran, Irandoc, Pubmed, Scopus, cochrane library, and Psych info; Cumulative Index to Nursing and Allied Health Literature (CINAHL), using Medical Subject Headings (MeSH) keywords, and selected relevant articles to the study subject from 2005 to 2015. Quality assessment of full text studies was performed by two independent reviewers. Researchers reviewed summary of all articles sought, ultimately used data from 9 full articles and two books to compile this review paper.

Results: Review of literature led to arrangement of three general categories of “Couple Counselling based on Good Enough Sex (GES) approach”, “Couple counselling based on securely bonded couples”, and “Couple counselling based on sexual style education”.

Conclusions: Based on current review finding, a comprehensive sexual health counselling can be effective for improving sexual desire and sexual and marital satisfaction. In addition, a collaborative team (physician, couple therapist, and other professionals) work in comprehensive assessment, counselling, treatment, and prevention program of sexual problems and disorders.

P0534
SEXUAL FUNCTION AND ATTITUDE TOWARDS IT IN POSTMENOPAUSAL WOMEN WITH DIFFERENT ETHNICITIES: A CROSS-SECTIONAL STUDY IN JAHROM, IRAN
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Objectives: Sexual function is affected by personal and interpersonal factors, familial and social traditions, culture, religion, menopause, and increase of age. The present study aimed to investigate the prevalence of sexual dysfunction and its effective factors in postmenopausal women with three different ethnicities in Iran.

Method: This cross-sectional study was conducted on 746 postmenopausal women between 50 and 89 years old who had referred to Honoree clinic, Jahrom in 2013.Among the study participants, 42.4% were Arab, 33.5% were Persian, and 24.1% were Lor. Female Sexual Function Index (FSFI) was used to gather the study data. P-value <0.05 was considered as statistically significant.

Results: The participants’ mean age was 60.10±6.89 years and the total mean score of FSFI was 19.31±8.5.In addition, 81.5% of the women had sexual dysfunction (FSFI<26.55) and only 147 women (18.5%) had normal sexual function (FSFI≥26.55). The frequency of sexual dysfunction was 75.3% in Arabs, 83.2% in Persians, and 86.1% in Lors. Besides, the most prevalent sexual disorder was dyspareunia in Arab women and arousal disorder in Persians and Lors (p<0.001).

Conclusions: The results of this study showed that sexual dysfunction were highly prevalent among postmenopausal women. The most prevalent sexual disorder was dyspareunia in Arabs and arousal disorder in Persians and Lors women. So sexual disorders were highly prevalent among postmenopausal women and different ethnicities.

P0535
SEXUALITY DURING SENILITY
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Objectives: To evaluate the epidemiological aspects of sexual life during the senility period.

Method: Retrospective study at Endocrinology Gynecology outpatient from Disciplina de Ginecologia do Departamento de Obstetricia e Ginecologia do Hospital das Clinicas da Faculdade de Medicina da Universidade de Sao Paulo, Sao Paulo, Brazil. The length of study was 10 years. We included patients aged more than 65 years old. We evaluate the sexual activity during the senility period.

Results: 409 patients informed the sexual life. Of these cases, 331 and 78 patients reported no sexual intercourse and sexual active, respectively. The majority of women aged between 65 and 69 years (n=70). After 70 years, only 10.3% had regular sexual intercourse.

Conclusions: Almost 20% of the senility patients kepted with sexual intercourse.

P0536
FEMALE SEXUAL FUNCTION IN ADOLESCENTS WITH CONTRACEPTIVES
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Objectives: The aim was investigate the sexual function of adolescents using contraceptive methods.

Method: Observation study, exploratory, analytical and cross, recruited in a public family planning clinic. Adolescents using contraceptive methods and having sexual activity with the same partner from the last month were investigated. We used the female sexual function index (FSFI) that assessing areas like desire, excitation, lubricification, satisfaction, orgasm and dyspareunia.

Results: 128 adolescents were selected. According to date of FSFI, the total score was 26.6±5.7. The orgasm domain showed lower value 4.0±1.5. As the prevalence of sexual dysfunction in adolescents, 38.3% had suggested values for these symptoms and 18.0% score to
Objectives: The study aims to examine hair removal and grooming practices in women and the correlation of changes in their sexuality as well as occurrence of genital infections.

Method: Observational data including age, pubic hair growth and occurrence of genital infection as well as hairstyle and application of bodydystyling was gathered from 1795 women, including 120 pregnant, attending gynaecological examination in a provincial area of Austria. Through a questionnaire, 405 women submitted data about preferred methods, frequency and reasons for pubic hair removal along with subjective changes in their sexuality as well as incidence of genital infections.

Results: 76% of participants have practiced pubic hair removal within the preceding four weeks of examination. This includes 91% of the pregnant patients and 97% under the age of 20 who practice bare-body hair removal. Middle aged women exhibit a variety of hairstyles. 83% cite hygiene as a reason for removal, 40% do it as part of their lifestyle to feel young and attractive. 13% of the women experienced their sexual drive increase. 10% practice pubic hair removal for their partners. 10% attribute itching, burning and recurrent infections to pubic grooming. 5% have noticed a decrease in occurrence of infections.

Conclusions: Pubic hair removal and genital grooming is a standard practice with Austrian women. Younger women tend to practice bare-body grooming up to three times per week. Middle aged women groom less frequently but exhibit different hairstyles. Although no statistically significant link between pubic hair removal and incidence of genital infections was observed, about half of the participants expressed feeling cleaner, more attractive and more sexual after pubic grooming.

P0538
SEXUALITY IN MENOPAUSE

Objectives: Evaluate sexual function in menopausal women users or not of HRT.

Method: It is a cross-sectional observational study. The sample was comprised of 60 women who are in the climacteric period of which 30 do not use HT (group 1) and 30 which make use of HRT (group 2). Inclusion criteria are: patients already in menopause with clinical diagnosis or who underwent bilateral oophorectomy. Exclusion criteria are patients with mental illness or psychiatric disorders and who have more than 65 years. Brazilian version of the Female Sexual Function Index (FSFI) was used to assess sexual activity in the last four weeks.

Results: The sample consisted of patients between 46 and 63 years, with both homogeneous groups. Regarding the evaluation of the questionnaire was significance FSFI desire domain statistical only (z = 3.51, p=0.0000), with the highest average for Group 2 (4.084). There was no difference in sexual performance between both groups.

Conclusions: In this study the use of HRT had a positive impact on sexual desire in menopausal women, so its use could be an alternative for women with sexual dysfunction.
tively, and the difference was not statistically significant (p=0.205). The accuracy within 10% of actual birth weights was 69.5% and 72% for both clinical estimation of fetal weight and ultrasound, respectively, and the difference was not statistically significant (p=0.755).

Conclusions: The accuracy of fetal weight estimation using Dare’s formula is comparable to ultrasound estimates for predicting birth weight at term.

P0541
ROLE OF TRANSPERINEAL ULTRASOUND IN PRETERM LABOR
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Objectives: To investigate the reliability of, and patient satisfaction with transperineal ultrasound (TPUS) performed by obstetrical team on duty in case of preterm labor.

Method: Sixty Pregnant patients between 28 and 37 weeks of amenorrhea (WA) with PL were included. Three residents and one senior took part in the study. TPUS and transvaginal ultrasound (TVUS) measurements were compared. Correlation was assessed using the Pearson coefficient and agreement study used Bland and Altman plot. The patient’s discomfort and preference for each method were assessed with a questionnaire. The Receiver Operative Characteristic (ROC) Curves of transperineal and transvaginal measurements were elaborated to determine the threshold value of CL predictive for preterm delivery.

Results: 60 patients were included. Median CL measurements with the transperineal and the transvaginal techniques were, respectively, 25.3 mm (0–53) and 27.3 mm (4–51). Correlation was good and significant (R= 0.95; p<0.0001; 95% CI; −0.032–0.170). The Bland-Altman plot confirmed a satisfactory agreement (4.1%; 95% CI; 0.23–7.8%). The cut-off point was 25mm for TPUS and 22.8mm for TVUS.

Conclusions: In case of Preterm labor, cervical length measurement with transperineal ultrasound seems reproducible and can be performed by the obstetric duty team.

P0542
ULTRASOUND USAGE IN OBSTETRICS AND GYNECOLOGY IN TERTIARY CARE HOSPITAL IN RWANDA
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Objectives: One focus for improvement in maternal and perinatal mortality is the application of low cost, appropriate technology. Every district hospital in Rwanda is equipped with an ultrasound and ultrasound training has been introduced as a key component of the residency curriculum. The objective of this study was to evaluate the use of ultrasound in obstetrics and gynecology acute care management.

Method: We evaluated the role of ultrasound in triage for all patients admitted to the University Teaching Hospital of Kigali (CHUK) from 11/2014 to 2/2015. CHUK is one of two tertiary referral hospitals in Rwanda with a catchment of 29 district hospitals. It is one of two primary teaching hospitals in Rwanda. Residents in Obstetrics and Gynecology are the first line caregivers for all patients presenting to the obstetrics and gynecology triage area. We examined patient demographics, indications for triage evaluation, pre-ultrasound diagnoses, post ultrasound findings and post-ultrasound diagnoses. Impact of ultrasound on clinical management will be reported separately.

Results: During the study period, 386 patients were evaluated and admitted to the obgyn unit. All patients received an ultrasound in triage unit prior to admission. The majority of patients (69%) were 18–34 years of age, primiparous (32%), and referred from district hospitals (52%). The majority (75%) were pregnant. Fetal well being was the indication for the majority of ultrasounds performed (39%). Other obstetric indications (presenting complaints/prescan diagnoses) included: bleeding in pregnancy (abortion, molar pregnancy, and placental evaluation) and postpartum infection/peritonitis (8%).

Conclusions: We report the point of care use of ultrasound in a large tertiary care hospital in Rwanda. In our setting, all patients received an ultrasound by an MD in the obgyn triage unit prior to hospital admission. Ultrasound is a key component of the obgyn assessment in this tertiary care setting by reducing diagnostic delays.

P0543
USEFULNESS OF PET/CT SUV AND PROGNOSTIC FACTORS IN PATIENTS WITH ENDOMETRIAL CANCER (ENDOMETRIOID ADENOCARCINOMA)
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Objectives: The incidence of endometrial cancer has been increasing even in young people. In particular, endometrioid adenocarcinoma accounts for 90% or more of the cases. We performed this study to clarify the relationship between the histological degree of differentiation and the clinical data on fluorodeoxyglucose (FDG) accumulation in patients with endometrial cancer (endometrioid adenocarcinoma).

Method: Twenty-six patients with endometrial cancer (endometrioid adenocarcinoma) who received PET/CT during the period from April 2008 to September 2014 at our hospital were included in the study. After obtaining the standardized uptake value (SUV) of PET/CT in the 26 patients with Grade 1 and Grade 2 cancer, we analyzed the relationship between the SUV and the number of positive cells in tumor and the levels of glucose transporter 1 (Glut1), hexokinase II (HK II), and glucose-6-phosphatase-α.

Results: An overall significant difference based on the various tests performed was confirmed between the Grade 1 and Grade 2 endometrioid adenocarcinoma (P=0.046) patients. A positive correlation was confirmed between the SUV and tumor area (R=0.418, p=0.034) in patients with Grade 1 and Grade 2 endometrioid adenocarcinoma, and between the SUV and tumor area in Grade 1 patients (R=0.489, P=0.039), while a negative correlation was confirmed between the SUV and G6Pase-α (R=−0.475, P=0.046).

Conclusions: A significant difference in the SUV was confirmed between the Grade 1 and Grade 2 endometrial cancer (endometrioid adenocarcinoma) patients, and this was confirmed to be useful for diagnosis of the histological degree of differentiation. In addition, a relationship was also confirmed between tumor size and degree of FDG accumulation, and the data suggest that G6Pase-α was related to FDG accumulation in patients with well-differentiated endometrial cancer (Grade 1).

P0544
HYDRONEPHROSIS COMPLICATED WITH UTERINE LEIOMYOMA
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Objectives: When we manage uterine leiomyoma patients conservatively, they are complicated with hydronephrosis rarely. The patients with hydronephrosis lack in subjective symptoms, so we need to mind and manage them. We examined the hydronephrosis cases complicated with uterine leiomyoma and search of the main point to keep in mind in the management.

Method: We performed a search of 24 patients from the Department of Gynecology at Osaka City University Hospital for all patients with...
Infections in Obstetrics and Gynecology

P0546
FACTORS INFLUENCING ANTIRETROVIRAL USE DURING PREGNANCY AMONG WOMEN DELIVERING AT MBARARA REGIONAL REFERRAL HOSPITAL

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Objectives: The aim of this study was to determine the factors influencing the use of antiretroviral drugs for the prevention of mother to child transmission of HIV by women delivering at Mbarara Regional Referral Hospital.

Method: In this unmatched case control study, HIV positive women in the post-partum period were enrolled between the 15th of February and the 30th of June 2014. Data on socio demographic profiles, number of antenatal care visits, couple counseling and testing for HIV, disclosure of HIV sero status to sexual partner and history of intimate partner violence before and during pregnancy were collected using structured questionnaires. Multivariate logistic regression analyses were performed to determine the associations between these factors and the use of ARVs during pregnancy.

Results: We enrolled 300 HIV positive mothers, 75 were not on ARVs during pregnancy and 225 were on ARVs. Factors to be positively influencing were: Increasing maternal age (AOR=1.1; 95% CI: 1.0–1.2), disclosure of HIV sero status to sexual partner (AOR=4.3; 95% CI: 2.1–8.6), antenatal care visitat least four times (AOR=3.9; 95% CI: 1.8–8.5), couple counseling and testing (AOR=2.5; 95% CI: 1.1–5.5); the factor with a negative influence was history of intimate partner violece during pregnancy (AOR=0.2; 95% CI: 0.1–0.5).

Conclusions: The use of ARVs during pregnancy is influenced by a number of factors. In this study, factors enhancing ARV use were: disclosure of HIV sero status to sexual partners; attendance of antenatal care of at least four times; involvement of male partners in counseling and testing for HIV as couples and increasing maternal age. Intimate partner violence, especially, sexual and physical violence remain a major obstacle to the use of ARVs during pregnancy by women delivering at Mbarara Regional Referral Hospital.

P0547
PREVALENCE AND FACTORS ASSOCIATED WITH LOWER GENITAL TRACT BACTERIAL INFECTIONS AMONG HIV POSITIVE WOMEN ATTENDING MBARARA REGIONAL REFERRAL HOSPITAL

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Objectives: To determine the prevalence and factors associated with lower genital tract bacterial infections among HIV positive women attending Mbarara Regional Referral Hospital.

Method: A cross sectional study of HIV positive women attending the ISS clinic at MRRH was conducted between February 2014 to August 2014. Systematic random sampling was used in the recruitment of study participants until the sample size (148) was.

Results: 148 HIV positive women recruited in the study, 72 (48.6%) were found to have lower genital tract bacterial infection (LGTBs). Factors associated with LGTBIs among HIV positive women were marital status (p=0.00) and a CD4+ cell count of less than 350 cells/mm3 (AOR=2.8, 95% CI: 1.8–6.85, p=0.020). Marital status, those cohabiting (AOR=6.6, 95% CI: 1.7–25.14, p=0.006) and those polygamously (AOR=3.7, 95% CI: 1.25–10.97, p=0.018) were at a higher risk of LGTBIs compared to their single counterparts. Bacterial vaginosis and Escherichia Coli were isolated in 57.7 and 17.9% of all women with LGTBIs. Culturable bacteria isolated were susceptible to ceftri-axone, gentamycin and ciprofloxacin.

Conclusions: The prevalence of LGTBIs among HIV positive women attending chronic care is high with Bacterial vaginosis being most prevalent. Marital status and a low CD4+ count (<350 cells/mm3) were the factors associated with these infections. Most bacteria isolated were susceptible to third generation cephalosporins, aminoglycosides and quinolones.
P0548
DEVELOPMENT OF PUTATIVE WORKING STRATEGIES OF PRENATAL-ONSET GROUP B STREPTOCOCCAL (P-OGBS) INVASIVE DISEASE USING "INTERNET COMMONS" GROUP B STREP (GBS) PARENT AND PROVIDER SOURCES
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Objectives: Develop and justify epidemiologically, clinically graded (“Proven”, “Likely”, “Possible”, or “Atypical”) case definitions of previously unclassified invasive prenatal-onset Group B streptococcal (P-OGBS) invasive disease in order to inform research, advocacy, public policy, clinical care, and social support. (Classification of early-onset GBS disease is defined as death after birth which misses fetal demise caused by GBS before birth. Therefore, fetal demises caused by GBS are not counted as being due to group B strep disease by public health authorities such as WHO and CDC.)

Method: We used quasi-experimental and qualitative techniques ("gedanken" or logic model research) to collect, record, and analyze GBS-related questions (FAQ’s) submitted to Group B Strep International’s website (www.gbs-intl.org) or at medical professional meetings from 2000–2012. Questions or requests for information arrived unbidden over the worldwide web ("Internet Commons") or in response to "Survey Monkey" style inquiries to personal contacts made at professional meetings and through the internet from 2000 to 2012. Language was not restricted, but all analyzed responses were in English to prompt spontaneity. No written consent was obtained and the process and analysis were not IRB-approved.

Results: Twelve years of inquiries and contacts were analyzed. There were no measured differences in question types or topics among parents or providers. (At professional meetings as many as 500 questions were submitted daily making detailed analysis unreliable.) Queries mainly fell into three categories:

1. Clinical “anecdotal cases,”
2. Procedural, e.g., how to facilitate communication of GBS status cards, and
3. Informal non-evidence-based advice for uncommon or unstudied clinical circumstances, e.g., severe penicillin allergy and prior GBS-associated stillbirth.

Classifications of “Proven”, “Likely”, “Possible”, and “Atypical” are proposed for testing.

Conclusions: We utilized “internet commons” and other contacts to post putative clinical, pathologic, and microbiologic working case definitions of “Proven”, “Likely”, “Possible”, and “Atypical” prenatal-onset GBS invasive disease. These proposed definitions may facilitate study of the epidemiology, pathophysiology, and means to further prevent occurrences of prenatal-onset GBS invasive disease.

P0549
RECOGNITION OF PATHOGENIC PATHWAYS TO INTRAUTERINE INFECTION: KEYS TO IDENTIFYING TESTABLE PRIMARY PREVENTION STRATEGIES
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Objectives: Identify and analyze recognized and unrecognized pathways to intrauterine infection.

Method: Large updated biologic/medical databases were examined using applicable search terms.

Results: Pathways to intrauterine infection were identified:

• translocation of microbes from gastrointestinal microbiome/cell constituents (LPS) microflora
• iatrogenic inoculation of cervico-vaginal microflora by cervical manipulation or instrumentation (“membrane stripping”)
• microecologic shift of predominant vaginal microflora mediated by hygienic practices, change of sexual partner(s)/practices, antimicrobial use, dietary-style microbiome shifts
• hematologic transport of microbes (e.g., Listeria spp., enteroviruses, etc.) initiated by systemic exposure/infection

Conclusions:
1. Potential pathways to intrauterine infections were identified and illustrated to prompt investigation of new basic and clinical primary prevention research strategies.
2. Six novel pathophysiological pathways were discovered by “information mining”.

P0550
ADHERENCE TO ANTIRETROVIRAL THERAPY (ART) AMONG PEOPLE LIVING WITH HIV/AIDS IN A TERTIARY HOSPITAL IN NORTHERN NIGERIA
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Objectives: To determine the knowledge, attitude and practice of adherence to antiretroviral therapy among people living with HIV/AIDS in a tertiary hospital in Northern Nigeria.

Method: A cross-sectional descriptive study was carried out using systematic sampling technique among 334 clients by means of interviewer-administered questionnaire. Data was analyzed using SPSS version 20.

Results: Adherence to antiretroviral therapy was 75.4%. The knowledge and attitude on ART were 67.7% and 52.1% respectively. Forgetfulness (60.1%), non-availability (25.7%) and side-effects (5.1%) of drugs were the major causes of failure of patients to adhere to their drugs.

Conclusions: Adherence to ART of 75.4% is lower than the accepted standard of ≥95%. Good adherence is imperative if elimination of mother to child transmission of HIV is to be achieved.

P0551
THE STUDY OF POLYMORPHOUS VARIANTS OF TNF GENE IN PREGNANT WOMEN WITH MYCOPLASMA INFECTION IN THE POPULATION OF KAZAKHSTAN
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Background: In recent years there has been growth of infections caused by mycoplasma infection. At present, careful attention of researchers is focused on molecular genetic aspects of the formation of microorganisms’ long-term persistency. Persistent infections are characterized by the widespread occurrence, complexity of the pathogenesis, severity of complications and lack of effective treatment. The search of the susceptibility markers to the infection among alleles of TNF gene is a new, under-investigated aspect of the research.

Objectives: To define the role of polymorphism 308 G>A in TNF-α gene in case of mycoplasma infection.

Method: 98 DNA specimens from pregnant with mycoplasma infection and 100 DNA specimens from healthy women were used to determine the single nucleotide polymorphism 308 G>A in TNF-α gene. All respondents belonged to the Kazakh nationality. The DNA amplification with PCR was performed on the “BioRad” amplifier (USA) in 23 mlc of the reaction mixture. PCR was performed according to the scheme: initial denaturation (95°C, 5 min); 30 cycles of amplification with the following parameters: 1) denaturation – 94°C, 1 sec; 2) annealing – 66°C, 1 sec; 3) synthesis – 72°C, 1 sec; followed by incubation at 72°C for 7 minutes.
Results: Frequency of the normal GG genotype in the study group was 12.8±3.4%, in the control group 30.0±4.6%, the differences were statistically significant (χ²=8.5; p=0.004). Significantly higher frequency of homozygous for the mutant allele AA genotype was obtained – 19.3±3.9% and the mutant A allele – was 52.1±3.6% in the study group in contrast to the control group (6.0±2.4, 38.0±3.4, χ²=7.8 and χ²=5.5 respectively; p<0.05). The frequency of normal G allele was 47.9±4.6% in the study group and it was significantly lower than in the control group (62.0±3.4); (χ²=7.8; p=0.005).

Conclusions: The frequency of AA and GA genotypes carriage was significantly higher among pregnant women in the study group. The presence of homozygous mutant AA genotype increases the risk of pro-inflammatory processes in the body by 6.7 times. Carriage of GA genotype variant increases this risk by 2.6 times.

Obtained results indicate the presence of interrelation of the carriage of pathological mutant A allele of the TNF-α gene with progression of the studied pathology. Carriage of unfavorable AA and GA genotypes of TNF-α gene is statistically significant genetic risk factor for inflammatory processes in pregnant woman with mycoplasma infection.

P0552
A COMPARISON OF THERAPEUTIC EFFECTS OF THE ZATARIA MULTIFLORA VAGINAL CREAM AND ORAL METRONIDAZOLE TABLET ON THE TREATMENT OF TRICHOMONAS VAGINALIS AND BACTERIAL VAGINOSIS IN REPRODUCTIVE AGED WOMEN

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Objectives: Vaginitis is a common gynaecologic issue among reproductive aged women and 75% of women experience significant frequent medical visits. Although, metronidazole given orally has been the standard treatment in TV and BV, an increasing number of cases with metronidazole resistance and some side effects is being reported. The majority of people are using traditional medicines including herbal medicine. Antibacterial effects of Z. multiflora have been observed in vitro and vivo activity.

This study proposed to compare the therapeutic effects of Z. multiflora vaginal cream and oral metronidazole on treatment of TV, BV and BV-TV co infection.

Method: This was a double blind clinical study on 420 women affected by BV, TV and BV-TV co infection. They were randomly divided to three groups of 140 participants. Diagnostic criteria were gram stain and wet smear. Z. multiflora vaginal cream and placebo tablet for 7 days were given to experimental groups. Metronidazole tablet 250 mg twice a day and placebo vaginal cream for 7 days were given to experimental groups. Metronidazole tablet 250 mg twice a day and placebo vaginal cream for 7 days were given to experimental groups. Metronidazole tablet 250 mg twice a day and placebo vaginal cream for 7 days were given to experimental groups.

Results: Therapeutic effects of Z. multiflora vaginal cream and oral metronidazole tablet are similar on BV, TV and BV-TV co infection. (P=72, P=599, P=221).

Conclusions: Therefore, it could be an alternative option to BV, TV and BV/TV co infection treatment for those who suffer from side effects of metronidazole.

P0553
RUBELLA INFECTION: A REAL RISK AMONG NIGERIAN WOMEN? PREVALENCE OF RUBELLA ANTIBODIES IN A GYNECOLOGICAL POPULATION

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Objectives: Data on the sero-epidemiology of rubella in gynaecological populations are few as most surveys carried out have been largely on the antenatal population by which time it is unsafe to vaccinate the sero-negative mothers, thus exposing the fetuses of these cohort of women to the dreaded risk of Congenital Rubella Syndrome (CRS). The Objective of this study is to determine the prevalence of rubella antibodies in a cohort of infertile women.

Method: A descriptive cross-sectional survey of presence of rubella antibodies (IgG) in women who presented at the Bridge Clinic Lagos for in vitro fertilization. The rubella (IgG) antibodies of the women were detected in the sera using the quantitative ELISA technique.

Results: A total of 331 women were studied. Their ages ranged between 25-50 years. Majority, 65% (214/331) of the women were aged between 41 to 50. 99% were Nigerians while 1% was of Caucasian descent. Of the Nigerians, 52% (172/331) were Yorubas, 27% (91/331) Igbos, and 0.03% (11/331) Hausas, while 21% belonged to other tribes. The prevalence of rubella (IgG) antibodies was 91%. There was no statistically significant relationship between age, tribe and rubella immunity (p>0.05).

Conclusions: There is a higher prevalence of rubella antibodies in Nigerian women as compared with earlier studies suggesting endemicity. About 1 in 10 women still remain seronegative and therefore at risk of CRS when pregnant. Routine vaccination against rubella is recommended complemented by routine screening for rubella (IgG) antibodies at the gynaecological clinics and vaccination of the identified seronegative women before they get pregnant.

P0554
SEROPREVALENCE AND RISK FACTORS FOR HEPATITIS C VIRUS (HCV) INFECTION IN PREGNANT WOMEN ATTENDING PUBLIC SECTOR TERTIARY CARE HOSPITAL IN HYDERABAD SINDH PAKISTAN

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Objectives: To find out the seroprevalence of HCV antibodies in healthy pregnant women and to assess the potential risk factors for HCV infection in HCV positive subjects and in control group.

Method: This cross sectional & comparative study was conducted from 1st January to 31 Dec 2010 in the department of Obstetrics/Gynaecology Unit - I, Liaquat University Hospital Hyderabad. Sera was collected from all admitted pregnant women and they were tested for HCV antibodies on Elisa. Data were analyzed in statistical program SPSS version 16.0.

Results: The seroprevalence of HCV among pregnant population was found to be 4.7% (146) out of 3078 obstetrics admissions. HCV positive women were more likely to have history of (H/O) blood transfusion (OR 1.99, 95% CI 1.26-3.12), H/O Therapeutic injection use (OR 2.46, 95% CI 1.43-4.26), and H/O surgery (OR 1.72, 95% CI 1.12-2.66) and H/O sharing hold products (OR 1.81, 95% CI 1.14-2.87).

Conclusions: HCV infection was found to be prevalent in young pregnant women of Hyderabad, Sindh, Pakistan. Unsafe blood transfusions therapeutic injections use and surgical intervention had contributed significantly in acquisition of this infection.

P0555
INCIDENCE OF AND RISK FACTORS FOR HERPES SIMPLE VIRUS TYPE 2 (HSV-2) SEROCONVERSION AMONG PREGNANT WOMEN IN UGANDA: A PROSPECTIVE STUDY

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Objectives: To determine the incidence of and risk factors for HSV-
2 sero-conversion among pregnant women in Mulago Hospital, Uganda.

**Method:** This was a prospective study of 200 HSV-2 negative women recruited between 26–28 weeks of gestation from November 2013 to October 2014. We used questionnaires to collect socio-demographic characteristics and sexual history. HIV serostatus was obtained from antenatal records. One hundred and ninety one women had repeat HSV-2 serology by 38 weeks. Negative binomial regression-analysis was used to estimate risk ratios for factors associated with HSV-2 seroconversion.

**Results:** Fifteen (7.9%) of 191 women seroconverted during pregnancy in this study. Having multiple sexual partners in the preceding 6 months and being in polygamous unions were risk factors for HSV-2 seroconversion (aRR, 3.22; 95% CI: 2.01–5.18) and (aRR, 4.24; 95% CI: 1.37–13.26) respectively. In addition, HIV positive status increased the risk of HSV-2 seroconversion (aRR, 4.35; 95% CI: 2.15–8.81). In contrast, sexual debut equal to or above 16 years was protective for HSV-2 seroconversion (aRR, 0.33; 95% CI: 0.21–0.48).

**Conclusions:** The incidence of HSV-2 seroconversion among pregnant women in Mulago Hospital, Uganda was high. Having multiple sexual partners was a risk factor for HSV-2 seroconversion implying a need to strengthen heath education for pregnant women on prevention of genital HSV-2. Furthermore at the booking visit, women at risk of HSV-2 seroconversion may need routine HSV-2 serological screening and a repeat test to be done in the third trimester for evidence of seroconversion. Those who are seropositive would then receive acyclovir at 36 weeks which is known to reduce transmission of HSV-2 to the neonates.

**P0556**

**UROGENITAL MYCOPLASMAS AS A CAUSE OF FEMININE INFERTILITY. PROVINCIAL GINECOBSTETRIC HOSPITAL “DR. JULIO R ALFONSO MEDINA”, MATANZAS, CUBA, 2014–2015**

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**Objectives:** Determine the incidence of Mycoplasmas spp in samples of endocervicals cultures of patients from the Provincial Center of Attention to the infertile couples, to classify the severity of the detected infection and to identify the sensibility-resistance to different antibiotics of the isolated genital mycoplasmas.

**Method:** A transverse descriptive observational study about feminine infertility for genital mycoplasmas was carried out in the Provincial Ginecobstetric Hospital “Dr. Julio Rafael Alfonso Medina” in the period comprised between the months of November 2014 and January 2015. The sample was integrated by the 117 patients that completed the inclusion criteria.

**Results:** 56.4% of the analyzed samples was positive, being Ureaplasma urealyticum the most frequent species (83%). The light infections prevailed in 59.09%. The referred symptom was leucorrhea with 42.73%. Ureaplasma urealyticum showed higher resistance to ofloxacin (82%). Resistance of Mycoplasma hominis to the antibiotics used in the investigation was not seen. The coinfections were more resistant to azithromycin (100%), ofloxacin (90%) and eritromicina (80%).

**Conclusions:** The most frequent microorganism was Ureaplasma urealyticum; the light infections prevailed. Ureaplasma urealyticum was more resistant than Mycoplasma hominis. Both were highly sensitive to ofloxacin and minociclina.

**P0557**

**A NEW EFFECTIVE ANTIBIOTIC-FREE BACTERIAL VAGINOSIS TREATMENT AT SINGLE-DOSE ADMINISTRATION: A RANDOMIZED MULTICENTER OPEN-LABEL PARALLEL-GROUP TWO-PART STUDY WITH A NOVEL SUSTAINED-RELEASE VAGINAL TABLET CONTAINING OLGOMICERIC LACTIC ACID**

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**Objectives:** The prevalence of bacterial vaginosis (BV) is estimated at approximately 15–30% among fertile women and frequent recurrences are common. BV affects many women’s lives negatively especially due to odorous vaginal discharges. First line treatment with antibiotics is associated with adverse events, high relapse rates and an emerging risk of bacterial resistance development. New antibiotic-free treatments with high efficacy at few administrations should be aimed for.

The aim of the present study was to investigate a new sustained release treatment, oligomeric lactic acid (OMLA) vaginal tablet (=pessary), in patients with confirmed BV, evaluating BV clearance, adverse events, and patient acceptance.

**Method:** The study was a randomized parallel-group open-label two-part study at ten gynaecological clinics in Sweden. Non-pregnant fertile women, with confirmed BV according to Amsel’s criteria, could participate. Part A (n=21), a two-week proof-of-concept evaluation, was followed by Part B (n=105), a one-week efficacy evaluation. OMLA vaginal tablet was administrated once (OW) or twice (TW) weekly and in Part B compared to a control group (CG). Main outcome measures were BV clearance, adverse events and patient acceptance. It was performed according to GCP ICH, approved by the Ethics Committee, registered in a clinical trial database (ISRCTN86053784) and sponsored by Laccure.

**Results:** The demography and baseline characteristics were similar in between the groups. Part A (n=21) showed high safety and treatment efficacy already after one week. In the pooled treatment (OW+TW) group the one week BV clearance ratio was 95%. In Part B (n=105) the one week BV clearance ratios were 76.0% in the OW group (p<0.001 vs CG), 80.0% in the TW group (p<0.001 vs CG) and 10.0% in the CG. Pooled data (Part A+B) showed one week BV clearance of 78% in each treatment group. Most adverse events were mild and of short duration. Patient acceptance was high.

**Conclusions:** The novel OMLA vaginal tablet showed a BV treatment efficacy of 78% already after one week at a single-dose administration. Along with a good safety profile, high patient acceptance and no risk of bacterial resistance development, this represents a major improvement in BV treatment.

**P0558**

**EVALUATION OF LOWER GENITAL TRACT INFECTIONS IN WHEELCHAIR-BOUND WOMEN WITH SPINAL CORD LESIONS**

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**Objectives:** Reduced or lost sensitivity is a major problem for wheelchair-bound women with spinal cord lesions. Due to lost mobility and architectonic barriers adequate gynecological care is difficult. In addition, loss of feeling in the genital area can predispose to hygiene problems and genital infections. Since 80% of spinal cord lesions occur in men, studies rarely focus on women's needs. The objective of this study is to evaluate the prevalence of genital tract infections in these women. This is the first report to analyse the vaginal microbiota in wheelchair-bound women.
Method: This was a cross-sectional case control study. Fifty two women with spinal cord lesions (from the Associação de Assistência à Criança Deficiente, São Paulo, Brasil), were studied. As a control group 57 health women, with no genital complaints, from the same institution, were evaluated. After answering a questionnaire related to reproductive health vaginal and cervical samples were collected. The following tests were performed: wet mount (T. vaginalis and yeasts), vaginal Gram stain (Nugent criteria), yeast cultures, vaginal cultures, T. vaginalis culture, Chlamydia trachomatis PCR, mycoplasmaculture, sand Neisseria gonorrhoeae PCR.

Results: There were no differences between the spinal cord group and healthy women in the prevalence of Trichomonas vaginalis, Candida species, Chlamydia trachomatis, Mycoplasmas and Neisseria gonorrhoeae. The prevalence of intermediate flora (Nugent score 4–6) was higher in women with spinal cord lesions than in control women (14.6% x 1.8%, p=0.0230). This was associated with the need for diapers but not with the location of the spinal lesion.

Conclusions: The prevalence of genital infections in women with spinal cord lesions is low and similar to that found in healthy women. However, the higher prevalence of an elevated Nugent score in the study subjects and its association with the use of diapers suggests that their condition leads to development of an atypical vaginal microbiota not dominated by Lactobacilli. The consequences of this alteration for wheelchair-bound women’s uro-genital health remain to be determined.

P0559
PREVALENCE OF CHLAMYDIA TRACHOMATIS IGG SEROPOSITIVITY IN OVULATORY SUBFERTILE WOMEN WITHOUT VISIBLE TUBAL PATHOLOGY


Objectives: The aim of this work was to study the incidence of Chlamydia trachomatis IgG seropositivity in ovulatory subfertile women without visible tubal pathology.

Method: This prospective study was conducted at Egypt, Tanta University Hospital Obstetrics and Gynecology Department. Carried out on 400 ovulatory subfertile patients fulfilling the following inclusion criteria: Age from 19 to 35 years old, Regular ovulatory cycle, Bilateral patent tubes by Laparoscopy & Normal semen analysis. The following criteria must be excluded: Tubal adhesions at Laparoscopy, Tubal pregnancy, & endometriosis. All women included in the study was subjected to Full history taking. Complete general and local examination, Routine laboratory investigations (including CBC, liver and renal function tests). Chlamydia Trichomonas immunoglobulin G (IgG) antibody testing by Enzyme Linked Immunosororbent Assay (ELISA) & Diagnostic laparoscopy to detect tubal patency.

Results: Data of 400 couples were collected during the study period which was One year from Tanta University Hospital, those women were admitted for laparoscopy for detection of the cause of their infertility. Among 280 patients with negative Chlamydia titre 152 of them had primary infertility and 128 had secondary infertility. Among 120 patients with positive titre 56 had primary infertility and 64 secondary infertility. Women in the studied cases were subclassified to 348 patients with patent healthy tubes, 52 patent with weakness of muscles of tubes and with sacculated tubes and a known CAT result were included in this analysis.

Conclusions: The serological test could be an accurate predictor of tubal status, and detection of its IgG antibody is important in screening of cases and prediction of the presence of tubal factor infertile women, thus saving time for infertility workup, due to their high predictive value in detecting tubal affection.

Our finding demonstrates that even in absence of tubal pathology, decreased fecundity is a late effect of lower genital tract Chlamydia infections. This might increase the late costs of Chlamydia infections, and as such alter the cost-effectiveness of Chlamydia screening.

P0560
STREPTOCOCCAL TOXIC-SHOCK SYNDROME AFTER TOTAL ABDOMINAL Hysterectomy IN HOSPITAL DA MULHER HELONEIDA STUDURT, RJ, BRAZIL

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Objectives: To educate physicians about Streptococcal Toxic-Shock Syndrome as they are often unfamiliar with this rare and life-threatening disease entity. Its clinical manifestations, underlying pathophysiology, diagnostic tools, pathologic findings and management options are reviewed.

Method: Report a case of streptococcal toxic shock syndrome, experienced in the Hospital da Mulher Heleneida Studurt in Sao Joao de Meriti, RJ, Brazil.

Results: A young patient, previously healthy, underwent surgery and developed wound infection caused by Streptococcus pyogenes. After onset of clinical symptoms, the evolution was rapidly progressive, leading to patient death. The diagnosis was made by clinical symptoms and was provided treatment with intensive care support, drainage of the focus of infection in the operating room and broad-spectrum antibiotics. Immunoglobulin wasn’t prescribed, because patient died before the diagnosis of Streptococcus pyogenes infection were stabilized.

Conclusions: This case emphasizes that the toxic shock syndrome may develop in the late postoperative period, and this evolution is potential life threatening. Theoretical and practical knowledge of the medical staff can lead to early diagnosis and treatment. Streptococcal Toxic-Shock Syndrome is a very aggressive disease that can lead to death rapidly, so physicians must be aware of the early symptoms of the disease and the clinical signs of severity, to improve results.

P0561
THE PREVALENCE OF LOW RISK TYPE HUMAN PAPILLOMA VIRUS (HPV) 6, 11 AND 57

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Objectives: The aim of this study was to confirm the prevalence of low risk type Human papilloma virus (HPV) 6, 11 and 57 which cause benign disease like genital warts and nasal papillomatosis.

Method: A total of 232 patients are participated in screening using two HPV Genotyping chip kits. The positive results of HPV 6, 11, 57 are targeted and we compared both results.

Results: The positive results for HPV were 82 among 231 samples in both detection tests. Among the Low risk type HPV, positive for HPV 6 was detected in 4 samples and HPV 11 was 1, HPV 57 was 7.

Conclusions: The results of HPV Genotyping chip kits was completely identical. We reconfirmed that HPV type 6, 11, 57 are less common and to make sure the clinical validity, more samples need to be collected.
**P0562**

**POST-PARTUM PELVIC PERITONITIS AND TUBO-OVARIAN ABSCESSES SECONDARY TO SUB-CLINICAL CHORIOAMNIONITIS**

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**Objectives:**
1. To highlight complications of chorioamnionitis.
2. To demonstrate role of multidisciplinary team in managing complex, high-risk cases.

**Method:** A case report of a case of pelvic peritonitis in a 29 yrs lady, presented 6 weeks following delivery by emergency caesarean section for fetal distress. Patient was low risk primigravida presented in early labour at 41 weeks gestation, V/E showed intact membranes and 1 cm dilatation, stretching and sweeping of membranes done. Patient re-presented next day with history of drainage of liquor which was not proved on speculum examination. Patient presented after 24 hours in established labour of 3 cm dilatation and membranes where not felt on examination. Fetal heart tracing was suspicious and an emergency CS was performed 2 hours after admission.

**Results:** Thick meconium at cesarean section, placenta unhealthy with an offensive smell. Histopathology showed marked acute Chorioamnionitis/funisitis and Streptococcus milleri isolated. Patient received intravenous and oral antibiotics post CS. Presented 6 weeks postpartum with abdominal pain and feeling unwell, received IV antibiotics. CT scan showed widespread pelvic peritonitis with associated multiple mature pelvic abscesses, right ovary is particularly swollen and possibly necrotic and surrounded by inflammatory fluid. Had Laparotomy, pelvic washout, right salpingoophorectomy. Re-admitted 3 weeks post laparotomy with worsening abdominal pain. CT abdomen: mature inflammatory collection in RIF. Percutaneous ultrasound guided drainage done, bloody purulent sample obtained and sent for microscopy and culture that showed mixed aerobic growth.

**Conclusions:**
1. Pelvic peritonitis and tubo-ovarian abscess could have been my primary but likely secondary to chorioamnionitis at cesarean section inspite of 6 weeks interval.
2. This case highlights that it is very important to rule out spontaneous rupture of membranes even in term pregnancies.
3. Importance of modern radiology in managing patients with localised pelvic collections.

**P0563**

**THE ANALYSIS OF CLEARANCE TIME AND INFLUENCE FACTORS IN PATIENTS WITH HR-HPV VIRUS**

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**Objectives:** To research clearance time of non-aggressive high risk human papillomavirus infection and its influence factors.

**Method:** This retrospective analysis collected 454 cases of newly diagnosed patients with non-progressive hr-HPV infection, who were treated in Peking University Shenzhen Hospital early detection and treatment of cervical cancer center, from January 2009 to December 2012. We followed up hr-HPV clearance by Hybrid Capture 2 human papillomavirus DNA testing and Liquid-based cytology test. Follow-up continued 6 to 53 months, with a median follow-up time average of 22.27 months. We collected all relevant information to further explore the non-progressive hr-HPV clearance median time and influencing factors.

**Results:** 454 cases of patients were selected in the study. At the end of the follow-up, 318 cases of patients (70.04%, 318/454) hr-HPV were cleared. The overall clearance time was 3 to 46 months, with a median time of 14 months (95% CI, 12.24–15.76 months). Times of biopsy, number of biopsy points, times of endocervical curettage, with or without cervical loop electrosurgical excision procedure, anxiety states were statistically significant in the univariate analysis. The times of biopsy, with or without LEPP surgery and anxiety states were statistically significant in the COX multivariate analysis.

**Conclusions:** The median time of non-aggressive hr-HPV infection clearance was 14 months. The times of biopsies, with or without LEPP and anxiety states were the more important factors of hr-HPV infection clearance time. With or without underlying disease probably were the related factors of persistent non-aggressive hr-HPV infection clearance time.

**P0564**

**THE ANALYSIS OF CLEARANCE TIME AND INFLUENCE FACTORS IN PATIENTS WITH HR-HPV VIRUS**

Z. Liu, R. Li, J. Li, G. Wang, C. Wang, Y. Zhou, B. Liu. Dept. of OB/GYN, Peking University Shenzhen Hospital, Shenzhen, China

**Objectives:** To research clearance time of non-aggressive high risk human papillomavirus infection and its influence factors.

**Method:** This retrospective analysis collected 454 cases of newly diagnosed patients with non-progressive hr-HPV infection, who were treated in Peking University Shenzhen Hospital early detection and treatment of cervical cancer center, from January 2009 to December 2012. We followed up hr-HPV clearance by Hybrid Capture 2 human papillomavirus DNA testing and Liquid-based cytology test. Follow-up continued 6 to 53 months, with a median follow-up time average of 22.27 months. We collected all relevant information to further explore the non-progressive hr-HPV clearance median time and influencing factors.

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**Conclusions:** The median time of non-aggressive hr-HPV infection clearance was 14 months. The times of biopsies, with or without LEPP and anxiety states were the more important factors of hr-HPV infection clearance time. With or without underlying disease probably were the related factors of persistent non-aggressive hr-HPV infection clearance time.

**P0565**

**AN OBSTETRIC SEPSIS SCORE – TO PREDICT RISK OF SEVERE SEPSIS IN PREGNANCY AND POSTPARTUM**

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**Objectives:** To design an obstetric sepsis score to predict the risk of developing severe sepsis in pregnant and postpartum women.

**Material and methods:** Study place: Department of OB, Father Muller Medical College, Mangalore.

Study design: Observational retrospective cohort.

- An obstetric sepsis score is created.
- The variables used are temperature, pulse, systolic blood pressure, respiration rate, mental status, SPO2, WBC count, serum lactate.

- This score will be applied to the retrospective cohort of pregnant and postpartum patients with clinical suspicion of sepsis.

The primary outcome is women diagnosed to have severe sepsis as according to surviving sepsis criteria.

The sensitivity, specificity, PPV and NPV will be calculated for the score and Receiver operating characteristic curves will be constructed.

**Results:** 51 pregnant or postpartum women were included in the study. 12 women had an obstetric sepsis score ≥6. 16 women devel-
opied severe sepsis. The obstetric sepsis score had an area under the curve of 0.875 for predicting severe sepsis with sensitivity of 62.5%, specificity of 94.2%, positive predictive value of 83.3%, and negative predictive value of 84.6%.

**Conclusions:** Reducing overall maternal morbidity and mortality in India needs to be a top priority given our high maternal mortality rate. A tool to help in the identification of sepsis in pregnancy could aid in instituting early and aggressive resuscitation protocols thus reduction of sepsis during pregnancy.

A sepsis scoring system designed specifically for an obstetric population appears to reliably identify patients at high risk for developing severe sepsis. The variables used are simple, routinely available, and familiar to clinicians. Prospective validation is warranted.

**P0566**

**THE PREVALENCE OF GROUP B STREPTOCOCCUS (GBS) COLONIZATION IN KOREAN PREGNANT WOMEN USING SELECTIVE CULTURE MEDIA**

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**Objectives:** Maternal colonization with Group B Streptococcus (GBS) during pregnancy increases the risk of neonatal sepsis by vertical transmission. The prevalence of GBS colonization in Korean pregnant women was reported to be lower than those reported in USA.

The aim of this study was to evaluate the prevalence of GBS colonization in Korean pregnant women when using selective media for GBS and the effect of intrapartum antibiotic prophylaxis for culture positive women on early-onset neonatal GBS sepsis.

**Method:** From December 2014 to February 2015, we collected specimens for GBS colonization from 107 women of ≥20 weeks' gestation who visited our hospital in Korea for prenatal care or for delivery.

Specimens were obtained from swabbing both the lower vagina and rectum and then inoculated into a selective Todd–Hewitt broth and CHROMagar StreptB agar (CHROM-B) and were examined for growth in cultures. Women whose cultures were positive for GBS received intrapartum antibiotic prophylaxis.

**Results:** The mean maternal age was 32.1±5.6 years old and the gestational age (GA) at screening and at delivery were 34.2±3.4 and 35.2±3.4 weeks, respectively. Among 107 women who were screened for GBS, the prevalence of positive recto-vaginal culture was 7.5% (8/107). GBS colonization rates were 10% (5/50) for women whom did preterm delivery and 5.3% (3/57) for full-term delivery. With 122 neonates who were born during this period, the rates of neonatal sepsis were 25.4% (31/122) but none was proven to be infected with GBS.

**Conclusions:** Our study showed the prevalence of GBS colonization in one Korean hospital pregnant women was 7.5% which was higher than previous reports. For prenatal screening for GBS, the use of GBS selective media and sampling both the lower vagina and the rectum would be useful to detect GBS. Intrapartum antibiotic prophylaxis for culture positive women would be effective in interrupting mother-to-newborn transmission of GBS.

**P0567**

**COMPARISON OF SINGLE DOSE ORAL SECNIDAZOLE WITH MULTIPLE DOSES OF INTRAVAGINAL CLINDAMYCIN FOR SYMPTOMATIC BACTERIAL VAGINOSIS IN RANDOMISED CONTROLLED TRIAL**

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**Objectives:** To compare the efficacy of single dose oral secnidazole versus multiple doses of intravaginal clindamycin cream in the treatment of symptomatic bacterial vaginosis (BV).

**Method:** 180 women were enrolled in a double blinded randomized controlled trial diagnosed with BV by criteria established by Nugent and Amsel. Study cohorts was divided into two groups Group A received clindamycin with placebo oral tablet, whereas group B received oral secnidazole with placebo vaginal cream. Therapeutic success were defined by correction of Amsel's criteria on day 15.

**Results:** At day 15 the patient free from discharge on speculum examination in group A were 87 (89%) and in group B were 15 (16.4%), clue cells were negative in 87 (89%) patients in group A whereas in group B 21 (23%) were negative, and in group A amine test was positive 4 (4.3%) patients where as 63 (69.2%) patient were amine positive in group B. The two groups when analyzed by applying chi square test. There is significant difference and group A appeared superior to group B in all the variable with p-value of 0.000.

**Conclusions:** Vaginal clindamycin is superior to oral single dose of secnidazole in treatment of bacterial vaginosis.
The mRNA profile of immune genes was measured (II1B, IL8, IL10, IL12A, TNF, TGF β1, CAT3, TLR2, TLR4, CD45, CD68, CD69) relative to the reference genes TBP, B2M, GUSB (the ΔΔCq method).

**Results:** 4 species of lactobacilli dominate in normal flora: L. crispatus, L. iners, L. jensenii, L. gasseri. In the control group L. crispatus was 50% vs a group of women with vaginitis (17%) and bacterial vaginosis (17%). Vaginitis demonstrates increase of L. iners (48% vs 27% in control group), bacterial vaginosis – increase of L. gasseri (30% vs 8% in control group). In the control group dominance of L. iners resulted in increase of IL8, TLR4, IL10, CD69, CD45 1.7, 2.0, 3.8, 2.5 and 1.7 times respectively and decrease of IL1B 1.7 times, compared with control group, where L. crispatus dominates.

**Conclusions:** Presence of L. crispatus can be considered a favorable prognostic indicator in assessing vaginal microbiocenosis. Increased number of L. iners and L. gasseri in composition of lactoflora is associated with vaginitis of different etiologies and bacterial vaginosis. Despite the fact that the L. iners normally present in composition of vaginal microbiota, its protective value remains controversial, and some authors suggest that L. iners plays a role in the pathogenesis of bacterial vaginosis [2]. Timely complex examination (typing of lactobacilli) and assessment of local immunity (cytokines levels) may contribute to target therapy and prevention of complications of vaginal infections.

**P0570**

**METAGENOMICS ANALYSIS USING NEXT GENERATION SEQUENCING OF VAGINAL SAMPLES FROM COMMUNITY PRACTICES IN THE U.S.**


**Objectives:** Bacterial vaginosis (BV) is not a single disorder or caused by one etiological agent, but rather it is a spectrum of symptoms caused by an imbalance in the normal vaginal bacterial flora. NGS techniques allow for the capture of the entire vaginal microbiome in a single assay and create the ability to obtain a better understanding of the causes of BV that may lead to a viable clinical method for detecting it. In this study, we used next generation sequencing of 16S rRNA genes to obtain the vaginal microbiome from 270 vaginal swabs.

**Method:** We undertook a retrospective diagnostic cross-sectional study with consecutive recruitment of all next-generation sequencing (NGS) vaginal swab specimens examined at American International Biotechnology between July 1, 2014 and November 30, 2014. Vaginal swabs were collected from 270 women from community gynecology practices in the USA. NGS analysis included in-depth characterization of bacterial communities identified, including quantitation and composition of the communities present in normal and BV samples. Kruksal-Wallis non-parametric analysis of variance was used to compare distributions between groups.

**Results:** Three vaginal profiles were identified that largely segregated based on the presence or absence of Gardnerella vaginalis, the presence of facultative anaerobic organisms, and the absence of healthy Lactobacilli. The first group was largely dominated by Lactobacilli species and was relatively homogenous. The second group was dominated by Lactobacillus iners and was more closely related to BV than the homogenous flora of group 1. Conversely, the flora of the third group was not dominated by any single organism but rather contained a mixture of organisms.

**Conclusions:** Vaginal samples can be segregated into three distinct groups largely based on degree and type of Lactobacillus content and the presence or absence of G. vaginalis.
Objectives: To assess risk factors for congenital syphilis in the State of Santa Catarina, Brazil.

Method: Case-control study with 1,810 notifications of pregnant women with syphilis recorded in the Brazilian National Disease Notification System (SINAN) between 2007 and 2013. Cases consisted of notifications of syphilis in pregnant women with vertical transmission, i.e., congenital syphilis. Controls consisted of notifications of syphilis in pregnant women without vertical transmission. Data were analyzed in SPSS 22.0 using Pearson’s chi-square or Fisher’s exact tests. The measure of association was odds ratio (OR) with respective 95% confidence intervals (CI), and the significance level was set at $p < 0.05$. This study was approved by the UNISUL Research Ethics Committee (No. 928,862).

Results: In the bivariate analysis, main risk factors for congenital syphilis that maintained statistical significance in the multivariate analysis were gestational age at diagnosis, with higher chance of presenting the outcome at the second trimester (OR 1.94; $p < 0.001$), third trimester (OR 7.87; $p < 0.001$), and unknown gestational age (OR 4.85; $p < 0.001$); and noncompliance with treatment scheme by pregnant women (OR 3.14; $p < 0.001$). Of the fourteen variables analyzed, eight were excluded for presenting losses > 20% (education, occupation, municipality where the prenatal diagnosis of syphilis was performed, titration, clinical classification, and information regarding the partner).

Conclusions: The risk factors for congenital syphilis in the State of Santa Catarina are linked to the nonperformance of simple diagnostic and therapeutic procedures. This reflects socio-cultural issues and probable gaps in prenatal care, which could not be evaluated in this study, because compulsory notifications were not properly filled. Adequate completion of compulsory notification forms is needed to allow for a more accurate assessment of the situation.

P0576
INFLUENCE OF RECURRENT VULVOVAGINAL CANDIDIASIS ON LIFE QUALITY: PRELIMINARY STUDY

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Objectives: Vulvovaginal candidiasis affects 75% of reproductive age women; among them 40–50% will have a second episode and 5–8% will have recurrent disease. The consequences can be: chronic stress, deterioration of sexual and interpersonal relationships, increased demand for medical care and medications with worse life quality. We evaluate quality life aspects of women with recurrent vulvovaginal candidiasis (study group), compared to women with the same epidemiological characteristics with no previous history of RVVC or that had only one episode of Candida vaginitis (control group) using a modified World Health Organization (WHO) Quality Life Evaluation Instrument Modified - WHOQOL

Method: The study group is composed of 18–50 year old women with RVVC seen at Hospital das Clínicas (Immunology and Genital Infections, Disciplina de Ginecologia da USP). As a control group, we evaluated women of similar age, without a history of vulvovaginal candidiasis or who had just one episode of candida vaginitis. Pregnant women, HIV positive women, women with immnodeficiency and/or dermatologic diseases, with a Trichomonas vaginalis infection or bacterial vaginosis were excluded. After signing informed consent the women were invited to answer a questionnaire related to life quality aspects (modified WHOQOL 100). Statistical analysis was performed by Fisher exact test.
**Results:** Currently we have 40 women in the study group and 43 controls. No statistical differences in age of first intercourse, total number of partners, sexual practices. Pruritus, feelings of shyness, sadness and/or depression, loneliness interfering with daily life were higher in the study group (p < 0.001). No differences in physical pain frequency and concerns about physical pain. The grade of symptoms interfering with sexual life was higher in the study group (p < 0.0001). Sexual satisfaction and a satisfactory sexual life were decreased in the study group (p < 0.0001).

**Conclusions:** Recurrent vulvovaginal candidiasis interferes in an important negative way in the quality of life.

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**Labor and Delivery**

**P0577**

**SUPPORTIVE CARE DURING CHILDBIRTH IN DIFFERENT HEALTHCARE PARADIGMS**

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**Objectives:** In recent century, maternal support has been changed. The different approaches influenced labor and normal delivery. The aim of this article describes the maternity supportive care paradigms of the past century and closely analyzes each of them.

**Method:** We select published articles from databases such as Google Scholar, Scopus, Sage, Science Direct, PubMed and Springer were used due to the high citation number of their journals. The keywords entered were the following: “Labor support”, “Qualitative study”, “Normal delivery”, “Birth attendance”, “Supportive approaches” and “Exploration study”. They were entered alone or in combinations using “AND”. Also, Persian articles were searched in local databases, e.g. Iran doc, SID, Iran Medex, and Magiran using the above mentioned keywords in Persian. Sixty articles had inclusion criteria.

**Results:** Labor supporting has changed in technocratic, humanistic and holistic approaches caused some models which had followed by midwives.

**Conclusions:** Labor support based on the holistic approach and the naturalistic paradigm could bring about remarkable results, the most important being satisfaction with the birth experience, mother’s self-confidence, increase in the mother’s ability in child delivery and better completion of the childbirth process.

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**P0578**

**VAGINAL BIRTH AFTER CESAREAN SECTION (VBAC) PREDICTING SUCCESS**

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**Objectives:** Assessment of successful rate of VBAC, causes of failure and complications.

**Method:** History, genenal, abdominal, vaginal exam and U.S were carried out. All patients were observed and progress of labour was assessed every 2 hours. Continuous fetal monitoring by cardiotography was used to assess the fetal condition. The data were collected and analysed using Student’s t-test.

**Results:** The success rate of VBAC was (66%) which was statistically significant. The success rate was significantly high in patients with high parity and those with history of previous normal delivery. Early rupture of membranes R.O.M decreased VBAC to 42.6% while late R.O.M increased VBAC to 75.8%, which was significant. The maternal complications were significantly lower in successful VBAC 3.8% compared to failed VBAC 13.2%. The neonatal complications were also significantly lower in successful VBAC 2.3% compared to failed VBAC 9%

**Conclusions:** VBAC after one previous C.S. should be encouraged because success rate of VBAC is significantly higher than the failure rate. History of previous normal delivery was associated with higher success rate and early R.O.M predicted more failure. Close maternal and fetal monitoring in well equipped hospital with facilities of C.S. in emergency cases.

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**P0579**

**SAFETY OF VAGINAL BIRTH AFTER CAESAREAN SECTION**

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**Objectives:** The objective of this study was to determine the frequency and fetomaternal outcome of vaginal birth in cases of previous one caesarean section.

**Method:** All booked and unbooked singleton pregnancies with history of previous one caesarean section were included in the study. Women with systemic disorders, bad obstetrical history were excluded from the study. The women were selected for the study through non-probability purposive sampling technique. Data regarding course of labour, complications and failure of trial were read. Frequencies and percentages were calculated for qualitative data. Results were presented by frequency distribution tables, the results were analyzed through SPSS version16.

**Results:** Total number of pregnancies who fulfills the selection criteria were 50. Most of women were gravis 2–5 (74%) Gestational age was 38–40 weeks in 60–70 of cases. Among 50 women 70% had successful VBAC trial while 30% underwent emergency caesarean section.

**Conclusions:** The frequency of vaginal birth after caesarean section was 70% in this study, however fetomaternal outcome showed lower rate of complications in both types of subjects.

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**P0580**

**BRINGING HEALTH SERVICES CLOSER TO HOME: COMMUNITY SKILLED BIRTH ATTENDANTS IN THE MA MONI PROJECT, BANGLADESH**

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**Objectives:** The study aimed to understand the performance of private of private community skilled birth attendants supported by the MaMoni project in northeastern Habigonj district of Bangladesh.

**Background:** Reaching mothers with critical health services where home delivery is norm is a challenge. MaMoni project funded by USAID trained 48 local women in a six month private Community Skilled Birth Attendant (CSBA)course accredited by Bangladesh Nursing Council to increase coverage in hard to reach areas. This complemented the coverage of the government supported skilled birth attendants in the community.

**Method:** This study comprised a secondary analysis of routine program data from three subdistricts of Habigonj district between April 2013 and March 2014, and included antenatal care and delivery coverage. Bivariate analysis was used to compare performance with similarly trained government CSBAs.

**Results:** Fifty one to sixty five percent of pregnant women were identified by pCSBA in their working clusters. In all the clusters 14–17% women had the first ANC contact with private CSBAs. About 20% of total deliveries were conducted by the private CSBAs. In the same areas; whereas 9%–16% deliveries were conducted by the Government CSBAs.

**Conclusions:** Private Community Skilled Birth Attendants increased...
coverage of skilled care at the community level, particularly in areas where health facilities were inadequate. To maximize the utilization at the community level, community resources for offsetting operation costs, ensuring skill retention with supportive supervision on site, proper allocation of work areas and an incentive and recognition mechanism from the community need special attention.

**P0581**

**A COMPARISON BETWEEN TOCOLYTIC EFFECT OF NIFEDIPINE AND MAGNESIUM SULFATE IN PRETERM LABOR PAIN**

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Objectives: Preterm labor is the most common cause of neonatal mortality. Magnesium Sulfate is widely used for treatment of preterm labor. Since Nifedipine is a low priced medication and is orally administered, it has increased in popularity. The aim of this study is to compare the tocolytic effect of nifedipine and Magnesium Sulfate in preterm labor.

Method: In a single blind randomized control trial, 70 singleton women in 25 to 34 week of gestation with preterm labor were randomly assigned to two groups either to receive intravenous Magnesium Sulfate or Nifedipine. In each group demographics, arrest of labor after 48 hours, 1 week, and till 34 and 37 week of gestation and also gestational age (days), duration of neonatal ICU admission, neonatal weight and 5 minute apgar was recorded. Data was analyzed using SPSS13.0 and Chi-Square and T test. P value less than 0.05 was assumed to be significant.

Results: There was no significant difference in age, gravid, mean initial gestational age and educational level between the two groups. Also, there was no statistically significant difference in labor arrest after 48 hours, 1 week and till 34 and 37 week of gestation, final gestational age (days), duration of neonatal ICU admission (days), neonatal weight and 5 minute apgar. Moreover, there was no difference in drug side effects between two groups.

Conclusions: While similar to Magnesium in terms of tocolytic effect and side effects, Nifedipine is more affordable and orally administered, which makes it more preferable. However, it should be noted that, more studies with larger sample size and longer follow up of neonatal and maternal side effects of Nifidipin are recommended.

**P0582**

**EFFECT OF MAINTENANCE THERAPY WITH ISOXSUPRINE IN PREVENTION OF PRETERM LABOR**

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Objectives: Preterm Birth is defined as birth before completion 37 weeks of gestation and is responsible for many of neonatal deaths. Variety of pharmacological agents such as β-adrenergic agonists has been used in prevention of preterm birth, but their efficacy is not improved. According to the importance of maternal and neonatal complications of preterm birth and lack of sufficient studies, we arranged a study to assess the effect of isoxsuprine in prevention of preterm labor.

Method: We arranged a single-blind prospective randomized trial on 70 (pregnant singleton with intact fetal membrane) women between 26 to 34 weeks of gestation with labor pain. After stopping the contractions with IV magnesium sulfate we divided them into 2 groups and gave oral isoxsuprine until 34 weeks of gestation to case group. Then assessed their response to treatment and their pregnancy progression until birth in both case and control groups. Our data was analyzed with spss software under T and chi-square tests. p<0.05 means significant difference.

Results: We did not find any significant difference in age, weight, gravidity, gestational age, occupation and level of education between two groups (p>0.05). There were no differences in effacement and dilatation changes during 3 steps pelvic exam in 48 hours after stop of contraction, one week after stop of contraction and 34 weeks of gestation between two groups. 40% of case group and 34.29% of control group had preterm birth before 37 weeks and there was no significant difference between two groups (p=0.621). In case group 11.43% and in control group 14.2% had delivery before 37 weeks and there was no significant difference for group (p=0.721).

Conclusions: Oral isoxsuprine as maintenance treatment is not effective in prevention of preterm birth or postponing delivery after 34 weeks.

**P0583**

**CHILD BIRTH THROUGH THE PERINEAL BODY: A CASE REPORT**

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Objectives: Introduction: Perineal trauma during delivery can affect up to 90% of primigravida, here we present the case of an 18 year old primigravida with peculiar perineal trauma resulting from childbirth through the perineal body.

Case report: Mrs AS was an 18 year old primigravida who presented to our labour ward 7 hours after home delivery with complaints of perineal tear. She had labored at home for 36 hours before she started having the urge to bear down. She continued to bear down for 4 hours but the baby was not delivered. Assistance was sought from an unskilled attendant (cleaner at the labour ward of a secondary health facility). She gave her an intra-muscular injection of oxytocin; after 2 hours she eventually delivered an asphyxiated female neonate that died immediately after birth.

Results: Examination: Perineal tear involving the perineal body which was in communication with the posterior vaginal wall with an intact posterior fouchette. The perineal muscles and external anal sphincter were severed; rectum was exposed at the lower edge of the tear the rectal mucosa was intact.

Treatment: EUA and repair was done. The para-rectal fascia was approximated with 2/0 vicryl, the external anal sphincter was overlapped and repaired with 1/0 vicryl. The perineal muscles were sutured; the vaginal mucosa and perineal skin were closed. She had broad spectrum antibiotics, analgesics, multivitamins and laxatives. She was continent of feces on discharge.

Conclusions: This type of perineal trauma though rare has been reported before. The patient likely had a persistent occipito posterior position (POPP) hence the long first and second stages of labour. In POPP the baby’s head is pushed more posterior compared to if the head is occipito anterior. The combined effects of the OPP and bolut oxytocin must have likely led to this type of tear.

**P0584**

**PERIPARTUM HYSTERECTOMY AND ANALYSIS OF RISK FACTORS**

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Objectives: 1. To determine the incidence of peripartum hysterectomy at BPK IHS, a tertiary care referral centre in eastern Nepal. 2. To evaluate the incidence and risk factors associated with peripartum hysterectomy.

Method: A prospective analysis was conducted of all cases of peripartum hysterectomy performed in our hospital for 2 yrs (July 2012–June 2014). Peripartum hysterectomy defined as one performed af-
ter 28 weeks gestation for uncontrollable uterine bleeding not responsive to conservative measures occurring within 48 hrs of delivery. All caesarean and postpartum hysterectomy during the study period was included. Various maternal characteristics including demographic data, previous obstetric details, antepartum, intrapartum and postpartum data were collected and analysed.

**Results:** There were 29 cases of peripartum hysterectomy among 19,539 births in 2 yrs giving a rate of 1.48 per 1000 births. Indications for peripartum hysterectomy were uterine rupture (65.5%), morbid adherence of the placenta (13.8%) and uterine atony (12.9%). Previous caesarean section was identified as independent risk factor with relative risk of 1.8 (95% CI: 1.3–2.5, p <0.003).

There was three maternal death. Maternal morbidity was significant, with febrile morbidity and urinary tract injury among the most common complications. All women required blood transfusion, and 96% of women undergoing peripartum hysterectomy were admitted to the maternal intensive care unit.

**Conclusions:** In our study uterine rupture causing severe haemorrhage was the commonest indication for peripartum hysterectomy. Although peripartum hysterectomy is associated with severe maternal and perinatal morbidity and mortality, it remains a potential life saving procedure if timely intervention is done.

**P0585**

**WHO SAFE CHILDBIRTH CHECKLIST: EXPERIENCE AT TERTIARY CARE HOSPITAL OF PAKISTAN**

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**Objectives:** To determine the effectiveness of 29-point WHO Safe Childbirth Checklist for improving compliance of health workers with best practices at the time of delivery.

**Method:** Pre-post intervention study, carried out at Ob/Gyn Unit 1, Holy Family Hospital, Rawalpindi from August 2013 to March 2014. Group A consisted of 250 patients who delivered in the unit in August 2013 with standard care that is provided to all patients. The attending doctor was requested to mark the checklist points that were carried out. Then the checklist was introduced. Group B consisted of 250 patients who delivered in March i.e. six months after the checklist has been in use. The data was analyzed by SPSS version 17. A p-value of <0.05 was considered as significant.

**Results:** The checklist was correctly filled in 238 patients in group A and 231 in group B. The groups were similar for age, parity, antenatal care received, birth weight and outcome of the newborn. Significant difference occurred in the delivery of 13 best practices: assessment of maternal anticonvulsant requirement (p-value 0.003), maternal hepatitis status, hand-washing, allowing birth companion, confirming delivery supplies, identification of delivery assistant, assessment for post-partum haemorrhage, neonatal condition, breastfeeding, thromboprophylaxis, assessment of maternal and neonatal condition, counselling regarding seeking help, maternal hepatitis B vaccination, contraception, and danger signs prior to discharge (all p-value 0.00).

**Conclusions:** Statistically significant improvement was observed in a number of parameters. Being a tertiary care hospital, most others were already being practiced. However, in secondary and primary care settings checklist may improve the delivery of all practices.

**P0586**

**PREDICTORS OF VAGINAL DELIVERY AMONG PREGNANT NIGERIAN WOMEN WHEN LABOUR IS INDUCED AT TERM WITH MISOPROSTOL**

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**Objectives:** To identify factors that predict vaginal delivery when labour is induced at term with 50ug intravaginal misoprostol at University of Benin Teaching Hospital, Nigeria.

**Method:** A prospective cohort study among 356 pregnant women utilising multivariate logistic regression with adjusted odds ratio to identify predictors of vaginal delivery.

**Results:** A previous vaginal delivery (OR 0.77, p=0.10) and the use of oxytocin infusion to augment uterine contractions during labour (OR 1.87, p=0.015) were independent predictors of vaginal delivery.

**Conclusions:** A previous vaginal delivery and using oxytocin infusion to augment uterine contractions increase the chances of vaginal delivery when labour is induced with 50ug intravaginal misoprostol. This information is important when counselling patients for labour induction.

**P0587**

**DEMOGRAPHIC PROFILE OF PATIENTS WITH UTERINE RUPTURE AT THE UNIVERSITY OF CALABAR TEACHING HOSPITAL (UCTH), CALABAR: A TEN YEAR REVIEW**

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**Objectives:** Ruptured uterus is one of the major obstetric emergencies in sub Saharan Africa. It is a major cause of maternal and perinatal morbidity and mortality. Periodic review is therefore necessary to determine the magnitude and to find ways to reduce this obstetric disaster. The objective of this study is to determine the incidence of ruptured uterus, and the profile of patients presenting with ruptured uterus in UCTH, Calabar.

**Method:** This is a ten year retrospective case control study of patients with uterine rupture at the University of Calabar Teaching Hospital (UCTH), Calabar. The pregnancy outcome of patients with uterine rupture (study group) who delivered in UCTH, Calabar from 1st January, 2001 to 31st December, 2010 were studied and the findings were compared with patients without uterine rupture (control group) who delivered in the same hospital immediately after each of the patients with uterine rupture.

**Results:** A total of 132 patients out of 16, 650 had uterine rupture during the study period; however, only 85 case files were available for analysis. The incidence of ruptured uterus was 7.9/1000 deliveries. Uterine rupture occurred in 71 (83.5%) patients who did not book for antenatal care (ANC) compared to 9 (10.6%) in the control group (χ²=86.60; P < 0.05). The commonest predisposing factor was the presence of uterine scar 37 (43.5%). The maternal and perinatal mortality rate was significantly higher in patients with uterine rupture (χ²=16.45; P < 0.05 and χ²=124.05; P-Value < 0.05 respectively).

**Conclusions:** The commonest predisposing factor for uterine rupture at UCTH, Calabar is the presence of a previous uterine scar. There is a need to reduce the high maternal and perinatal mortality associated with this condition.
**P0588**

**DECISION TO DELIVERY INTERVAL (DDI) FOR FETAL DISTRESS IN A LOW RESOURCE SETTING. A CROSS SECTIONAL STUDY AT UNIVERSITY TEACHING HOSPITA IN LUSAKA**

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**Objectives:** To show decision to delivery intervals at the University Teaching Hospital in Lusaka.

- To describe the outcomes associated with these decision to delivery times.

**Method:** This was a cross sectional study which recruited patients with fetal distress that underwent caesarean section between September 2013 and January 2014. Fetal distres was diagnosed by presence of meconium and abnormal fetal heart. Decision to deliver and time of delivery and outcomes were collected from patient files. Preterm, malpresentations, fetal anomaly and twin pregnancies were excluded from the study. Ethical approval was from the university of Zambia ethics committee.

**Results:** There were 1,993 caesarean section in this period. 216 patients had fetal distress that fulfilled eligibility criteria. Average age of mothers was 25 years, average gestation age was 39.1. There were 16 fresh still births (FSB) 200 live births.

- The average DDI was 202 minutes. Minimum DDI was 33 minutes, maximum was 955.
- Mean delivery time for FSB was 285.214 for admission to neonatal intensive care units 193 for well babies (t=2.18, p=0.03).

**Conclusions:** DDI at the university teaching hospital are far from the prescribed 30 minutes. These delays are associated with poor fetal outcomes, including admission to neonatal intensive care units and FSBs.

**P0589**

**BABIES BORN BEFORE ARRIVAL: RISK FACTORS ASSOCIATED WITH PARTURIENTS DELIVERING THEIR BABIES OUTSIDE THE HEALTH CARE FACILITIES IN ORT DISTRICT, SOUTH AFRICA**

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**Objectives:** To explore the barriers to accessing health facilities during childbirth.

**Method:** A qualitative research design was used. Individual and focus groups interviews of birth before arrival mothers and of nurses were undertaken at a community health centre and a district hospital in ORT Distrcit.

**Results:** Risk factors for birth before arrival included a lack of transport, a lack of security at night, which deterred mothers from travelling, precipitate labour, a failure to identify true labour, and a lack of waiting areas at health facilities. Traditional and cultural beliefs favouring childbirth at home and negative nurses' attitudes during antenatal care and labour influenced mothers to go to health facilities when in advanced labour. Mothers were aware of possible complications associated with birth before arrival.

**Conclusions:** Socio-economic, individual, cultural and health system factors influence the occurrence of birth before arrival. Relevant stakeholders need to address these factors in order to ensure that all babies in the ORT District are delivered within designated health facilities.

**P0590**

**CEREBRAL PALSY AND PERINATAL ASPHYXIA: MEDICOLEGAL IMPLICATIONS AND PREVENTION**

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**Objectives:** Obstetric litigation is a growing problem in developed countries and its escalating cost together with increasing medical in-
P0592
OBSTETRICAL RESULTS IN NULLIPAROUS WOMEN WITH A SINGLE CEPHALIC PREGNANCY AT >37 WEEKS GESTATION FROM 44 SWEDISH HOSPITALS

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Objectives: To study the variation in obstetrical outcome in all Swedish delivery wards in 2014. The most important group if you want to minimize the Caesarean section (CS) rate is nulliparous women with a single cephalic pregnancy at >37 weeks gestation. We wanted to study the variation in section rate among these women.

Method: National results were collected from all Swedish delivery wards (except Växjö and Karlstad due to problems to get data from the database). Data was imported from the database that is automatically created at each delivery.

Results: The variation in CS rate in nulliparous women with a single cephalic pregnancy at term was from 7% (Linköping) to 23% (Danderyd, Stockholm). The difference in CS rate in this group was significant OR=3.0 (95% CI: 2.4, 3.8).

The induction rate in nulliparous women with a single cephalic pregnancy at term varied between 9% (Karlskoga), 12% (Norrköping) and 28% (Karolinska University Hospital Solna, Stockholm); The CS rate was raised in inductions compared to spontaneous start of labour. Calculating on all the 44 hospitals there was a raised risk for a CS after induction of labour, OR=3.3 (95% CI: 3.1, 3.5).

Conclusions: Huge variation in Swedish hospitals in CS rate in nulliparous women with a single cephalic pregnancy at >37 weeks gestation. To continuous monitor the results in the obstetrical wards and that the hospitals with improvement opportunities are interested in focusing on continuous quality improvement is vital for keeping a high standard in obstetrics.

Reducing unwarranted practice variation is important where it influences health outcomes, health care costs, and provision of appropriate and patient focused care.

P0593
A RARE CASE OF BILATERAL ECTOPIC PREGNANCY AND DIFFERENTIAL DIAGNOSIS OF GESTATIONAL TROPHOBlastic DISEASE

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Objectives: Bilateral ectopic pregnancy is a rare condition and is divided in two subgroups, primary and secondary, based on history of assisted reproductive technology.

Method: A 30 year old primigravid woman with history of infertility and ovulation induction presented to a hospital in Sainte Justine Hospital a Montreal in year 2015. She had vaginal bleeding, abdominal pain and ultrasound findings suggested early pregnancy. Due to high titer of β-HCG, gestational trophoblastic disease was proposed and D&C was done in referral and admission to gyneco-oncology ward in Tehran.

Results: Repeat sonography suggested ectopic pregnancy in left side and repeat β-HCG level showed an increase of 19435 mIU/ml. Laparotomy findings revealed bilateral ampullary ectopic pregnancy. Bilateral salpingostomy followed by one course of methotrexate was prescribed.

Conclusions: Bilateral ectopic gestation should be considered as a rare differential diagnosis for ectopic pregnancy. In this study, bigger size and rupture in left side was observed.

P0594
OXYTOCIN AUGMENTATION OF SPONTANEOUS LABOUR: IT IS A BENEFICIAL AND A SAFE INTERVENTION?

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Objectives: Oxytocin is the most commonly used medication in obstetrics. Although it has proven advantages in induction of labour, the benefits in augmentation of spontaneous labour has been less convincing.

Current evidence suggest that it shortens the duration of labour; but this has not resulted in an increase in successful vaginal deliveries as generally perceived. It remains a common obstetric intervention which may have significant maternal and fetal implications.

The objective of this study is to evaluate the maternal and fetal outcomes following oxytocin augmentation of patients in spontaneous labour.

Method: This is a retrospective cohort study. The study period was from 1st January 2010 till 31st December 2012 and 108,977 patients in spontaneous labour were studied.

Specific variables were extracted from the National Obstetric Registry of Malaysia (NOR), from all the fourteen participating tertiary hospitals in Malaysia, which totalled to 399,274 patients.

The analyses were performed with Stata Statistical Software: Release 11. Simple logistic regression analysis were used to calculate the crude odds ratio for caesarean section, fetal compromise, instrumental deliveries, primary postpartum haemorrhage, poor Apgar score, birth asphyxia, meconium aspiration syndrome, shoulder dystocia and perineal tears.

Results: Oxytocin augmentation of spontaneous labour did not result in an increase in successful vaginal deliveries. Conversely, the risk of caesarean section was increased, with a crude OR (95% CI) of 1.89 (1.80–1.99) p<0.001, which is likely to be performed for fetal heart rate abnormalities, crude OR 2.19 (2.06–2.32) p<0.001. However, this was not associated with poor Apgar Scores or birth asphyxia.

Oxytocin use was also associated with an increase in maternal complications, such as instrumental deliveries, crude OR 3.02 (2.77–3.29) p<0.001, post-partum haemorrhage, crude OR 2.00 (1.53–2.63) p<0.001 and shoulder dystocia, crude OR 2.95 (2.04–4.28) p<0.001.

Conclusions: Oxytocin augmentation of spontaneous labour is an intervention with significant maternal complications; without improving the rates of a successful vaginal delivery. It is associated with an increase in caesarean sections, instrumental deliveries, shoulder dystocia and post-partum haemorrhage.

Interventions with liberal use of oxytocin augmentation should be reviewed and used cautiously, especially if the labour progress is abnormal as the essence of modern obstetric management is to achieve a safe delivery.

P0595
FOLEY’S NO 16 CATHETER INTRAUTERINE PLACEMENT FOR CONTROLLING POST PARTUM HAEMORRHAGE (PPH) FOLLOWING ELECTIVE CAESAREAN SECTION

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Objectives: To introduce a simple and cost effective method to control PPH following elective caesarean section in primary care set up with readily available Foley’s cathether which can be introduced intrauterine at patient’s bed side without need of anaesthesia even by nurses.

Method: 105 patients treated at Sanjeevani Hospital, Kolkata India, between June 2012 and June 2014 with PPH following elective cae-
IMPLEMENTING ELECTRONIC FETAL MONITORING IN A LOW-RESOURCE SETTING

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Objectives: Electronic fetal monitoring (EFM) has become standard of care in developed settings. The World Health Organization does not recommend use of continuous EFM in low-resource settings due to lack of evidence supporting improved neonatal outcomes and increased cesarean section rates. Despite this recommendation, EFM is utilized at various institutions. The obstetrics department at Hospital Universitaire de Mirebalais (HUM) in Haiti received a donation of fetal monitors and requested Physicians for Haiti (P4H), an NGO focused on continuing education, provide training in EFM. P4H aimed to accompany the HUM team in integrating EFM into the clinical setting through evidence-based training and implementation.

Method: We conducted an English-language literature review of EFM in low-resource settings and reviewed national and international guidelines. A curriculum in EFM covering definitions/terminology, uses and limitations, established guidelines, and practicum for physicians, midwives, and nurses was developed and implemented at HUM, a large tertiary care center in Haiti. Pre- and post-testing was performed. A protocol for the use of EFM was created collaboratively between P4H physicians and HUM colleagues.

Results: The literature review revealed no existing protocols or outcomes data for EFM in low-resource settings. 45 clinicians attended the 4-hour EFM training. Course content included fundamental training in EFM, review of National Institutes of Child Health and Human Development guidelines, and EFM tracing review. Post-test scores improved by 20.4% over pre-test scores. Course evaluations revealed that all participants felt the training was of high importance and would improve patient care. Several identified the need for more practice reading EFM tracings as well as follow-up sessions to reinforce the material. An EFM protocol for use in high-risk patients was created.

Conclusions: Despite the lack of evidence supporting the use of EFM in low-resource countries, institutions are and will be using EFM. Training is necessary to enable providers to implement and interpret EFM appropriately. Data is needed on the utility of EFM in this setting, and the development of consensus guidelines is necessary. At HUM, institutional quality assurance evaluation is needed to ensure compliance with the new protocol and further research is needed to determine effectiveness. Given the spread of EFM to low-resource settings, the international medical community must come together to address EFM in the global context.

MODE OF DELIVERY IN TWIN PREGNANCIES: A CHILEAN EXPERIENCE

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Objectives: The objective is to analyse our local data of twin delivery.

Method: Retrospective analysis of all twin deliveries in Hospital Padre Hurtado (Santiago-Chile), from 2005 to 2012. Twin pregnancy rate, gestational age at delivery and mode of delivery was studied.

Results: There were 42,879 livebirths in the study period, from which 755 were born from 377 twin pregnancies and one triplet. This corresponds to 0.8% of pregnancies. There are no fertility treatments in this population, only spontaneous multiple pregnancies. Fetal mortality from 24 weeks onwards was 5/1000 in singletons and 33/1000 in twins, raising up to 51/1000 in monochorionic twins. Mean gestational age at delivery was 35 weeks, (21–39), with 34% over 37 weeks. 69% were delivered by c section, 4% by combined vaginal delivery for the first twin and c-section for the second. Only 27% delivered vaginally.

Conclusions: Our local data confirms the high cesarean section rate in this subgroup of pregnancies. Improvements in the vaginal delivery rate should be undertaken.
**Results:** 22,745 primigravidae delivered in the study period. From theses, 5390 delivered by c-section (23.6%). From those that delivered vaginally in their first pregnancy, there were 4463 subsequent deliveries: 3363 were the second pregnancy and the rest corresponded to the third or more pregnancies. The overall C section rate in these was 9.7%.

From those that delivered by c-section in their first pregnancy (n=5390), there were 1155 pregnancies thereafter (1 or more), from which the C-section rate was 64.8% (749). (p<0.001). There was a 16.6% OR of a c-section in the second pregnancy, when the first was a c-section.

**Conclusions:** The C-section rate in the subsequent pregnancy was greatly increased when the first one was a C-section. The results support that the first pregnancy needs particular care in lowering C-sections, in order to reduce the overall rate in an institution.

### P0600
**CHILD BIRTH EMERGENCY REFERRALS BY TRAINED TRADITIONAL BIRTH ATTENDANTS IN NIGERIA: THE NEED FOR FURTHER TRAINING**


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**Objectives:** The aim of the study was to audit childbirth emergency referrals by trained traditional birth attendants (TBAs) to a specialist hospital in Enugu, Nigeria. The specific objectives were to assess the conditions of the referred women at presentation, indications for their referrals, obstetric delays at the TBAs, and the foeto-maternal outcome of such pregnancies.

**Method:** A retrospective study of 205 childbirth emergencies referred to Semino Specialist Hospital and Maternity (SSHM), Enugu, Nigeria by trained TBAs from August 1, 2011 to January 31, 2014. Data analysis was descriptive and inferential at 95% confidence level. Statistical significance was considered to be at probability value of <0.05.

**Results:** One hundred and fifty (115/205, 56.1%) women walked into the hospital by themselves while 90 (90/205, 43.9%) could not. The fetal heart sounds were normal in 94 (94/205, 45.6%), abnormal in 65 (65/205, 31.8%) and absent in 42 (42/205, 20.4%) on admission. Delays of more than 12 hours had occurred in 155 (155/205, 76.6%) before referrals. Prolonged labor (100/205, 48.8%), obstructed labor (40/205, 19.5%), Failure of vaginal birth after previous Caesarean section (40/205, 19.5%), and mal-presentation (30/205, 14.6%) were the common indications for referrals. The maternal mortality and perinatal mortality rates were 610/100,000 live births and 228/1000 total births respectively.

**Conclusions:** Delays at TBA centers are common before referral and many patients are referred in poor clinical state. Further training and re-training of the TBAs with more emphasis on recognition of obstetric danger signs and bad obstetric histories may help in screening high-risk patients for prompt referral to hospitals before complications develop.

### P0601
**DELAYED DELIVERY OF SECOND TWIN BY RESCUE CERCLAGE**

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**Objectives:** Improve fetal outcome of second twin after early delivery of first one in second trimester.

**Method:** Case report.

**Results:** Good Maternal and fetal outcome of second twin after insertion of rescue cerclage.

**Conclusions:** Delayed delivery of second twin by emergency cerclage has been reported but only few cases. Patients should be carefully counselled with emphasis on risks and the uncertainty of the outcome. Use of Tocolytics and or Antibiotics is controversial. This case demonstrated one of best outcome and one of the longest interval (141 days) reported.

### P0602
**SEVERE SECONDARY POSTPARTUM HEMORRHAGE: A HISTORICAL COHORT STUDY**

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**Objectives:** Postpartum hemorrhage remains one of the leading causes of maternal mortality and morbidity worldwide. Few publications have examined secondary PPH (bleeding that occurs between 24 hours and 42 days after delivery). The incidence of these secondary PPHs is low, ranging from 0.2 to 3% and probably underestimated. Moreover, their causes often remain unknown. On the other hand, only two studies have reported predictive factors for secondary PPH. The objectives of this work were to assess: 1) the incidence of severe secondary PPH; 2) the distribution of its causes; and 3) its risk factors.

**Method:** Historical cohort study from January 1, 2004, through 2013, in a level III maternity ward (31,485 women). Eligible women were those treated for severe secondary PPH during their postpartum hospitalization or admitted for it after discharge but before the 42nd day postpartum, regardless of type of delivery. Women giving birth before 22 weeks of gestation or who had only an immediate PPH (<24 hours after delivery) were excluded. Eligible cases were identified by the hospital’s administrative software. A manual backwards stepwise logistic regression analysis was used to identify the risk factors for severe secondary PPH.

**Results:** The incidence of severe secondary PPH was 20 per 10,000 deliveries (63/31,485 women). The mean time between delivery and PPH onset was 13.4±10.8 days. The cause to which these hemorrhages were most frequently attributed (30.0%) was placental retraction. Subinvolution of the placental bed was noted in 13.3% of the cases, endometritis in 10%, pseudoaneurysm of the uterine artery in 3.3%, and excessively strong resumption of menses in 3.3%. After adjustment, an immediate PPH (aOR=2.7, 95% CI: 1.3–5.6) and a maternal age ≥35 years (aOR=2.0, 95% CI: 1.1–3.7) were identified as risk factors for severe secondary PPH.

**Conclusions:** In conclusion, secondary PPH is a rare complication but one that can result in severe maternal morbidity. Pathology examination can identify the specific cause of secondary PPH, such as subinvolution of the placental bed. This cohort study confirms that imme-
P0603

USE OF TRANEXAMIC ACID IN THE MANAGEMENT OF POST PARTUM HEMORRHAGE: TUNISIAN PRELIMINARY STUDY

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Objectives: To assess the efficacy of a new protocol including TXA in the management of post partum hemorrhage in our unit.

Method: In this preliminary retrospective Tunisian trial, women with PPH following vaginal or cesarean delivery were assigned to receive TXA (loading dose 1 g/10 minutes, then infusion of 1g/hour over 3 hours), in addition to the classic protocol including Oxytocin and prostaglandins.

Results: During the period of study (31 months), 40 patients fully completed the protocol. The average age of the patients was 29.7 years. The main causes of postpartum hemorrhage were: uterine atony (83%) and genital tract trauma (11%). TXA infusion was started on average after 27 min from the beginning of the hemorrhage. No adverse effects of TXA were observed. (18%) of our patients required a blood transfusion. The protocol succeeded in (81.1%) of the cases. Somewhere else, we used surgical options to stop hemorrhage.

Conclusions: This preliminary study can confirm the demonstration that TXA reduces blood loss and maternal morbidity in PPH. This product is useful in developing countries. Adverse effects were mild and transient. A larger study should be performed to investigate whether TXA could reduce maternal morbidity worldwide.

P0604

CLINICAL OBSTETRICS TRACK – LABOR AND DELIVERY. MATERNAL AND NEONATAL OUTCOME IN WOMEN DELIVERED AT A PRIVATE HOSPITAL, SOUTH INDIA

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Objectives: The study was done to know the maternal and neonatal outcome, cesarean section rate, NICU admission rate and risk factors in women delivered at a private hospital, South India.

Method: It is a retrospective study of 537 women delivered over a period of 9 months (January 2014 - September 2014) at Dr. Mehtas Hospitals, Chennai, India with tertiary NICU care and catering to various consultants. The age, parity, gestational age, maternal risk factors, mode of delivery, admission delivery interval, birth weight, sex, APGAR and NICU admissions of babies were analysed.

Results: The overall cesarean section rate was 62.9% with 52.5% and 74.7% in women booked at Mehta’s hospital and outside, respectively. Among women with GDM, PIH, oligohydramnios and IUGR the caesarean rate was 86%, 78%, 80% and 96% respectively. Many women who underwent caesarean had multiple risk factors. Overall NICU admission was 17.3%. NICU admission was 62.5% in twins, 68.2% in IUGR babies, 46.6% in LBW babies, 62% in abortion and 57% in placenta previa. Emergency LSCS was done in 65.7%, 26.1% and 2.7% of women at latent, active phase and second stage, respectively.

Conclusions: The high cesarean rate in a tertiary NICU referral centre was found to be due to high risk factors and early recours to cesarean section in latent phase. Primary cesarean section rate was high. All previous CS had repeat LSCS. The possibility of VBAC should be considered in selective patients. In India, childbirth has great social implications. There is high family anxiety and pressure on the obstetrician to ensure earlier, smooth delivery and well-being of the newborn child. With patient and family education and counselling and proper intra-partum surveillance, vaginal delivery rate can be improved.

P0605

INDUCTION OF LABOUR IS ASSOCIATED WITH INCREASE IN CESAREAN BIRTH RATES IN A SETTING WITH A LOW RATE OF CESAREAN DELIVERIES

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Objectives: Recently published studies suggest that induction of labor (IOL) compared to expectant management is associated with reduced odds of cesarean delivery (CD). We wanted to analyze the results in our population comparing induction with expectancy.

Method: A retrospective cohort study of all term cephalic deliveries in women planning to deliver vaginally between 2000 and 2014. The hospital has three delivery wards as in two of the wards only healthy women at term with a singleton cephalic presentation and without complications in pregnancy were admitted. We compared women induced in week 39 with all women in the cohort delivered after 39 weeks (excluding planned CD). We used the same methodology as previous observational studies compared by gestational week, rates of CD between women managed expectantly or with IOL. Women with a prior-CD were excluded. Elective-CD were excluded.

Results: There were 96,444 eligible deliveries over the study period. The emergency CD rate in this group was 3.6% (spontaneous labor 3.1% and IOL 10.6%). Women induced in week 39 versus all deliveries after week 39 had a raised risk for CD OR=1.7 (95% CI: 1.4, 2.2). Women induced in week 40 versus all deliveries after week 40 had a raised risk for CD OR=1.6 (95% CI: 1.2, 1.9). Women induced in week 41 versus all deliveries after week 41 had a raised risk for CD OR=1.5 (95% CI: 1.2, 1.8).

Conclusions: Results from other studies from countries with higher rates of CD have not been confirmed in our population. Induction of labor was associated with a raised risk of cesarean section. Concerning the negative impact of a high CD rate maybe the focus should be on quality improvement to lower the CD rate.

P0606

COMPARISON OF SEQUENTIAL VAGINAL AND SUBLINGUAL MISOPROSTOL AFTER VAGINAL LOADING DOSE IN SECOND-TRIMESTER ABORTION

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Objectives: Misoprostol is a prostaglandin E1 methyl ester originally described as the prevention of peptic ulcers. It was firstly used to induce labor with a live fetus in 1991. Now it is widely used for off-label induction of abortion and labor, or the treatment of postpartum hemorrhage. This medication has various administration routes, including oral, sublingual and buccal, dosage, also different interval of misoprostol for mid-trimester termination. To improve the efficacy of mid-trimester abortion, we therefore have a prospective clinical trial of sequential vaginal and sublingual misoprostol after vaginal loading dose, and compare the efficacy and safety of two different regimens.

Method: From January 2006 to December 2011, 203 pregnant women between 14–24 gestational weeks with fetal abnormality were recruited. This study was carried out at the Department of Obstetric and Gynecology, Mackay Memorial Hospital. 45 patients had prior cesarean section or uterine surgery, intrauterine fetal demise, premature rupture of membrane, Bishop score > 4 and multiple pregnancies were excluded. All 173 women were admitted for receiving an 800-microgram vagi-
nal loading dose of misoprostol. After loading dose, 102 patients received vaginal 800 mg misoprostol and 70 patients received sublingual 400 mg every 12 hours repeatedly until the delivery of fetus.

Results: Both sequential sublingual and vaginal misoprostol after vaginal loading have similar result. Total 100 women (58%), 57 (55%) in vaginal group and 43 (61%) in sublingual group expelled the fetus after one single vaginal loading dose of 800 mg misoprostol. 85 (82%) women in vaginal group had abortion within 24 hours and 58 (83%) in sublingual group. The age, gestational week, time to delivery, abortion within 12, 24, 48 hours, and analgesics use are not significantly different in two groups. The numbers of pelvic and speculum examination are significantly lower in sublingual group.

Conclusions: Sublingual had advantage of less pelvic examination. In this study, sublingual group had significant lower rates of pelvic examination and speculum examination, the administration interval was longer than another trial of 3 to 6-hour interval. The abortion rate and time to abortion is similar. Sequential sublingual misoprostol after vaginal loading dose of 800 mg with of administration interval of 12 hours had low pyrexia, similar abortion rate and time to abortion. Vaginal loading dose had the local effect and sequential sublingual route was easy for drug administration. This sequential regimen might be suitable for midterm-trimester abortion.

P0608

DIMENSIONS OF RESPECT AND DIGNITY TO INFORM FACILITY-BASED BIRTH CARE: A REVIEW OF THREE CONCEPTUAL FRAMEWORKS FROM LOW AND HIGH-RESOURCED SETTINGS

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Objectives: To present existing concepts for understanding both disrespectful care and respectful/dignified care that can affect facility-based birth in low-resource settings by reviewing published models.

Method: In this desk review, we will present the 7 rights of childbearing women (White Ribbon Alliance 2012) corresponding to the 7 categories of disrespect and abuse (TRAAction project 2012–2015); the 6 types of disrespectful physician behavior in high-resource settings (Leape et al 2012); and the 7 dimensions of respectful and dignified treatment and recommended provider behaviors in intensive care units (ICU) (Beach and Sugarman 2015). We will draw out universal themes and provide illustrative examples relevant to maternal health care in low-resource settings.

Results: Disrespect and abuse in facility-based birth in low-resource settings includes: physical abuse, non-consented, non-confidential, non-dignified care and discrimination, abandonment or denial of care, and detention in facilities. Disrespectful physician behaviors include: disruptions, humiliating treatment of non-physicians, passive-aggressive behavior, passive disrespect, dismissive treatment of patients, and relates to systemic disrespect. Dignified ICU care comprises: being treated as person, “golden rule”, acknowledgement, and treatment as: family/friend, individual, equal, and being important/valuable. Implications exist for client-provider verbal and non-verbal communication, interactions with client’s family, interactions among provider teams, and physical space, supplies and systems to support respectful facility-based birth care.

Conclusions: Conceptual frameworks from low and high-resource settings and different clinical service areas can inform how OB/GYNs interact with clients/patients, families and clinical team members to ensure that rights are respected and health services are utilized.

P0607

USE OF PARTOGRAPH TO IDENTIFY COMPLICATIONS AND FACILITATE REFERRAL DECISIONS BY HEALTH PROVIDERS AT PERIPHERAL LEVEL

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Objectives: The study aimed to determine the appropriate use of partographs to identify referral indications among admitted women.

Background: Bangladesh, normal delivery services at each of the 4,000 union level facilities is typically managed by a single female paramedic, with assistance from a female support staff. Identifying complications, and ensuring referrals is thus critical to ensure timely referral and prevent maternal and newborn deaths due to second delay. MaMoni HSS project introduced partograph as a tool for clinical decision making in five union level health facilities in 2012–2013 in Habiganj district, a northeastern district.

Method: The study conducted secondary analysis of the records of all 1,600 mothers who were admitted to the five health facilities between 1 July 2013 and 30 June 2014, including mothers who were admitted but was subsequently referred to a higher level facility. The analysis examined the use and completeness of the partographs for these mothers, and followed a decision-making algorithm to identify whether a complication occurred, was identified by the paramedic, and whether the mother was referred. The study also conducted key informant interviews to understand the nature of the constraints faced by paramedics in filling partographs and ensuring referral.

Results: Out of the 1,600 mothers who arrived at the facility, 23% mothers were directly referred, so a partograph was not filled. Among those mothers who were admitted, around 91% had a partograph completed. According to the partographs, 33% mothers had referral indication present. Among them, 2.7% were actually referred. Among 67% of mothers for whom referral was not indicated, 5% were referred to a higher level facility.

Key informant interviews revealed that understanding of partograph components varied from paramedic to paramedic, and referral decisions in several cases were based on practical considerations (distance, transportation availability, time progress of labor).

Conclusions: Use of partographs by paramedics in peripheral facilities not always effective for referral. There is a national discussion among professional bodies about use of simplified partograph. Getting effective coverage at scale of partograph use will depend on successfully addressing the constraints of the paramedics.

P0609

WHY MOTHERS’ DEMAND CESAREAN SECTION IN AN UNCOMPLICATED PREGNANCY?

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Objectives: WHO guidelines recommend that the proportion of caesarean births should range 5–15% and no additional benefit accrues to the neonates or the mothers when the rate exceeds this level. However, in recent years both in developed and developing countries, cesarean section (CS) rate has increased dramatically. In Sikkim, also CS rate has tripled over the last decade. There appears to be a developing tendency among women and physicians to promote the right of women to choose an elective CS.

The objectives of this study were to investigate the psychological, social and demographic factors associated with cesarean section on maternal demand.

Method: The state of Sikkim located in the eastern Himalayas became the 22nd state of Indian union. Sikkim Manipal Institute of Medical Sciences (SMIMS) is the only teaching hospital in the state of Sikkim, which provide comprehensive health care to the population of Sikkim. It was a cross-sectional questionnaire based survey conducted in the Department of Obstetrics and Gynaecology of SMIMS, Gangtok from January 2014 to December 2014 among term pregnant women who requested for CS without any medical or obstetric indication. The data were analyzed by computer software Instat Graph Pad version-3 and significance was decided at p-value 0.05.

Results: Mean ages of the pregnant women were 25.4 years and most of the women were primigravida. The rate of CS during the study
period was 56.2%. The most common indications for CS was maternal demand (47.2%) followed by anticipated fetal compromise (23%). The common reasons cited for requesting CS were fear of labour pain (92%), unpredictable nature of normal labour (76.4%) and easier to get back to sexual activity. Given an enough and adequate explanation 39.2% responded that they would have given a thought for trial of a normal delivery while 53.3% responded that they would not change their decision.

Conclusions: Cesarean section rate was quiet alarmingly high in this tertiary institute of Sikkim. In about half of the cases indication for cesarean section was maternal request without any obstetric or medical indications. Common two reasons offered by the women for demanding cesarean delivery were fear of labor pain and concern about unpredictable nature of normal labour. These important finding should be taken in to consideration while counseling women regarding mode of delivery and appropriate information should be provided in a nonjudgmental manner to reduce the high rate of cesarean sections.

P0610
AN AUDIT OF TWIN PLACENTA PATHOLOGY REPORTS
(C)ORRECTLY IDENTIFYING THE FIRST AND SECOND TWIN
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Objectives: It is considered good practice for the midwife to place a single umbilical clamp on the cord of Twin 1, two clamps on the cord of twin 2 and 3 clamps on the cord of triplet 3. This is the correct way to link disease identified in the placenta with the baby. This is not always done and practice varies. Our study aims to establish the number of placentas received that had correctly identified the placenta part of Twin 1 vs. Twin 2.

Method: A copy of all placenta reports for one year was obtained from computer print out of cases. Reports were examined to identify and count multiple births. When properly identified, placentas were reported as Placenta 1 and Placenta 2. If not properly identified or uncertain placentas were reported as Placenta A and Placenta B.

Results: Chorionicity was established for 60 Dichorionic Twins, 12 Monochorionic Twins, 5 Trichorionic triplets and one was unascertained chorionicity (Torn Membranes). 20 Dichorionic Placentas, 5 Monochorionic placenta and 3 Trichorionic placenta were correctly identified. 40 Dichorionic Placentas, 7 Monochorionic Placentas, 2 Trichorionic placenta and one unascertained chorionicity were not appropriately identified and therefore were designated A, B or C.

Conclusions: Two thirds of placentas from twin pregnancies are not identified according to the recommended protocol. The importance of identifying the first born twin goes back to antiquity. The same does not appear to apply to the after-birth. There was a time when an umbilical cord clamp was considered wasteful if sent with the placenta, however, nowadays with fetal cord blood sampling at delivery, it is not uncommon to see several clamps. We should consider using a coloured clamp to identify the first twin and placenta as in the Biblical story of Tamar’s twin pregnancy; Genesis xxxviii, 27.

P0611
INVESTIGATION OF EMBOLIC AGENTS FOR UTERINE ARTERY EMBOLIZATION
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Objectives: Uterine artery embolization (UAE) is an effective procedure for postpartum hemorrhage (PPH). Both gelatin sponge and metallic coil has been used as embolic agents. Since metallic coil is a permanent embolic material that may cause uterine necrosis, infertility and fetal growth restriction for the next pregnancy, absorbable material such as gelatin sponge is recommended in UAE for PPH. However, if PPH is not successfully treated by gelatin sponge, metallic coil is used additionally in our hospital. To clarify the factors for additional use of metallic coil in UAE, patients’ background and clinical conditions before UAE were investigated.

Method: Thirty one patients were treated with UAE for PPH between March 2010 and September 2014 in Kyorin university hospital. Nineteen patients were performed UAE using gelatin sponge (S) and 12 patients using additional metallic coil with gelatin sponge (S+C). Back ground of two groups including age, parity, gestational age of delivery, delivery mode, number of neonate, previous caesarian section, and assisted reproductive technology were estimated. Also clinical conditions immediately before UAE including total blood loss, shock index (SI), DIC score, hemoglobin, and blood transfusion were analyzed. Fisher’s exact test and Student’s t-test were used for statistical analyze. Differences was considered significant with a p-value <0.05.

Results: The rate of previous caesarian section (p<0.05) and the rate of patients with an SI ≥1.0 (p<0.01) were both significantly higher in S+C group compared to S group.

Conclusions: Appropriate informed consent of UAE complications using metallic coil should be given before UAE, especially in patients with previous caesarian section or SI ≥1.0.
E486  


P0613

EFFECTIVENESS OF FOREIGN VERSUS LOCAL TRAINERS ON SKILLED BIRTH ATTENDANTS’ KNOWLEDGE AND SKILLS ACQUISITION AFTER SIMULATION-BASED TRAINING IN RURAL RWANDA

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Objectives: To compare foreign versus local trainers in their effectiveness in training rural Rwandan Skilled Birth Attendants (SBA) using a combination of didactic presentations and simulation training in normal spontaneous vaginal delivery (NSVD) and postpartum hemorrhage (PPH).

Method: Nineteen participants received training by U.S. trainers (Group 1) and a local Rwandan interpreter, and fifteen by local Rwandan trainers (Group 2). Both groups received 5 days of NSVD and PPH didactic and simulation training. Summed scores of NSVD and PPH skills-based checklists were used to assess critical skills during simulated scenarios for both groups. Differences in pre-training scores between groups were assessed via independent samples t-tests. Change in NSVD and PPH scores as a result of training were assessed via MANOVA. Additionally, Group 2 completed pre and post training written tests, with scores analyzed using repeated measures t-tests.

Results: No demographic, experiential, or educational differences were found between groups. Both groups showed improvement in skills acquisition as a result of training, with Group 2 improving at a greater rate for both NSVD (F=12.88(32,1), p<0.01) and PPH (F=24.25(32,1), p<0.01). Post hoc analyses indicate significant differences between Group 1 and 2 post training scores (NSVD: t=4.566(32), p<0.01; PPH: t=2.63(32), p<0.01), with Group 2 scoring higher. There were also significant differences between pre and post training written test scores of NSVD and PPH management knowledge (t=−8.91(14), p<0.01).

Conclusions: Comprehensive training programs that include didactic as well as simulation-based components may improve both knowledge and skills acquisition and this effect is greater when the training is provided by local trainers. Future studies are needed to determine the potential impact of socio-cultural factors on the effectiveness of foreign versus local trainers on knowledge and skills acquisition.

P0614

ANALYSIS OF THE ELECTIVE C-SECTIONS IN HOSPITAL PADRE HURTADO. A CONTAINMENT MODEL BASED ON CLINICAL GUIDELINES TO DECREASE ITS INDICATIONS

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Objectives: Evaluate the elective C-section indication diagnosis, whether absolute or relative, and their evolution throughout time, ruled by guidelines which promote vaginal delivery.

Method: Retrospective descriptive study. The database of Hospital Padre Hurtado through January 2005 to December 2014 was reviewed. Elective C-sections diagnosis and its variation through time according to parity were analyzed.

Results: The overall C-section rate in the study period was 25.3%, being 7.5% of these elective C-sections and 17.8% emergency surgeries. 14.6% of the elective C-sections were in primiparous and 85.4% were in multiparous. Amongst primiparous, the main surgical indications were breech presentation in 29.3%, fetal macrosomia 20% and antepartum cephalopelvic disproportion 10.2%. The main indications in the multiparous group were previous double c-section (PCS) 34.5%, 1 PCS and poor obstetric conditions 29.4% and 1 PCS and fetus with a weight greater than 4000 grams 8.5% (range 12.1% in 2005 to 4.2% in 2014).

Conclusions: The analysis of absolute and relative C-section indications and its variation within the study time, shows that obstetric actions based upon guidelines which promote the vaginal delivery as the way of pregnancy end helps to constrain the elective C-sections rates.

P0615

THE EMERGENCY CESAREAN DELIVERY (ECD): CREATING A PROTOCOL TO OPTIMIZE PERFORMANCE AND OUTCOMES

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Objectives: Minimal research exists regarding the optimal response to an eCD, with no defined protocol to date. This is in stark contrast to the research existing for respiratory and cardiac arrests. Within the context of quality improvement, we sought to determine the optimal response to an eCD, taking into consideration the unique aspects of this emergency, including the care of two patients, one of whom is typically awake, the need for transportation from the labor suite to the operating room, and the coordination of care with multiple health professionals and disciplines.

Method: We performed a needs assessment of our institution’s current response to the eCD. We conducted in situ simulations on Labor and Delivery using a prolonged bradycardia scenario with a “live” patient. We placed 5 video cameras in pertinent areas to capture scenes from various angles and perspectives. Videos were analyzed by an interprofessional and interdisciplinary team (Obstetrics, Anesthesiology, Neonatology, Nursing, a communication expert and patient) analyzing communication, work flow efficiency and patient experience. This resulted in the creation of an eCD protocol and the creation of a training video followed by training sessions to facilitate implementation of the new protocol.

Results: Communication was noted to be the greatest issue, with the following noted specifically: lack of a defined leader, lack of closed loop communication, excessive misfires from our hands-free, voice communication system, and lack of direct communication with patient/family. The workflow analysis demonstrated a lack of role definition for those involved in the eCD.

Conclusions: eCD are stressful situations for all involved. From our institution’s experiences, we created a training video demonstrating our expected response to an eCD. The video highlights the response members and the expected duties for each. We also explain the new methods for clearer communication, including a broadcast system that requires one call to alert all team members. We also emphasize the patient/family experience with the addition of a support person for the family. This video represents an initial step towards improving our communication and the efficiency of our response, as well as the development of an eCD protocol.

P0616

THE CHALLENGE OF INFORMED CONSENT IN EMERGENCY OBSTETRICS – EXPERIENCES FROM THE FIB-PPH TRIAL

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**Objectives:** Studies investigating new treatments for postpartum haemorrhage (PPH) continue to be in high demand, due to PPH still carrying high risks of maternal morbidity and mortality. High quality observational studies may give some insight, but randomized controlled trials (RCT) are considered the highest level of evidence. Informed consent is mandatory but difficult in obstetrical emergency situations leaving a dilemma of whether to give a lot of pregnant woman information that might frighten them and in most cases unnecessary or to approach these women in a situation of pain, anxiety and vulnerability in the rare cases where severe PPH develops.

**Method:** All women assessed for eligibility in the FIB-PPH trial were either included and randomized or divided into groups depending on the reason for exclusion. The FIB-PPH trial investigated whether pre-emptive treatment with 2 g of fibrinogen concentrate for severe PPH could reduce the need for red blood cell transfusion. Written trial information was provided to all pregnant women by midwives during pregnancy. Informed written consent was sought during the pre-anaesthetic assessment either following the insertion of a labour epidural, prior to caesarean section or when PPH was diagnosed. Women were contacted 6 weeks post intervention and asked about their experience.

**Results:** A total of 1967 women were assessed for eligibility, 244 were included. At inclusion the mean blood loss was 1459 ml (SD 476). Of the assessed women, 30% declined to participate and 23% were unable to give informed consent due to the acute situation (10%), psychological state (7%), language barrier (29%), were uninformed of the study (48%) or had other reasons (6%). At follow-up 76% of the randomized had a positive experience but 16% would have liked more information, 5% found timing of consent difficult and 1% regretted participating in the trial.

**Conclusions:** We observed not only exclusion of women that could potentially have been included, but also negative experiences from women included during an emergency situation. The external validity of the trial is hampered by the inquiry of informed consent which lead to exclusion of those women who are most affected by a large blood loss. The necessity of informed consent for randomized trials thus continues to be a challenge in emergency obstetrics.

P0618  
A PPH VISUAL GUIDE: A SIMPLE AND A PRACTICAL SOLUTION FOR EARLY RECOGNITION AND INTERVENTION

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**Objectives:** Postpartum hemorrhage (PPH) is a significant cause of maternal morbidity and mortality. The impact is even more significant in developing countries.

Diagnostic delays and lack of a systematic approach are among the challenges associated with standard care. A visual guide of estimating blood loss coupled with systematic management strategies may be a simple solution towards early recognition and intervention. The objective of this study is to evaluate the benefits of a PPH visual guide in a tertiary delivery unit, which delivers more than 12,000 deliveries a year.

**Method:** A PPH visual guide was created illustrating estimated blood loss for common “accessories” such as sanitary pads, tampons, vaginal packs, linen protectors, “sarong” and kidney dishes. It also had systematic management strategies of various severities of blood loss. The guide was mounted on a large poster in the labour suite and all categories of staff were trained to adhere to the guide.

The primary outcomes were the incidence of mild and massive PPH 24 months before and after the introduction of the chart. The secondary outcomes were the need for multiple uterotonic agents, blood transfusions and caesarean hysterectomies.

**Results:** A total of 36,355 patients following vaginal deliveries were included in the four year study period. The incidence of mild PPH increased from 2.08% to 2.26% while massive PPH increased from 0.87% to 1.2% 24 months before and after the introduction of the PPH visual guide. This was directly contributed from increased in detection rates and was associated with increased in the need for repeat uterotonic agents. Despite the increased incidence, less patients required second line uterotonic agents and there was a significant reduction in the need for blood transfusions and hysterectomies after the introduction of the PPH visual guide.

**Conclusions:** The essence of PPH management depends on early detection and a systematic approach of management. There is an urgent need for a simple and a practical solution which can be reproduced even in resource limited settings. A PPH visual guide has the potential to overcome these challenges and it is simple, cost effective and does not require much training. It may increase the detection rates but most importantly reduce the morbidities arising from PPH.

We recommend a PPH visual guide in all labour wards as a simple yet a practical solution for PPH management.
newborn care, has taken place during the last decades. In 2009, Norway had fewer obstetric institutions than the population-based estimated need according to the WHO Handbook on Monitoring Emergency Obstetric and Newborn Care (EmONC). Our objective was to assess the influence of centralization of obstetric care on institution accessibility and neonatal clinical outcomes.

**Method:** Population-based retrospective cohort study in Norway 1999–2009. Data sources: the Medical Birth Registry of Norway and Statistics Norway. Inclusion criteria: Singleton birth at gestational age ≥22 weeks or birth weight ≥500g (n=621142). Primary outcomes: Unplanned delivery outside institution, perinatal death during delivery and up to 28 days of age, and 5 minute Apgar-score. Main exposures: Annual volume in the obstetric institution and estimated travel time from the mother's census address coordinate to the nearest obstetric institution. GIS software was used for travel time calculations. Statistical analyses by logistic regression and multilevel analyses adjusting for clustering.

**Results:** The perinatal death rate was 2.3 per 1000 (1412/621142), ranging from 0.1 to 0.3% for delivery in obstetric institutions and 0.5% for unplanned delivery outside institution (21/4353). Compared to residents in the 1-hour zone, women living further from institutions had significantly increased risk of unplanned delivery outside institution in 15 of the 19 Norwegian counties, odds ratios (OR) ranged from 1.6 to 12. Rural institutions (<50 annual deliveries (n=1574) had a higher risk of perinatal mortality at 37–40 weeks gestation (adjusted OR 3.8, 95% CI 1.5 to 9.2) in comparison to institutions with >3000 deliveries annually.

**Conclusions:** Longer travel time was associated with increased risk of unplanned delivery outside institution and these deliveries had the highest absolute risk of perinatal death. The perinatal mortality rate at term was higher for small rural institutions when compared to larger institutions, reflecting the lack of emergency interventions and the transport delay from diagnosis to intervention for acute fetal distress. However, our study indicated that further centralization needs careful consideration to avoid an increasing inequality in access to obstetric institutions.

**P0620**

**EXTERNAL PELVMETRY AND CAESAREAN SECTION INDICATIONS: FINDINGS FROM A PRELIMINARY STUDY IN RWANDAN NULLIPARAE**

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**Objectives:** To compare different external pelvic diameters according to caesarean section indications (contracted pelvis versus others) in order to assess external pelvimetry as an efficient tool for screening nulliparae at risk in a limited resources environment.

**Method:** A study group of 152 nulliparae who gave birth among all pregnant women who were involved in a broad longitudinal study on clinical pelvimetry in the Southern province of Rwanda in 2007 was considered. Apart from well-known external pelvic diameters, the length of the base of the obstetric Trillat’s triangle (i.e. the reversed urogenital triangle) was also measured. Student’s t test was used to compare means of normally distributed external pelvic diameters in mothers who experienced caesarean section (contracted pelvis versus all other indications with vertex presentation).

**Results:** See Table 1. Apart from Biillic Diameter, differences are statistically significant.

**Conclusions:** Five external pelvic diameters proved to be significantly smaller in contracted pelvis cases. Despite evident limitations for this pilot study (e.g. small sample size, foetus size), it is worth carrying on with investigations using bigger sample sizes and including some potential confounding factors like foetus size and other ones. In case the findings of this study are confirmed, external pelvimetry could serve as a precious tool for antenatal clinic to screen nulliparae at risk in anticipation of a planned caesarean section in limited resources environment.

**P0621**

**TORNSION OF A TERM UTERUS: A CASE REPORT**

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**Introduction:** Dextrorotation of a gravid uterus is a normal finding but however, rotation beyond 45 degree or torsion of entire uterus is a rare finding in obstetrical practice. We report a case of uterine torsion at term.

**Case report:** Booked patient G2P1 with previous lower segment caesarean section came at 37 weeks of gestation with lower abdominal pain. At the time of admission her BP was 110/70, Pulse 100 and temperature was normal. On per abdominal examination fundal height was 36 weeks, longitudinal lie, presenting part cephalic 5/5 palpable. Clinically scar tenderness was negative and there were no palpable uterine contractions. On P/S examination no vaginal discharge was seen and urine C/E was also normal. Her ultrasound revealed intrauterine pregnancy of 36 weeks with scar thickness of 4.5mm.

**Method:** Patient was managed conservatively initially with anti spasmodic and had to proceed with emergency lower segment caesarean section after 12 hours due to persistent lower abdominal pain. Emergency cesarean was done under spinal anesthesia, Pfannensteil incision was made, lower uterine segment was exposed, and bladder flap could not be made. A female baby of 3.23 kg was delivered with Apgar score of 7 and 9 at one and five minutes. Followed by complete delivery of placenta and membranes. There were no unusual findings at this point of surgery.

**Results:** After the delivery, uterus untwisted itself through 180 degree and it was found that the incision was made in the posterior lower uterine segment and hence the diagnosis of uterine torsion was made. The uterine incision was closed with a double layer of delayed absorbing suture. The previous cesarean scar was thick and intact. No other uterine and adnexal abnormality was seen.

**Conclusions:** Since cesarean was done under spinal anesthesia patient was informed about the operative findings and Bilateral tubal ligation was done after taking consent from the patient and her husband. Bilateral tubal ligation was decided because there is no safety data available on pregnancy outcome with anterior and posterior uterine lower segment scars. The patient had an uneventful recovery and was discharged home on third postoperative day. The infant was initially admitted to new born nursery for transient tachypnea of new born and was discharged with mother in good condition.

**Table 1. External pelvic diameters: contracted pelvis versus other caesarean section indications**

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Mean (N=9)</th>
<th>Mean (N=22)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biillic</td>
<td>22.83±2.59</td>
<td>23.45±1.34</td>
<td>0.62</td>
</tr>
<tr>
<td>AS Iliac Interspinous</td>
<td>20.87±1.59</td>
<td>21.94±1.15</td>
<td>1.07</td>
</tr>
<tr>
<td>Intertroch.</td>
<td>25.70±2.56</td>
<td>27.72±2.26</td>
<td>2.02</td>
</tr>
<tr>
<td>Antero-P.</td>
<td>16.20±1.17</td>
<td>18.50±1.31</td>
<td>2.30</td>
</tr>
<tr>
<td>Trillat's B.</td>
<td>12.17±2.26</td>
<td>13.98±0.93</td>
<td>1.81</td>
</tr>
</tbody>
</table>

**P0622**

**DELIVERY OUTCOME IN WOMEN ON WHOM SURGERY BECAUSE OF ENDOMETRIOSIS WAS PERFORMED**

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**Objectives:** The aim of the study was to find out if women, on whom surgery because of endometriosis was performed, have a higher...
risk for adverse delivery outcome and complications during labor and if endometriosis has an influence on the choice of the delivery mode.

**Method:** We included all women on whom surgery because of endometriosis was performed between January 2009 and March 2014 in the General Hospital Linz and between January 2013 and December 2013 in the Women's General Hospital Linz who gave birth in the Women's General Hospital Linz until March 2015. We extracted data from these women's medical record and also contacted them and asked about endometriosis related symptoms before and after the pregnancy.

**Results:** A total of 609 women underwent surgery because of endometriosis in the period of time as defined above and until March 2015. 66 of these women gave birth in the Women's General Hospital Linz.

**Conclusions:** Women on whom surgery because of endometriosis was performed should be counseled during pregnancy about the possible risks associated with spontaneous delivery and cesarean section. They also need to be informed about the possible risk of colon perforation during delivery.

**P0623**

MATERNAL SELF-REPORTS OF POSTPARTUM BLEEDING: FINDINGS FROM A TRIAL OF SELF-ADMINISTERED MISOPROSTOL IN RURAL UGANDA

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**Objectives:** Studies assessing the clinical effectiveness of postpartum haemorrhage (PPH) interventions rely on various tools and indicators for identifying PPH and determining its severity, including blood collection receptacles/mats, self-reported bleeding, haemoglobin (Hb) assessments, and documentation of PPH morbidity. Depending on the delivery environment and available resources, these tools and outcome measures have different implementation challenges. The aim of this analysis is to understand better the utility of self-reported bleeding in homebirths.

**Method:** Results from a community-based trial of self-administered misoprostol were analysed to explore the relationship between self-reported postpartum bleeding among homebirths and Hb outcomes. Consent-forms at four antenatal Ugandan clinics in Mbale were enrolled and pre-delivery Hb was assessed (Hemocue® device). Postpartum interviews, which included two questions on perceived blood loss, were conducted 3–5 days after birth to record details of delivery. Postpartum Hb was measured at this visit. Pearson correlation and sensitivity were calculated to explore how self-reported bleeding correlates with Hb fall >20% pre- to post-delivery (the study's primary outcome).

**Results:** Data for 177 homebirths were analysed. Few women (8%) experienced a decline in Hb >20%. When asked to describe their blood loss, eight women (4%) indicated “heavy” referring to a Picturegram (mild/moderate/heavy). Four women rated their bleeding as “a lot” or “heavy” in a separate question (Likert scale, 1 = “very little”, 5 = “heavy”). Women’s reports were inconsistent between these two questions, and there was poor agreement when comparing perceived heavy bleeding (per Picturegram) with Hb fall >20% (sensitivity value: 0.20). Self-reported heavy bleeding and Hb decline >20% were found to be significantly, though weakly, correlated (Pearson R=0.227, p-value=0.002).

**Conclusions:** Women’s reports of heavy bleeding do not correlate well with peripartum Hb drop. This finding may be due to the lack of severe PPH cases in this sample. Accuracy of self-reported bleeding for other outcomes related to PPH might differ from this analysis.
<9%. There was no correlation between country estimates for PTB in source countries and in Norway ($R^2$=0.255, $p$=0.202). We found a positive trend between PTB rates and length of residence in six out of eight migrant groups. The association was limited to medically indicated births and was linked to maternal diabetes, hypertension and fetal growth restriction.

**Conclusions:** The gap in preterm birth rates between migrants and estimates for their source countries is likely to reflect selection to migration and differences in pathology. Differences across migrants' length of residence in Norway are likely to be due to a mix of physiological and pathological factors. Subgroups with persisting or increased risk of preterm birth after migration should be targeted for early detection and optimal obstetric management of maternal and fetal pathology.

**P0626**

**FACTORS ASSOCIATED WITH CESAREAN SECTION IN PRIMIPAROUS ASSISTED IN THE PUBLIC SERVICES OF THE BRAZILIAN HEALTH SYSTEM**

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**Objectives:** The objective of this study is to describe the factors associated with cesarean delivery in primiparous with singleton pregnancy at term, with fetus in cephalic presentation assisted in the Public Services of the Brazilian Health System (SUS).

**Method:** We used data from the survey “Born in Brazil”, hospital-based cohort conducted with 23,894 women from February 2011 to October 2012. Interviews were conducted with mothers, data taken from hospital records of the woman and baby and also obtained data about the hospital structure in an interview with managers. A descriptive analysis was made of demographic, social and obstetric women categories, and also about the prenatal care and childbirth assistance received. Univariate and multivariate logistic regression was performed to identify factors associated with elective and intrapartum caesarean section.

**Results:** Cesarean rate was 40.9%, 18.1% were elective and 22.7% intrapartum. Elective cesarean was associated with maternal age higher than 35 years, complications during pregnancy and prenatal care and childbirth assistance by the same professional. The intrapartum cesarean section was associated with pilgrimage in search for hospital delivery, complications during pregnancy, care by the same professional during pregnancy and childbirth and early hospitalization with uterine cervix less than 4 cm dilated. The use of good practices during labor assistance (diet, freedom of movement, companionship presence, use of non-pharmacological methods for pain relief and use of partograph) were associated with vaginal delivery.

**Conclusions:** Access difficulties, with pilgrimage during labor, and complications presence, use of non-pharmacological methods for pain relief and use of partograph were associated with cesarean delivery.

**P0627**

**MODIFIED BIOPHYSICAL PROFILE: IT'S IMPORTANCE IN FETAL SURVEILLANCE AT THE TIME OF LABOR**

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**Objectives:** To assess the effectiveness of Modified Biophysical profile in fetal surveillance during labor.

**Method:** 100 cases were included in this study from Abha hospital. All the cases were randomly included in the study and were subjected for Non Stress test and Amniotic fluid index. Both high and low risk pregnant women are included. All these women were allowed to have normal progress of labor with continuous cardiotocogram monitoring. Abnormal fetal heart patterns and Meconium stained liquors were identified as poor predictors. All these newborns APGAR scores were assessed in those who delivered by either cesarean section or normal deliveries. At the end Good and poor MBP was correlated with Good and Poor APGAR scores.

**Results:** Out of 100 pregnant women 15 pregnant women had non-reactive stress test and 5 had equivocal recordings. All these 20 women had AFI less than 5 centimeters [ranged from 2–5 cm]. All these women showed late decelerations and Meconium stained liquor. All these newborn babies had low APGAR scores which ranged from 6–8 in 1st and 5th minute. There is good correlation between patients with poor MBP, with fetal distress and low APGAR scores.

**Conclusions:** Modified biophysical profile can be performed in all pregnant women for suspecting the possible hypoxic babies and also for preventing poor outcome in the newborns. Appropriate interventions like intense fetal monitoring and operative deliveries can be performed to prevent perinatal morbidity and mortality. However, as the sample size is limited in this study and needs to continue with larger sample size for statistical significance.

**P0628**

**LENGTH OF SURVIVAL AFTER DELIVERY IN PREVIABLE INFANTS**


**Objectives:** The delivery of an extremely premature infant prior to viability creates difficult decisions for health care providers and parents. The objective of this study is to describe factors influencing duration of survival after delivery in preivable infants.

**Method:** A retrospective cohort study of all live deliveries before 23 weeks gestation at a single urban tertiary care center from 2010 to 2014 was performed. Descriptive statistics were used to summarize patient characteristics. Univariate and multivariate analyses examined factors associated with increased length of life.

**Results:** Forty-six cases of live birth at less than 23 weeks gestation were identified. Mean length of life was 111 minutes and mean gestational age was 20 weeks 5 days.

Increasing gestational age at delivery and birth weight were associated with greater length of life ($P=0.018$ and $P=0.012$). For every one-week increase in gestational age, length of life increased 11 minutes, starting at 46 minutes for 15 week gestations. For every 10-gram increase in birth weight, length of life increased by 2 minutes, with an infant weighing 100 grams expected to live 65 minutes.

**Conclusions:** Our study identified gestational age, birth weight, antibiotics and antenatal steroids as factors associated with increased length of life, which can be useful when counseling parents about expectations in preivable birth.

**P0629**

**RISK FACTORS FOR COMPLETE RUPTURE IN INTACT UTERUS AFTER TRIAL OF LABOR**

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**Objectives:** Uterine rupture is very rare in intact uterus, especially in developed countries. However, we observed an increasing trend in its incidence in recent years in Norway. The aim of this study was to identify the risk factors for complete uterine rupture, through studying a validated sample of mothers who gave birth in the period 1967–2008.

**Method:** This was a retrospective population-based study, using data
from the Medical Birth Registry of Norway and the Patient Administration System in maternity units. All case records of mothers identified with uterine ruptures, were studied, and validated. Population: 1,353,636 mothers with intact uteri, representing 59% of pregnant population with intact uteri (1967–2008). Main outcome measure: Complete uterine rupture. Explanatory variables: Demographic, pregnancy and labor risk factors.

Multivariable logistic regression was used to measure the adjusted odds ratios AORs with 95% confidence intervals (CI) for complete rupture in intact uterus after trial of labor (TOL).

Results: There were 59 ruptures (0.04/1000), where 51 after TOL, and 8 at pre-labor cesarean section. Adjusted OR with 95% CI for risk factors for ruptures were: maternal age ≥35 (2.18; 1.2–3.8), Parity ≥3 (3.16; 1.8–5.4), Mothers from African Horn versus European (5.24; 1.2–21.7), Previous miscarriages (9.52; 5.2–17.2); Birth weight ≥4000 gm (2.61; 1.4–4.6), Antepartum fetal death (16.15; 6.6–39.2), Gestational age ≥41 weeks (1.82; 1.1–3.3), Induced labor (4.88; 2.7–8.7); Induction methods versus spontaneous labor (Prostaglandins: 4.31; 1.7–10.4, Oxytocin; 5.97; 2.9–12.2, Combination Prostaglandin/Oxytocin: 41.26; 17.5–97.1), Augmentation of labor with Oxytocin (14.26; 7.1–28.6), and Breech extraction (73.93; 29.2–214.1).

Conclusions: Complete uterine ruptures occur very rarely in intact uterus. Most important factors increasing rupture risk at TOL are related to our obstetric interventions such as Induction of labor using combination prostaglandins/oxytocin, breech extraction and, augmentation of labor with oxytocin. Antepartum death is an important risk factor indicating reduced vigilance due to the absence of fetal heart and aggressive use of interventions. Mothers with previous miscarriages, constitute a high risk group indicating disrupted uterine wall integrity after curettage. Guidelines for management of labor should be updated regarding common excessive use of induction and oxytocin during labor.

P0630 FACTORS ASSOCIATED WITH SPONTANEOUS PERINEAL LACERATIONS IN DELIVERIES WITHOUT EPISIOTOMY IN A UNIVERSITY MATERNITY HOSPITAL IN BRAZIL: A COHORT STUDY

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1 Instituto de Medicina Integral Prof. Fernando Figueira, Recife, Brazil; 2 Federal University of Campina Grande, Campina Grande, Brazil

Objectives: To determine factors associated with spontaneous perineal laceration in low-risk pregnant women who delivered vaginally without episiotomy in a university maternity hospital in Recife, Pernambuco, Brazil.

Method: A prospective cohort study was conducted with 222 low-risk, full-term pregnant women admitted in labor with a single fetus in cephalic presentation. Women with malformed fetuses were excluded from the study. The variables analyzed were: the frequency and severity of lacerations, the women's biological, sociodemographic, clinical and obstetrical characteristics, neonatal characteristics and data on their deliveries and procedures. For the data analysis, odds ratios and their 95% confidence intervals were calculated. A significance level of 5% was adopted and multiple regression analysis was performed.

Results: Spontaneous first-degree perineal tears were registered in 47% of the women, second-degree tears in 31% and third-degree tears in only 1.8%. There were no cases of fourth-degree tears. Having experienced normal childbirth previously constituted a protective factor against vaginal tearing (OR=0.46; 95% CI: 0.23–0.91; p=0.027).

Conclusions: The principal protective factor against spontaneous lacerations was having experienced normal childbirth previously. Intrapartum strategies aimed at protecting the perineum and pelvic floor muscle training during prenatal care should be encouraged in these women.

P0631 TEEN MOTHERS: ARE THEIR OBSTETRIC AND PERINATAL OUTCOMES WORSE? A STUDY IN RURAL VICTORIA, AUSTRALIA

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Objectives: To determine whether teenage pregnancy is associated with an increased risk of adverse pregnancy outcomes. To better identify the contributors to the increased risk in teenaged mothers, particularly with regards to BMI, substance use and indigenous status.

Method: A retrospective audit was conducted in Gippsland in regional Victoria, Australia. After ethics approval was obtained, birth records were analysed to obtain clinical data for women who delivered at Latrobe Regional Hospital. A 5 year period was audited (January 2010 – December 2014), with a total of 297 teenagers delivering at the hospital. This patient population was compared with a random selection of non-teen mothers delivering at the hospital over the same time period (293 women).

Information was collected on maternal and perinatal adverse outcomes in addition to maternal risk factors, focusing on BMI, substance use and indigenous status.

Results: More teenaged mothers were likely to encounter an adverse pregnancy outcome (46.1%), when compared to non-teenaged mothers (42.3%). 14.6% of teen mothers abused substances while pregnant compared to 9.6% of non-teen mothers. A much higher proportion of teen mothers smoked antenatally (54.6% compared to 23.3%), but the teens were more likely to have a normal BMI of between 20–25 (56.2% versus 58.2%).

Despite a relatively low population of indigenous women in the area, teen mothers were also more likely to identify as Aboriginal or Torres Strait Islander (10.41% compared to 2.44%).

Conclusions: Overall, the study confirmed that teenage mothers pose a greater risk in terms of adverse obstetric and neonatal outcomes. A major contributor to this heightened risk was found to be the significant amount of substance use and smoking in this younger population. Many of these young mothers were found to be of an indigenous background, therefore they may therefore benefit from better utilization of indigenous healthcare workers during the antenatal period.

By identifying the additional risk teen mothers are placed under, we as healthcare providers can better target our care to improve the outcomes in this high-risk population.

P0632 PLACENTAL BLOOD DRAINAGE AS A PART OF ACTIVE MANAGEMENT OF THIRD STAGE OF LABOUR AFTER SPONTANEOUS VAGINAL DELIVERY

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Objectives: The third stage of labour commences after the delivery of the foetus and ends with the delivery of the placenta and its membranes. Postpartum haemorrhage is the most common cause of maternal mortality, and accounts for about 25% of maternal deaths in India. The present study was designed to evaluate the effectiveness of placental blood drainage after spontaneous vaginal delivery in decreasing the duration, blood loss and complications of the third stage; against no drainage of placental blood.

Method: 200 pregnant patients with 37 or more weeks of gestation, with single live foetus in cephalic presentation; who underwent a spontaneous vaginal delivery were included in the study. The patients were prospectively randomized equally into two groups (100 each in the study and control groups). Placental blood was drained
in all the patients in the study group whereas in the control group the cord blood was not drained. Blood lost in the third stage of labour was measured in collecting a disposable conical measuring bag and blood from the episiotomy was mopped and the mops were discarded separately.

**Results:** The baseline statistics in both the group were comparable. The duration of third stage of labour was 210.5 sec in the study group and 302.5 sec in the control group. The “p” value was statistically significant (p<0.0001). The mean blood loss in study group was 227.5 ml and 313.3 ml in the control group (p<0.0001). The incidence of postpartum haemorrhage was 1% in study group and 9% in control group. The mean drop in Hb% level was 0.6 gm/dl in study group and 1.1 gm/dl in control group. These above differences were both statistically significant.

**Conclusions:** Placental blood drainage as part of active management of third stage of labour was effective in reducing the duration, the blood loss and also the incidence of PPH. Placental blood drainage is a simple, safe and non-invasive method of managing the third stage of labour, which can be practiced in both tertiary care centres as well as rural setup in addition to the routine uterotonic.

**P0633**

**TRANSDERMAL NITROGLYCERINE VERSUS ORAL NIFEDIPINE FOR ACUTE TOCOLYSIS IN PRETERM LABOUR: A RANDOMISED CONTROLLED TRIAL**

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**Objectives:** To compare the safety & efficacy of transdermal nitroglycerin with oral nifedipine in the inhibition of preterm labour.

**Method:** This study included 100 women in preterm labour, randomly divided into two groups, 50 receiving oral nifedipine and 50, transdermal nitroglycerin (NTG). Patients in preterm labour with a single gestation, between the 28th and the 34th week and no contraindication for tocolysis were selected. Women with fetal malformation and medical or obstetric diseases were excluded. The variables analyzed were: delay in delivery for 48 hours, 7 days or more than 7 days, period of gestation at delivery, side effect profile of drugs & neonatal outcomes.

**Results:** Mean prolongation of pregnancy with NTG (34.59 days) was similar to that of nifedipine (29.09 days). Nitroglycerine was significantly more successful in prolonging pregnancy beyond 48 hours. Failure of acute tocolysis, defined as delivery within 48 hours, was significantly more common with nifedipine (32%) as compared to transdermal nitroglycerin (12%). Headache was significantly higher in the nifedipine group (42%) compared to NTG group (4%). The neonatal outcomes in terms of the mean birth weight, incidence of low birth weight and very low birth weight babies, need and duration of neonatal intensive care was similar in both groups.

**Conclusions:** Transdermal nitroglycerine is a safe and effective tocolytic with a lower failure rate and better side effect profile as compared with oral nifedipine.

**P0634**

**WIRELESS MATERNAL VITAL SIGN MONITORING IN INPATIENT FULL-TERM PREGNANT WOMEN: A FEASIBILITY AND ACCEPTABILITY STUDY**

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**Objectives:** Childbirth is one of the most common reasons for admission to hospitals worldwide. Severe shortages in health providers often limit the ability to adequately perform the frequent and intense monitoring that underpins safe delivery. Wireless vital sign (VS) monitoring of pregnant women represents a novel application of wireless technology with the potential to relieve a significant human resource burden both in high and low resource settings.

**Objective:** We sought to pilot a wireless VS monitoring device, capable of measuring continuous heart rate (HR), temperature (temp) and respiratory rate (RR), for functionality and acceptability on an inpatient obstetric unit.

**Method:** Pregnant women were asked to wear the wireless monitoring device for 30 minutes, and nurses observed its use. Measurements of HR, temp and RR were taken by study nurses using standard devices at 0, 15 and 30 minutes to test agreement. We defined functional success of the device as continuous capture of VS for 30 minutes and the wireless transfer of that data to a central monitor. Bland-Altman plots were constructed to assess agreement between measurements taken by the wireless device and standard measurements. Closed and open-ended questions on perceived utility and acceptability were administered to pregnant women and nurses.

**Results:** 32 pregnant women enrolled. 30 (94%) had successful monitoring. 6 non-study nurses interacted with the device. Mean HR, temp, and RR at baseline were 78±13 bpm, 36.4±0.7 °C and 17±2 respirations per minute (rpm) by standard measurement and 75±2 bpm, 36.9±1 °C and 15±4 rpm by the wireless device. We found a linear trend in the mean difference and limits of agreement between standard and wireless devices with 6.9%, 3.7% and 4.6% falling outside the 95% CI for HR, temp and RR respectively. 59.4% of pregnant women found the device comfortable and 80% of nurses found it easy to use.

**Conclusions:** Our pilot study demonstrated initial success in obtaining maternal vital signs on an inpatient obstetric unit using a simple to use and comfortable wireless device. Further testing in a larger sample will be needed to validate accuracy in the pregnant population. Devices capable of measuring blood pressure wirelessly should also be investigated. The transformative potential of this technology may be greatest in resource limited settings where the health care workforce is so limited that routine vital signs are unable to be obtained during labour.

**P0635**

**CONCEALED MASSIVE POSTPARTUM HAEMORRHAGE**

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**Objectives:** Postpartum Haemorrhage (PPH) remains a leading cause of maternal mortality and morbidity. The risk of death from PPH in developed countries like UK is about 1 in 100 000 deliveries compared to 1 in 1000 in developing country.However the proper estimation of blood loss following delivery remains an ongoing problem. Recent advances in quality of care have designed various methods of intraoperative and post-operative scoring methods like MOWS chart for detection of early warning signs and to avoid diagnostic delay. Literature has revealed that timely and accurate diagnosis is essential in instigating appropriate management and also affects the outcome.

**Case presentation:** 37 yrs old lady para 0+1 presented in early labour at 40+5. Labour was augmentation with syntocinon after 24hrs of SROM. She became fully dilated after about 4hrs of syntocinon infusion. She was subsequently transferred to theatre for trial of instrumental delivery. A caesarean section was done for high presentation with blood loss of 1000 mls Post C-section she has MOWs of 3 (pulse rate of 117, Temp 36.7 & RR of 17) with wellcontracted uterus and minimal lochia. The vital signs continue to get worse over 42hrs despite transfusion of 4units of blood and fluid resuscitation. She had emergency laparotomy for suspected intra-abdominal bleeding.

**Results:** Findings at laparotomy were a retroperitoneal mass/collection of the left upper/mid abdominal cavity with no intraperitoneal
bleeding or bleeding from operation site. Multidisciplinary involvement if surgical team was initiated with an agreement for conservative management until further imaging was done in the morning. Pt was transferred to ITU. Bed side abdominal Scan in the morning confirmed retroperitoneal bleeding/haematoma. She was transferred to JRH, Oxford for embolisation of leaking iliac vessel. She was subsequently managed conservatively over 3 months.

Conclusions: This is a case of concealed massive retroperitoneal hematoma from rupture of a branch of internal iliac vessel. Concealed Haemorrhages associated with pregnancy can difficult to diagnose. This case has an association with prolonged labour, C-section and anticoagulant therapy but difficult to attribute any of these factors to this case. Early imaging like abdominal ultrasound may have helped with early diagnosis. The case further highlighted the importance of early scoring methods like MOWS chart in care of patients on labour ward. The prolonged recovery from delivery interrupted her opportunity to establish proper breast feeding and bonding with her child.

P0636
BACTERIURIA WITH GROUP B STREPTOCOCCUS AND PRETERM BIRTH: A COHORT STUDY
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Objectives: Preterm delivery (PTD) contributes to 70% of all perinatal deaths and nearly 50% of permanent neurological damages in children. Treatment and follow-up to prevent recolonization in pregnant women with Group B Streptococcus (GBS) in the urine may reduce the frequency of PTD. In a Cochrane review, the incidence of low birth weight infants was reduced, however, not for PTD. The association between asymptomatic bacteriuria during pregnancy and PTD remains controversial. The objective of this study was to investigate whether there is an association between GBS bacteriuria (BU) in pregnancy and PTD.

Method: A retrospective population-based cohort consisting of 36,097 pregnant women from Hospital Lillebaelt area, Denmark, during January 2002–December 2012, of whom 37.2% (equivalent to 13,417) have undergone culture of their urine at the Department of Clinical Microbiology. Information on gestational age at birth and testing for GBS and other significant variables were obtained from the National Birth Register. Pregnant women with positive BU and GBS and pregnant women with negative BU and GBS were primarily compared for the occurrence of PTD. For statistical analyses, we mainly used binary tests including Chi-square, Student’s t-test, stratified analyses, and multivariate regression analyzes.

Results: Out of 13,417 singleton deliveries, 6.9% (n 921) of women had asymptomatic GBS BU during their pregnancy, and 9.1% (n 1,218) delivered preterm. Among women with GBS BU 133 delivered preterm (10.9%), while among the GBS BU negative 1,085 (8.7%) delivered preterm; indicating an association between GBS BU and PTD in crude analyses (Odds Ratio 1.8; 95% Confidence Interval 1.5–2.2; P<0.001). Other important characteristics of the population include that 1.8% (n 256) had a previous cervical cone biopsy operation, 4.7% (n 305) of the multiparous had a previous PTD, 28.8% had BMI≥30, and 19.0% were smokers in pregnancy.

Conclusions: Group B Streptococcus bacteriuria might be a risk factor for preterm delivery.
Excessive bleeding is a normal cleansing process: P0639


Perinatal mortality ratio (PMR), very low birth weight (VLBW), prematurity and 1st minute Apgar score. Correlation coefficient and regression analysis were applied.

Results: Ecological design was applied. The correlation between 2011 maternal, perinatal and socioeconomic indicators from 19 municipalities at the MRC, a region, and 17 hospitals providing obstetric care was studied. The information was collected from the Ministry of Health-DATASUS, the State Foundation on Data Analysis (SEADE) and the 2010 census (IBGE). Maternal health indicators included Maternal Mortality Ratio (MMR), fertility rate, cesarean section rate and mothers with less than seven antenatal visits. Perinatal indicators included perinatal mortality ratio (PMR), very low birth weight (VLBW), prematurity and 1st minute Apgar score. Correlation coefficient and regression analysis were applied.

Conclusions: Despite the social improvement and universal health care system in Brazil, particularly relevant for the wealthy region studied here, there are evident socioeconomic inequalities in labor and delivery care in Brazil. The worst results for perinatal indicators are present in most vulnerable populations, including women with lower level of education, and income. To improve the health care for mothers and infants, obstetric evidence-based care, and strategies to reduce social and educational inequalities are still needed.

P0639

EXCESSIVE BLEEDING IS A NORMAL CLEANSING PROCESS: A QUALITATIVE STUDY OF POSTPARTUM HAEMORRHAGE AMONG RURAL WOMEN IN UGANDA

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Objectives: To explore community perceptions and practices towards postpartum haemorrhage among women and their caregivers.

Method: Globally, postpartum haemorrhage (PPH) remains the leading cause of maternal deaths. In settings where many women still deliver at home under the care of unskilled attendants, uterotonic are inaccessible, it is important to understand how women and their caregivers recognize, what actions they take to prevent and treat PPH, and the meaning attached to bleeding after childbirth. Between April and June 2012, a phenomenological study was carried in a rural district in Uganda where 15 in depths interviews were conducted. Respondents were purposively sampled and included women who had delivered at home in the past year and traditional birth attendants.

Results: Bleeding after childbirth was considered as normal cleansing process, which if inhibited would have bad health consequences. A range of criteria were used to recognize PPH. These were: rate of blood flow, amount of blood equivalence of hand fist, to signs and symptoms of hypovolemic shock. The respondents seemed to know the women at risk of PPH (twin pregnancies, high parity and prolonged labour).

Conclusions: Perceptions attached to bleeding after childbirth and recognition of PPH suggest a delay to seeking care. To reduce delays in making the decision to seek care, there is a need to raise awareness among women and their families about the risk of death in the immediate postpartum period due to excessive bleeding.

P0640

CURRENT PRACTICE OF INTRPARTUM ANALGESIA AMONG DOCTORS IN NIGERIA

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Objectives: The objectives of this study are to: 1. Determine the knowledge, attitude and practice of intrapartum analgesia among Doctors practicing at tertiary institutions in Nigeria. 2. Identify constraints to the practice of intrapartum analgesia to parturients in Nigeria.

Method: This descriptive cross-sectional questionnaire-based study was conducted at 3 tertiary health institutions in Nigeria. Structured questionnaires were utilized to retrieve information on socio-demographic characteristics of respondents as well as knowledge, attitude and practice of Intrapartum analgesia. The questionnaires were administered to Obstetricians, resident doctor’s as well as interns in the Department of Obstetrics and Gynaecology at the 3 surveyed hospitals located in 3 of the 6 geopolitical zones of Nigeria. The study also assessed the hindrances to the practice of Intrapartum analgesia among respondents. Data was analyzed using SPSS version 17 statistical software.

Results: The total number of respondents was 81. Majority (91.4%) were aware of several methods of intrapartum analgesia with knowledge of epidural analgesia being highest at 86.4%. Male respondents were twice as likely to have counseled a woman for intrapartum analgesia when compared with female respondents (OR=2.074). More than half (59.3%) had never counseled patients for intrapartum analgesia for various reasons including lack of institutional protocol, unavailability of anesthetist, and cultural belief that women would prefer to experience labour pains. While a majority (93.8%) believed that intrapartum analgesia was important, 46.9% did not believe that it should be routinely offered.

Conclusions: Although there was a high level of knowledge of various forms of intrapartum analgesia among respondents, this was not commensurate with practice which was quite low. Lack of institutional protocol, insufficient man-power and cultural influences contributed to this. Continuing medical education of medical practitioners as well as provision of appropriate facilities and man-power will go a long way in improving the practice of intrapartum analgesia to women in Nigeria.

P0641

VISUAL ESTIMATION OF POST PARTUM HEMORRHAGE AND ITS TREATMENT

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Objectives: Postpartum hemorrhage is a leading cause of maternal morbidity and mortality that is preventive by appropriate estimation of blood loss and its treatment. This study was undertaken to evaluate the accuracy of visual estimation of postpartum hemorrhage by clinicians and co worker who work in the obstetrics department.

Method: In this descriptive observational study, 199 educational/clinical person participated who worked in the obstetrics department of 3 training hospital in Mashhin 2010. First characteristic of their occupation, educational and period of work experience recorded. Then scenes similar of postpartum hemorrhage were rebuilt busing of expired whole blood in five different volume (500, 1000, 1500, 2000, 2500, 3000 cc). Participants looked each scenes and estimated volume and necessary treatment and record in forms. Data were analyzed by SPSS software version 12 and fisher and stude-
tests and relation between accurate volume of hemorrhage and estimated volume and treatment, occupation and experience of participants were determined.

Results: Accuracy visual estimation of blood loss in different volume of postpartum hemorrhage was between 14.3% to 52%. There was no significant association between the position of the participants and accuracy of their estimation and proposed treatments. There was no association between the staffs’ work experience and accuracy of their estimation.

Conclusions: Visual estimation of blood loss was not accurate in the majority of participants. For prevention of maternal morbidity and mortality education is necessary that to be skilled for accurate estimation of blood loss.

P0642
DOES ETHNICITY AND TIMING OF DELIVERY IN POSTDATE PREGNANCY AFFECT MATERNAL AND FETAL OUTCOME? A CROSS SECTIONAL STUDY FROM THE NATIONAL OBSTETRICS REGISTRY MALAYSIA
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Objectives: Postdate pregnancy is defined as pregnancy that extends beyond 40+0 weeks of gestation. Studies have shown that induction of labour at or from 41 weeks reduce perinatal morbidity without increasing caesarean section (CS) rates and other adverse outcomes. In Malaysia, there is no guidelines on timing of induction of labour. There is wide variation in practice of induction among hospitals ranging from 40 weeks +3 days, 40 weeks + 6 days, 41 weeks + 2 days and beyond 41 weeks + 3 days. This study was to see if the difference in timing of induction contributes to maternal and perinatal outcomes.

Method: This is a retrospective cohort study using data from the National Obstetrics Registry (NOR). NOR is a clinical data base that compiles obstetric data from 14 tertiary hospitals in Peninsular Malaysia and East Malaysia. Specific variables were analysed against the 3 major ethnicity in Malaysia namely Malay, Chinese and Indians to see if timing of induction by ethnicity has any significance on the outcomes. The study period was from 1st January 2011 to 31st Dec 2012. The analysis was performed using STATA statistical software. Descriptive statistics was obtained initially followed by multinomial regression. P value <0.001 was taken as significant.

Results: The prevalence of postdate pregnancy is 20.1% in this study. There was less risk for a CS in all ethnicity when induced at 40+3 and 40+6 days. In Malays there was a higher risk of AS of 7 at 1 min (Crude odd ratio (OR) 1.36 (1.20, 1.55) p<0.001) at 41+2 days and beyond 41+3 days (Crude OR 1.38 (1.20, 1.58) p<0.001). There was no statistical significance among ethnicity and AS at 5 min and timing of induction. Among Malays and Chinese no statistical significance on macerated stillbirth rates. In Indians there were no cases captured for perinatal mortality.

Conclusions: From our analysis we did not see any correlation between ethnicity and timing of induction on maternal and fetal outcomes.

P0643
RESPECTFUL MATERNITY CARE IS QUALITY CARE: RESULTS FROM A STUDY IN ETHIOPIA
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Objectives: To assess clients’ experience of disrespect and abuse by health workers during their recent institutional child birth.

Method: The study was conducted as part of a wider evaluation to evaluate the effects of a quality improvement intervention, Standards-based Management and Recognition (SBM-R). The study design employed intervention and comparison health facilities. Eight health centers and three hospitals in intervention sites that initiated the quality intervention from 2011 were selected; similar numbers of facilities from comparison sites were also included. All sites were located in the same regions of Ethiopia. The study looked at health care worker skills in providing RMC using observation by a non-participant observer and client perceptions of RMC from a postnatal exit interview.

Results: Observation during labour and delivery showed higher level of competency in providing RMC in intervention areas. 88% of women observed were never left alone during labour, compared with 75% in the comparison. Allowing women their birth position of choice was significantly higher in intervention areas, 54% Vs. 20%. Allowing support person during labour was higher in intervention areas, 84% Vs. 74%. Client perceptions, varied and were not statistically significant. Overall, 37% of women in both sites reported they experienced at least one form of abuse and disrespect; 28% (27% in intervention Vs. 29% in comparison) felt that they were disrespected by providers.

Conclusions: RMC is becoming an aspect of standardized maternal and newborn care in Ethiopia and its inclusion needs to be an integral part of efforts to increase institutional delivery in a country with one of the lowest skilled birth attendant rates in Sub-Saharan Africa. While the study showed client perceptions of RMC and assessors observations are different, this could be attributed to their low expectation of RMC due to the normalization of disrespect and abuse.

P0644
WHO’S SAFE-CHILDBIRTH CHECKLIST (SCC): A POTENTIAL SOLUTION FOR IMPROVING PROVIDER PERFORMANCE FOR ADHERENCE TO LIFE SAVING PRACTICES DURING THE INTRA- AND IMMEDIATE POSTPARTUM PERIOD
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Objectives: To assess the utilization of the SCC in the existing context of public health facilities of Rajasthan, India.

To assess the influence of the SCC in adherence to life-saving practices in the intra- and immediate postpartum period.

Method: W.H.O developed the SCC to strengthen quality of care during intra- and immediate postpartum period. Jhpiego, together with Government of Rajasthan, India, adapted the SCC to Indian context and implemented a program to use the SCC in > 100 facilities in 7 districts of Rajasthan, catering to a population of >15 million. The providers were oriented on the use of SCC and supported by onsite visits to institutionalize the use of SCC. Scalability and implementation through the system, with minimal incremental inputs, were the cornerstones of the programmatic approach. Structured recording of practices was undertaken to measure the adherence to practices.

Results: SCC was used for at least single pause point in >75% deliveries. Initial assessment of clients by recording of maternal BP and Temperature at time of admission improved from 50% and 7% at baseline to >90% after introduction of SCC. Use of Oxytocin for AMTSL and appropriate management of Severe Pre-Eclampsia/Eclampsia improved from 73% and 9% at baseline to >90% after introduction of SCC. Essential newborn interventions like recording of neonatal temperature and respiratory rate within one hour of birth improved from <10% at baseline to >90% However, practices at the point of discharge did not improve as dramatically.

Conclusions: The SCC can be institutionalized in the public health facilities in the Indian context by a programmatic approach that focuses on implementation through the system and utilization of minimal incremental resources towards ensuring scalability and sustainability of the utilization of SCC. The SCC has also been effective in
improving adherence to essential life-saving practices especially at the time of admission and during and just after childbirth. SCC has the potential to strengthen quality of care in labour rooms by acting as a framework for action for improving adherence to essential practices during intra- and immediate post-partum period.

**P0645**

**STUDY OF THE ASSOCIATION BETWEEN PRIMARY DYSMENORREA AND PRETERM LABOR**

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**Objectives:** Little is known about the mechanism and biochemical pathway of preterm delivery. Since some drugs used to treat preterm labor are also useful for the treatment of primary dysmenorrhea so this study attempted to evaluate the association between primary dysmenorrhea and preterm delivery. If the association is statistically significant, primary dysmenorrhea should be regarded as a risk factor for preterm delivery.

**Method:** A case-control study of 160 women with idiopathic preterm delivery as case group and 160 women with term delivery as controls was done in the women who referred to obstetric clinic of Imam Reza hospital in 1387. Both groups were healthy, singleton and without obstetric problems. Demographic information, history of primary dysmenorrhea and history of previous preterm labor were recorded in questionnaire and statistical data were analyzed by t-test, chi square test, Mann-Whitney test and logistic regression test by using SPSS software version 15.

**Results:** Rate history of primary dysmenorrhea in women with preterm labor was greater and had significant difference with control group. Gravid women with a history of primary dysmenorrhea had 3.5-fold increased risk of preterm delivery in comparison with those without a history of primary dysmenorrhea (p=0.005). So in subgroup analysis, gravid women with a history of severe primary dysmenorrhea had 5.5-fold increased risk of spontaneous preterm delivery (p=0.000) while gravid women with moderate primary dysmenorrhea had 2.6-fold increased risk of spontaneous preterm delivery (p=0.001).

**Conclusions:** Primary dysmenorrhea is associated with an increased risk of spontaneous preterm delivery. A common pathophysiologic pathway may exist between these two disorders.

**P0646**

**EVALUATION OF SUBLINGUAL MISOPROSTOL FOR INDUCTION OF LABOR AT TERM**

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**Objectives:** To compare sublingual and oral misoprostol for induction of labor.

**Method:** This was an open, prospective, randomized, non-placebo controlled trial at a tertiary care center in India. Patients with singleton term pregnancy fulfilling the inclusion criteria were randomly divided into two groups. Group A included 80 patients induced with 50μg sublingual and Group B included 80 patients induced with 50μg oral misoprostol. The two groups were compared in terms of Primary outcomes i.e vaginal delivery with in 24 hours of start of induction and induction- delivery interval and secondary outcomes i.e number of doses needed, failed induction, cesarean section, postpartum hemorrhage and perinatal outcome.

**Results:** Both Primary and Secondary outcomes were better in sublingual as compared to oral group.

**Conclusions:** Sublingual route seems to be more effective method of induction of labor as compared to oral route.

**P0647**

**COMPARISONS BETWEEN EPIDEMIOLOGICAL PROFILES OF CAESAREAN SECTIONS AND VAGINAL BIRTHS IN BRAZIL, UNITED STATES AND CANADA, BETWEEN 2000 AND 2013**

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**Objectives:** To perform a search in the literature about the number of caesarean sections and vaginal deliveries in Brazil, United States and Canada from 2000 to 2013, trying to correlate the statistical data as well as the indications and complications of cesarean sections.

**Method:** MEDLINE/PubMed, LILACS/SciELO, Cochrane library and Scopus databases were consulted in search of national and international articles and the best scientific evidence available for the years of this study, along with access to the government statistics in DATA-SUS (Brazil), CDC (USA) and CIHI (Canada), which were classified according to their level and degree of recommendation. The descriptors “cesarean section”, “vaginal delivery” and “labor” were used.

**Results:** It was observed that the cesarean rates in Brazil, USA and Canada were 37.7%, 22.7% and 20.9% in 2000, increasing to 56.6%, 32.6% and 26.9% in 2013, respectively, which demonstrate higher values than those recommended by WHO (15%). It is known that the reasons for cesarean section indications in Brazil, besides those commonly internationally cited are the patient’s cultural-social history, in addition to medical management. Thus, it was found that, regardless the reporting country, numbers are above the recommended values, and therefore, countless complications are related to this procedure and tend to become more prevalent with increased c-section.

**Conclusions:** It can be concluded that all of the above mentioned countries now have values higher than those recommended by WHO as for the rate of cesarean sections performed. However, Brazil has a higher disparity when compared to the others regarding this surgical procedure. Once this increase is attributed to the type of medicine practiced in the country, the patient’s history, and also to public health issues, it is believed that in whatever country, it is necessary to implement surgical birth control policies, as this procedure may involve risks in the short, medium and long term to the mother and child.

**P0648**

**ADVANCED PRIMARY ABDOMINAL PREGNANCY – A CASE REPORT**

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**Introduction:** Abdominal pregnancy is extremely rare comprising only 4% of ectopic pregnancies. Most of the abdominal pregnancies are secondary and primary abdominal pregnancies are very rare. Advanced abdominal pregnancy refers to the situation where the pregnancies continues beyond 20 weeks of gestation. Only 24 cases had been reported by 2007. Only few cases of live birth have been reported. Here we are presenting a case of 34 plus weeks of primary abdominal pregnancy which was diagnosed per operatively and it was confirmed by Studdiford’s criteria.

**Case report:** A second gravid lady was admitted in Sylhet M A G Osmani College Hospital with acute abdomen. The patient was ill looking, hypertensive, contour of the uterus could not be delineated properly; fetal heart sound and fetal movement was present. P/V examination revealed cervix was high up and posterior fornix was bulged and boggy like feeling. Ultrasonography stated 34 plus weeks live intrauterine pregnancy. As the patient pain was gradually increasing laparotomy was done.

**Results:** A baby was found in the abdominal cavity surrounded by sac and living baby was delivered. Placenta was found attached to the omentum, gut, and partly to the posterior wall of the uterus which extended to the Pouch of Douglas. The uterus was found in the pelvic
cavity just bulky in size and both the tubes and ovaries were normal. There was no uteroplacental fistula. Then placenta was partially removed from the posterior wall of the uterus but the main bulk of the placenta was kept insitu with the ligature of the umbilical cord. A course of Methotrexate was given.

Conclusions: Abdominal pregnancy carries a serious form of maternal mortality and morbidity. Careful Ultrasonography in early weeks of pregnancy can diagnose the abdominal pregnancy. In our case the patient had no antenatal check up and no ultrasonography done in the early weeks of pregnancy. Continuation of pregnancy can be carried up to term with good antenatal care and live baby can be delivered through planned laparotomy.

P0649
INDUCTION OF LABOUR IN PRE-ECLAMPTIC WOMEN:
A RANDOMISED TRIAL COMPARING THE FOLEY BALLOON CATHETER WITH ORAL MISOPROSTOL
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Objectives: Between 40,000 and 80,000 pregnant women die annually from pre-eclampsia and eclampsia. Magnesium sulphate and anti-hypertensive therapies reduce the morbidity and mortality associated with pre-eclampsia, but the only cure comes with delivery. Prompt delivery of the baby, preferably vaginally, is vital in order to achieve good maternal and neonatal outcomes. Induction of labour is therefore a critical intervention in order to prevent morbidity to both mother and baby. Two low cost interventions – oral misoprostol tablets and transcervical Foley catheterization – are already used by some in low resource settings, but their relative risks and benefits are not known.

Method: A total of 602 women with an ongoing pregnancy and live fetus requiring delivery because of pre-eclampsia or uncontrolled hypertension were randomly assigned to labour induction with a transcervical Foley catheter or oral misoprostol. Women were recruited at two hospitals in Nagpur, India. The misoprostol group received oral misoprostol 25 micrograms every 2 hours (maximum of 12 doses). The Foley group underwent induction using a Foley catheter (size 18 F with 30 ml balloon), which remained until active labour started, the Foley catheter fell out, or 12 hours elapsed. The primary outcome was vaginal delivery within 24 hours.

Results: Recruitment started in December 2013 and is on course to finish in June 2015. Results will be presented publicly for the first time at FIGO 2015.

P0650
THE PPH BUTTERFLY: INITIAL TESTING OF A NEW DEVICE TO FACILITATE BIMANUAL UTERINE COMPRESSION
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Objectives: Postpartum haemorrhage (PPH) remains a major cause of maternal mortality; simple, low-cost, non-pharmacological therapies are urgently needed. Bimanual uterine compression (BMC) is an effective procedure to treat atonic PPH, but is both painful and intrusive. The PPH Butterfly is a new device designed to make uterine compression much less invasive. This will expand access to PPH therapies and provide “surgical treatment” at an early stage in the PPH process.

This study compared the uterine pressures generated by the device and by standard BMC in a mannequin model. The device was then tested in both healthy and bleeding postnatal women.

Method: The study was conducted at Liverpool Women’s Hospital in the UK. Participants (20 obstetricians with previous experience of BMC, and 22 midwives who had not done BMC before) were randomly allocated to conduct two forms of uterine compression for 5 minutes on the mannequin model: bimanually and using the PPH Butterfly. The mannequin (Noelle, Gaumard Ltd) was supplied with an “atonic uterus”, modified to allow BMC and to include a pressure sensor. This assessed the amount of intrauterine pressure produced by the participants’ compression. After regulatory approvals, the device was tested in first healthy and then bleeding postpartum women.

Results: Users found the PPH Butterfly device easy to use and acceptable. There was huge inter-personal variation in the amount of pressure generated, but no significant difference between the two techniques or groups of users. With both methods, intrauterine pressures declined over the 5 minutes of use. Initial clinical findings from its use in health and bleeding postnatal women will be presented at the conference.

Conclusions: The PPH Butterfly is simple to use on a mannequin model, even among obstetric care providers with little experience, and produces equivalent pressures to standard BMC. The technique is far less invasive than the standard bimanual technique. The Butterfly provides a new, simple and effective option for PPH management, and has the potential to revolutionise PPH care. Formal clinical evaluation will now tell whether it can fulfil its promise.

P0651
THE ROLE OF RECOMBINANT FACTOR VIIa IN OBSTETRIC HEMORRHAGE: CASE SERIES AND REVIEW OF LITERATURE
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Objectives: Postpartum hemorrhage remains a life-threatening complication and is a leading obstetric cause of maternal mortality worldwide. We present 5 cases of massive postpartum hemorrhage treated with recombinant factor VIIa. The response of these 5 patients is discussed along with review of literature.

Method: During a period from 2012 to 2014, at the territory of Saint Anna Hospital, we used recombinant factor VIIa in the treatment of 5 women with severe primary postpartum hemorrhage.

Results: Four of five women treated with recombinant factor VIIa underwent postpartum hysterectomy before its administration. In only one patient we managed to control the bleeding with two bolus applications of recombinant factor VIIa and the need of hysterectomy was avoided. In all 5 cases there was a good response to recombinant factor VIIa administration. No thrombo-embolic episodes or other side effects to the drug were noted during the follow-up period.

Conclusions: The observed effect of recombinant factor VIIa in our patients was positive. The lack of randomized, controlled trials limits the use of recombinant factor VIIa in cases of severe obstetric hemorrhage. Its use at an earlier stage in these cases may avoid the need of hysterectomy, thus preserving fertility.

P0652
AMNIOTIC FLUID EMBOLISM: A CASE REPORT
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Objectives: Amniotic fluid embolism (AFE) is a rare complication of pregnancy and labor with a variable presentation ranging from cardiac arrest and death through to mild degrees of organ system dysfunction with or without coagulopathy.

Method: A 27-year old gravida 3 para 2 at 40 wk gestation was admitted for labor. During the first stage of labor after full dilatation of the cervix the patient suddenly collapsed. The immediate cardiopulmonary resuscitation restored the hemodynamics of the patient and it was proceeded to emergency Caesarean section. The intraoperative uterine haemorrhage and hypotension necessitated a supravagi-
nal hysterectomy. Promptly after admission to the intensive care unit the patient developed disseminated intravascular coagulation, which was medicamentously treated with intravenous bolus application of recombinant factor VIIa.

**Results:** Early diagnosis, aggressive resuscitation, correction of coagulopathy and prompt Caesarean section resulted in favourable maternal and fetal outcome.

**Conclusions:** The diagnosis is essentially one of exclusion based on clinical presentation. AFE was thought to induce cardiovascular collapse by mechanical obstruction of the pulmonary circulation. The latest theories suggest anaphylactic mechanism of the condition. The maternal mortality approaches 80%.

**P0653**

**RISK FACTORS FOR COMPLETE RUPTURE IN SCARRED UTERUS AFTER TRIAL OF LABOR**

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**Objectives:** Although very rare, uterine rupture is known to increase in scarred uterus. As cesarean section (CS) is increasing worldwide, uterine rupture is expected to increase after trial of labor. Norway has a high rate of trial of labor (TOL) in mothers with scarred uterus, around 73%, measured over 40 years, and 65% in the last 10 years, respectively. The aim of this study was to identify the risk factors for complete uterine rupture in scarred uterus, by studying a validated sample of mothers who gave birth in the period 1967–2008.

**Method:** This was a retrospective population-based study, using data from the Medical Birth Registry of Norway and the Patient Administration System in maternity units. All case records of mothers identified with uterine ruptures were studied and validated.


Main Outcome Measure: Complete uterine rupture.

Explanatory variables: Demographic, pregnancy and labor risk factors.

Multivariable logistic regression was used to measure the adjusted odds ratios AORs with 95% confidence intervals (CI) for complete uterine rupture in scarred uterus after TOL.

**Results:** There were 137 ruptures (1.7/1000), where 122 after TOL (2.1/1000), and 15 at pre-labor CS (0.7/1000). Adjusted OR with 95% CI for risk factors for ruptures after TOL were: Maternal age ≥35 (1.54; 1.1–2.3), Mothers from Horn of Africa versus European (5.11; 2.2–11.8), Previous miscarriages (4.94; 3.4–7.4), Birth weight >4000 gm (2.00; 1.3–2.9), Gestational age ≥41 weeks versus 37–40 weeks (1.54; 1.1–2.2), Induced labor (2.22; 1.5–3.2); Induction methods versus spontaneous labor: Prostaglandins (2.77; 1.6–4.6), Oxytocin (2.68; 1.4–4.9), Combination Prostaglandins/Oxytocin (18.45 (9.9–34.2), Mechanical induction (0.30; 0.07–1.2), and Augmentation of labor with oxytocin (4.49; 3.0–6.6).

**Conclusions:** The rate of complete uterine rupture after TOL in scarred uterus is low in Norway. Most important risk factors are related to our obstetric interventions as induction of labor with combination Prostaglandins/Oxytocin, and augmentation of labor. Mothers with previous miscarriages and women from Horn of Africa are high risk groups that need extra vigilance. We should use mechanical induction like intracervical balloon catheter more often, as mechanical induction carries the least risk of uterine rupture among induction methods. Guidelines for management of labor should be updated regarding common excessive use of induction and oxytocin during labor.

**P0654**

**RISK FACTORS FOR CESAREAN DELIVERY IN PRIMIPAROUS WOMEN**

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**Objectives:** To describe the risk factors associated with the indication of first cesarean section in primiparous women.

**Method:** The present cohort study was conducted from August 2008 to July 2009 on 800 primiparous women with a single, intraterine, cephalic pregnancy admitted in Instituto de Medicina Professor Fernando Figueira (IMIP)- Brazil and who consented to participate. The main indications for cesarean section were described and association of maternal age, prenatal care, presence of ruptured membranes at admission, BMI, labor induction, use of partograph, shift when the delivery occurred, information on modes of delivery during prenatal care and the risks of cesarean delivery were evaluated using bivariate tests and logistic regression analysis.

**Results:** Cesarean section was performed in 234 (29.3%) of 800 included women. Bivariate analysis showed significant association of cesarean delivery with labor induction, misoprostol use, concomitant complications, short stature and elevated BMI; however, use of partograph decreased this risk. No association was found between risk of cesarean section and maternal age, shift of delivery, information on modes of delivery, frequency of prenatal appointments, weight gain, ruptured membranes at admission, oxytocin use, presence of abortion or conduction of labor. After multiple logistic regression, short stature (<160cm) (OR: 1.99; 95% CI: 1.43–2.77; p=0.0000), BMI (≥30kg/m²) (OR: 1.77; 95% CI: 1.26–2.49; p=0.0009), concomitant complications (OR: 2.32; 95% CI: 1.65–3.25; p=0.0000) and not to use partograph (OR: 2.60; 95% CI: 1.86–3.65; p=0.0000) remained significant predictors of cesarean delivery.

**Conclusions:** Obese women and those who required induction of labor had an increased risk for cesarean section. Conversely, the use of partograph diminished the risk of such route of delivery. These results stress the importance of the partograph not only as a tool to guide appropriate interventions, but also to prevent some unnecessary one during labor.

**P0655**

**DOES THE ALGORITHM “HEMOSTASIS” AID SYSTEMATIC MANAGEMENT OF SEVERE POSTPARTUM HAEMORRHAGE (>2L) FOLLOWING SPONTANEOUS AND OPERATIVE VAGINAL DELIVERY?**

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**Objectives:** To evaluate the effectiveness of the algorithm “HEMOSTASIS” (call for help; establish etiology & ecbolics; massage the uterus; oxytocin infusion and prostaglandins; shift to operating theatre; tranexamic acid & tamponade test; apply compression sutures; systemic pelvic devascularization; interventional radiology; subtotal/total abdominal hysterectomy) in the management of severe postpartum hemorrhage (>2L) (PPH) after vaginal delivery (VD).

**Method:** A retrospective analysis was performed on women (63) who experienced severe primary PPH with an estimated blood loss (EBL) ≥2 L following a spontaneous or operative vaginal delivery between 2012 and 2013 at St George’s University Hospitals NHS Foundation Trust, London, UK. The success of the HEMOSTASIS mnemonic in PPH management was determined by assessing clinical outcomes following adherence to the protocol. The type of intervention needed to achieve hemostasis, the use of blood products, the need for a laparotomy or peripartum hysterectomy and admission to intensive care unit (ICU) were assessed.

**Results:** Incidence of massive PPH (2411±640 mls) was 0.62%. Addi-
tional oxytocics ("O") were used in 95.2% of cases leading to complete hemorrhosis in 16 (25.4%). Ergometrine was used in 19 (30.2%), prostaglandins (carboprost and misoprostol) in 17 (27.0%) and 20 (31.7%) and tranexamic acid in 7 cases (11.1%).

31 (49.2%) were moved (Shift, "S") to the theatre and in 38 cases (60.3%) hemorrhosis was achieved with additional suture of tears and 9 (14.3%) required a tamponade ("T"). None needed application of compression suture ("C"), systematic devascularization ("S") or subtotal/total hysterectomy ("S").

46 patients (73%) needed blood products and 3 (4.7%) required admission to ICU. There were no maternal deaths.

Conclusions: Our analysis illustrates that the management algorithm "HEMOSTASIS" helps avoid severe maternal morbidity including the need laparotomy and peripartum hysterectomy, admission to ITU as well as maternal deaths. Use of oxytocics alone achieved haemostasis in only 25.4% of cases and 60.3% had co-existing genital tract trauma.

**P0656**

DOES OBSTETRICS SHOCK INDEX (OSI) PREDICT HAEMOGLOBIN DROP, NEED OF BLOOD TRANSFUSIONS AND LENGTH OF HOSPITAL ADMISSION IN SEVERE POST-PARTUM HAEMORRHAGE AFTER SPONTANEOUS AND OPERATIVE VAGINAL DELIVERY?

E. Mantovani, E. Ofori-Asari, E. Chandrarahan. St George’s Hospital, London, UK.

Objectives: To determine whether the obstetric shock index (OSI) >1.1 predicts the need for haemoglobin drop, need of blood transfusions and length of hospital admission in severe post-partum hemorrhage after spontaneous and operative vaginal delivery (VD).

Method: A retrospective analysis was performed on women (63) who experienced severe primary PPH (blood loss ≥ 2 L) after spontaneous or operative VD between 2012 and 2013 at St George’s Hospital, London, UK.

The OSI (pulse rate divided by the systolic blood pressure) was calculated and interval from bleeding to action, changes in hemoglobin concentration, number of transfusions and number of days of admission were assessed.

Results: 34 patients (50%) had a SVD, 22 (30%) had a forceps delivery and 7 (10%) had a ventouse delivery.

In women who had OSI >1.1, mean interval from bleeding to action (administration of drugs) was 19.2 (±26.8) and the time taken to transfer to the operating theatre was 44.4 minutes (±37). There was a mean fall in hemoglobin concentration of 3.36 (±1.63) which required blood transfusion (mean 2.23 units ±0.63) as well as transfusion of platelets (mean 1.33 units± 0.5) and fresh frozen plasma (mean 3.23±1.1). Mean duration of admission to high dependence unit after delivery was 1.68 (±0.76) days and the average total admission was 3.2 (±1.05) days.

Conclusions: Obstetric Shock Index (OSI) of >1.1 after birth appears to be associated with approximately 30% fall in haemoglobin concentration and requirement of blood and blood products. In addition, it is associated with a mean duration of hospital stay of 3 days. Therefore, OSI (pulse rate divided by systolic blood pressure) of >1.1 may be a useful adjunct in the management of massive postpartum haemorrhage as it is associated with the significant fall in haemoglobin concentration and the need for blood transfusion.

**P0657**

RELATIONSHIPS BETWEEN SHOE SIZE AND OTHER ANTHROPOMETRIC VARIABLES AMONG WOMEN WHO HAD NORMAL LABOUR IN ABAKALIKI, SOUTH-EAST NIGERIA


Objectives: Normal labour and delivery are products of a dynamic interplay of three factors - passage, passanger and powers. Maternal pelvic capacity is an important determinant of labour duration and outcome. Relationship between maternal pelvis and shoe size has been documented.

To assess the relationships between shoe size and other anthropometric variables among women who had normal labour.

**Method:** A prospective cross-sectional study to assess the shoe size and other anthropometric variables of 307 women who had normal labour at Mile Four Hospital Abakaliki, Ebonyi State. Information on sociodemographic characteristics was obtained. Shoe sizes of the subjects were measured using the Genuine Brannock Device (calibrated for UK footwear). Other anthropometric variables such as shoe size, height, weight, waist circumference and chest circumference were obtained. The relationships between shoe size and the variables were assessed using linear regression models. A P-value of <0.05 was considered significant.

Results: The mean age of the subjects was 27.7 ±3.7 years. The mean height of the subjects was 1.58±0.35 m. The mean weight of the subjects was 65.37±10.31 kg. The mean waist circumference of the subjects was 37.19±3.34 cm. The mean chest circumference of the subjects was 37.75±3.10 cm. The mean shoe size of the subjects was 7.86±1.26. There was a positive correlation between height and shoe size (r=0.02, P=0.014457), weight and shoe size (r=0.14, P<0.000001), waist circumference and shoe size (r=0.11, P<0.000001) and chest circumference and shoe size (r=0.07, P=0.000002).

Conclusions: This study shows that among women who had normal labour, height, weight, chest circumference and waist circumference all have a positive correlation with shoe size.
and puerperal infection and a decrease in neonatal mortality before 24h. An evaluation of the impact of AIP in Western Kenya also illustrated improved maternal outcomes.

**Conclusions:** The AIP is a powerful training program that has provided emergency obstetrical care training around the world. Implementation in other regions and countries, as well as standardized data collection, will continue to contribute to improved maternal, fetal outcomes and a strong foundation for obstetrical care.

**P0659 TRAINING FOR EMERGENCY OBSTETRICAL CARE: THE ALARM CANADA PROGRAM**


**Objectives:** 1. To learn about the objectives of the Advances in Labour and Risk Management Canada Program. 2. To explore the highlights of the ALARM Canada Program. 3. To define potential impact/outcomes of the ALARM Canada Program.

**Method:** Advances in Labour and Risk Management (ALARM) course was developed by family physicians, obstetricians, midwives and nurses. ALARM arose because of a need to improve the care provided to women during labour, their fetuses and newborns, and their families. ALARM is a two-day course offering case-based plenary sessions, hands-on workshops and comprehensive examinations. It is evidence-based and incorporates Canadian practice guidelines; participants gain an understanding of the latest best practices. ALARM evaluates, updates and maintains the competence of participants. Upon completion, participants understand how to improve the outcomes and process of intra-partum and immediate postpartum care.

**Results:** The ALARM Course has now been presented in every province and territory in Canada; in the 19 years between 1995 and 2014 approximately 8,960 healthcare professionals have attended 251 ALARM courses and 15 Instructor courses. Over the past three years, 2,444 healthcare professionals have attended the ALARM Course. Data indicate that the course is useful and that quality of clinical practice will improve as a result. The SOGC has established an Obstetrical Content Review (OCR) Committee who is responsible for working with a medical researcher to update all evidence-based content for the ALARM course on an annual basis.

**Conclusions:** The ALARM Canada course provides gold-standard training based on the most current best practice. Innovative training methods are being explored to further improve ALARM’s accessibility and impact. High quality obstetrical care is a cornerstone to improving maternal fetal outcomes.

**P0660 IMPLEMENTATION OF A CESAREAN BIRTH CHECKLIST MAY IMPROVE HEALTHCARE PROVIDERS’ PERFORMANCE AND DECREASE LENGTH OF HOSPITAL STAY**

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**Objectives:** The objective of the current study was to create, implement and evaluate the effectiveness of a cesarean birth checklist on maternal and neonatal outcomes on the maternity ward of a rural African hospital.

**Method:** Using input from local authorities, the World Health Organization’s Safe Surgical Checklist was modified for cesarean birth and adapted for use on a rural Rwandan maternity ward. Two weeks post-implementation, modifiable systems-level barriers to use were determined and addressed within one month. Retrospective chart review was completed for 200 patients who underwent cesarean birth. Maternal and neonatal outcomes of the first 100 patients who underwent cesarean births after checklist implementation were compared with the last 100 patients who underwent cesarean births before checklist implementation. Healthcare provider checklist utilization rates were determined and degree of completeness assessed.

**Results:** Checklist utilization rate amongst providers was 83%. Fifty-seven percent of checklists were complete; 26% of checklists were partially complete. Checklist utilization was associated with significant increases in documentation of estimated blood loss (91.6% vs. 0.9%, p<0.0001) and antibiotic administration before incision (96.4% vs. 30.8%, p<0.0001). Checklist utilization was also associated with fewer patients being hospitalized longer than the standard 4 days after cesarean births (19.3% vs. 69.8%, p<0.0001). There were no significant differences in rates of maternal complications (14.5% vs. 14.5%, p<0.09), neonatal complications (10.8% vs. 6.8%, p<0.31) or NICU admissions (2.4% vs. 5.1%, p<0.47) with or without checklists respectively.

**Conclusions:** A cesarean birth checklist that is adapted and implemented using a culturally and resource specific strategy can result in high utilization rates and improve performance of key best practices by healthcare providers. Specifically, we have shown that cesarean birth checklists can greatly improve antibiotic administration prior to incision, which is known to decrease rates of endometritis and other post-operative complications. Length of hospital stay may also be reduced by utilizing cesarean birth checklists. Larger studies are needed to assess impact on the incidence of other maternal and neonatal outcomes.

**P0661 CHARACTERISTICS OF BIRTH ATTENDANCE AND DELIVERY PRACTICES AT HOSPITAL-BASED VAGINAL DELIVERIES IN WESTERN KENYA**

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**Objectives:** To characterize the frequency of evidence-based practices, respectful communication, and teamwork practiced by providers during normal vaginal deliveries at a large referral hospital in Western Kenya.

**Method:** To characterize the frequency of evidence-based practices, respectful communication, and teamwork practiced by providers during normal vaginal deliveries at a large referral hospital in Western Kenya.

**Results:** A total of 75 normal vaginal deliveries were observed. Births were primarily attended by nursing students of differing levels. The average number of evidence-based delivery practices was 3.6 (SD=1.0) out of 6 total observed (3 maternal, 3 neonatal), which rose to a mean of 4.5 for trainees undergoing assessment by a clinical educator. A team size of 3 or more people was negatively associated with performing all three evidence-based maternal delivery practices, OR 0.29 (95% CI: 0.08–0.95). Larger delivery teams also provided less respectful maternity care (p=0.002) based on a respectful care score.

**Conclusions:** Low rates of evidence-based practices and patient-centered care existed in this teaching hospital in Kenya, which may serve as a deterrent for women to seek care at facilities. These findings emphasize the need for a global approach to improving quality of care to achieve continuing successes in maternal and newborn health.
P0662
DETERMINANTS OF EMERGENCY CAESAREANS IN MIGRANT WOMEN IN MONTREAL, CANADA

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Objectives: To identify determinants of emergency caesareans in low-risk migrant women from Low and Middle Income Countries (LMICs) giving birth in Montreal, Canada.

Method: Using a case-cohort design, migrant women from LMICs, and in Canada <8 years were recruited from the postpartum units of three Montreal hospitals. Data were collected from the medical record and by interview-administration of the Migrant-Friendly Maternity Care questionnaire (available in 8 languages) while still in hospital. All low risk women (singleton, term, and vertex pregnancies) who delivered by emergency caesarean (cases) or vaginally (controls) were selected from the cohort; emergency caesareas due to placental complications, pre-eclampsia, HIV, IUGR, chorioamnionitis, prolapsed cord or failed forceps were excluded. Multi-variable logistic regression was used to identify determinants of emergency caesarean.

Results: The final sample included 233 cases and 1615 controls. Preliminary results show migrant women to have a higher odds of emergency caesarean if they were: 35 years or older, OR=2.4 [95% CI: 1.7–3.4]; were primiparous, OR=5.5 [95% CI: 3.8–7.8]; were overweight or obese (BMI 25 or more), OR=1.7 [95% CI: 1.2–2.3]; were from Sub-Saharan Africa or the Caribbean (versus Eastern Europe), OR=2.7 [95% CI: 1.2–5.9]; or from South Asia, OR=2.4 [95% CI: 1.0–5.6]; “were asked to do something they did not want to do during pregnancy, labour or birth”, OR=1.8 [95% CI: 0.98–3.4]; and “overall were only sometimes, rarely or never happy with their care during labour and birth”, OR=2.6 [95% CI: 1.6–4.2].

Conclusions: Among low-risk migrant women, non-bio-medical factors, including how care is delivered during pregnancy and labour and birth might have an impact on their risk of having an emergency caesarean.

P0663
TRIPPING OF THE DELIVERY LABOR ON UTERINE SCAR IN A DEVELOPING COUNTRY: RESULTS OF A SERIES OF 118 CASES AT THE UNIVERSITY HOSPITAL MOTHER AND CHILD IN COTONOU, BENIN

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Objectives: The rate of cesarean delivery is increasing, and one of its main indications is scarred uterus. Based on the results of studies carried out in the world, several scientific societies recommend as much as possible vaginal delivery even on scarred uterus. Therefore with a good selection of pregnant women, the triggering off on scarred uterus is a reality since 2009 to University Hospital Mother and Child in Cotonou. Objective: to evaluate the prognosis of labor induction on scarred uterus.

Method: It was a descriptive and analytical study, over 5 years from 1st January 2009 to 31 December 2013. Are included in this study parturient carriers of the united uterine who underwent induction of labor, without cervical ripening. For the selection of patients we used an oxytocin infusion score.

Results: The frequency of labor induction on scarred uterus in chu-
were identified using Ciconia Maternity information System (CMIS) “Quick Query” menu. Patient demographics, risk factors, interventions and outcomes were also assessed antenatally, intrapartum and postnatally using case notes, hospital PPH pro formas, and Electronic Patient Record. Data obtained was analysed using Microsoft Excel.

**Results:** 44 cases of massive PPH were identified. Median blood loss was 2000–2500ml. Majority of patients were over 30 years (56.4%), primiparous (52.2%), and of White-British (45.45%) origin.

Induction of labour (50%), anaemia (25%) and previous Caesarians (16%) contributed antenatally. Intrapartum risks - prolonged labour (16%), antepartum haemorrhage (7%), and prolonged syntocinon infusions (2%) were related with massive PPH.

45% of cases were delivered by Caesarean section, 22% by assisted delivery, 32% were spontaneous vaginal deliveries (SVD). Uterine tone and perineal trauma accounted for 57% of cases.

72% required blood products, (11%) transferred to Intensive Care, and two (5%) required hysterectomies.

**Conclusions:** Majority of PPH patients, being White-British, was not reflective of the hospital's catchment population. BMI did not significantly increase the risk of massive PPH. Intervention remains a significant contributory factor to massive PPH. Massive PPH was also associated more with operative or assisted deliveries.

Prompt identification of “at-risk” patients, may reduce the morbidity and mortality associated with massive PPH. Regular re-training of staff on “Massive PPH protocol” and multi-disciplinary team involvement may also improve outcomes. Regular studies such as this, promotes a neutral and blame-free mode of assessing cases of massive PPH. This may improve outcomes and prevent massive PPH altogether.

**Management of Infertility**

**P0666**

**COMPARE TWO GROUPS OF COMBINATION DRUGS IN INDUCTION OVULATION WITH FAVORABLE RESULTS**

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**Objectives:** Anovulation disorders cause 30 to 40 percent of infertility cases. The cost of Infertility treatment is expensive. Since 1996 different clinical trials has been done but best results and least complications is still a big concern and studies still continues. Many studies reported that antioxidants such as vitamin E, vitamin C help to scaveng the oxygen radicals throughout the female reproductive tract that might improve the results of infertility treatment. The aim of this research is adjusted a regimen that is a combination of antioxidant and Ovulation induction drugs and evaluation of pregnancy outcome.

**Method:** This is a semi experimental clinical study which was done on 202 infertile women that referred to Dr.Rasekh clinic in Jahrom city during two years. Results are reported as number and percentage and the Chi-square test. All these patients were treated with regimen include letrozole+ tamoxifen +estrogen + vitamin E. Most of the women in this study was in range of 20–30 years old (63.4%). 24.8% of patients were case of PCO syndrome. Frequency of pregnancy was reported based on endometrial quality, endometrial thickness and follicular size. Data was analyzed by SPSS.

**Results:** At the end of the study 25.7% of patients treated with this regimen were pregnant. 44.6% of follicular sizes were more than 18 mm. 68.7% of patients had high quality of endometrium (triple layer & lucid). 71.6% of endometrial thickness were more than 8 mm. OHSS was 0.5% that 99% of them mild and 1% moderate.

**Conclusions:** Based on the results of this study, this regimen can improve the endometrial quality and thickness which are required for successful implantation of fetus in uterus. Also this regimen had acceptable effects on follicular size which is one of the basic steps in success of ovulation induction. Pregnancy was occurred in 1 woman between 4 infertile women. For evaluations of the results, this study must be done on numerous of infertile patients to achieve meaningful results. Another important factor; availability of drugs, low cost.

**P0667**

**EFFECT OF PALM POLLEN ON SPERM PARAMETERS IN INFERTILE MEN AND PREGNANCY RATE**

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**Objectives:** There are many ancient records of herbal medical plants. The phoenix dactylifera (palm pollen) is used in the traditional medicine for male infertility. The aim if this research is to determine the effects of palm pollen on sperm parameters of infertile men and pregnancy rate.

**Method:** In this clinical trial, 60 nonsmoker infertile men whose problem could not be solved surgically were enrolled. Wives of these infertile men are quite normal. These infertile men were treated by palm pollen for 2 months. 7 gram of palm pollen, was prescribed in form of capsule, 3 times a week during the study course. Semen analysis was done before and after the treatment and the results were compared. As well, reproductive outcome was assessed.

**Results:** The mean sperm count was 12.33±5.61×10^6/ml at baseline and 22.03±12.17×10^6/ml after the treatment period (P<0.05). The mean percentage of sperm progressive motility was 14.69±6.8% before the treatment which increased to 24.01±11.11% thereafter (P<0.05). No significant increase was detected in sperm with normal morphology. Pregnancy rate was 32% after improvement of semen parameters.

**Conclusions:** Palm pollen seems to improve the sperm count and motility in infertile men. Also, fertility outcome is satisfactory. We believe further studies on larger sample sizes are needed to elucidate the potential role and mechanism of action of palm Pollen in the treatment of male infertility.

**P0668**

**OBESITY AND MALE INFERTILITY AT THE UNIVERSITY COLLEGE HOSPITAL IBADAN: A PRELIMINARY REVIEW**

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**Objectives:** 1. To describe the sociodemographic characteristics of infertile male clients seen at the andrology unit of the University College Hospital, Ibadan. 2. To evaluate the relationship between body mass index and male infertility.

**Method:** A descriptive cross-sectional study of 54 consecutive male clients seen at the andrology unit between the 1st of January and 31st of March, 2014. Male clients were requested to abstain for at least 2 days and no more than 5 days. Semen samples were analyzed within 30 minutes of collection. Data from the survey was analyzed using Statistical Package for Social Sciences (SPSS) version 15. Frequency distribution, Cross-tabulation, test of significance with chi-square and multivariate analysis were generated. Level of significance was set at p<0.05.

**Results:** Mean age of the clients was 37.80±6.60 years with an average sperm count of 33.94×10^6/ml and an average BMI of 25.69±5.12. Risk factors were alcohol intake (22%), smoking (7%) and use of mediations (15%). Erectile dysfunction was admitted by 8 clients (15%). Semen collection was majorly by coitus interruptus (90%). Tests for statistical significance did not show any relationship between se-
men parameters and rising BMI. Obese men had mean sperm concentration (26.3 x 10^6 sperm/ml) that was lower than those of normal weight (33.6 x 10^6 sperm/ml).

Conclusions: Obesity is becoming a global pandemic with profound implications on male infertility. Incorporating dietary counseling and lifestyle modifications into routine infertility work up may precipitate a paradigm shift in favour of declining BMI with resultant rise in fecundity.

P0669
SEmen QUALITY IN UGANDAN COUPLES AND INDIVIDUALS ATTENDING A PRIVATE FERTILITY CLINIC IN A LOW RESOURCE SETTING

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Objectives: In 40% of involuntary childless couples male infertility is found concurrently with abnormal semen parameters. There have been several studies showing regional differences and a possibility of declining semen quality over the last 50 yrs. Most of the reports showing regional differences are from Western countries, despite the fact that Africa particularly Uganda, is the region with a high fertility rate. This article is a review aimed at informing our present knowledge regarding the current status of semen quality in men attending a fertility clinic because of the paucity of data due to limited publications from Africa.

Method: A retrospective descriptive study of semen analysis of Ugandan men attending a private clinic. Both as patients or spouses of patients. Data reviewed was over a two year period (2009–2013). Standard semen analysis of fresh unstained sperm using a phase contrast microscope had been done. A 100 μm deep haemocytometer counting chamber was used for the counts.

Results: A total of 154 samples, all of Ugandan males were analyzed. Seventy-one percent (94) had normal sperm counts, 16 (10.4%) had azoospermia, 37.7% had oligoasthenospermia, 22.5% (34.6) had asthenoteratozoospermia and 25.2% (39) had oligoasthenoteratozoospermia.

Conclusions: Despite a high fertility rate in Uganda, male factor infertility seems to contribute to the problem of infertility among Ugandan individuals and couples.

P0670
STRENGTHEN MANAGEMENT OF INFERTILITY BY PREVENTING REPEAT PREGNANCIES AMONGST ABORTION CLIENTS – EXPERIENCES FROM MARIE STOPES INTERNATIONAL VIETNAM

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Objectives: The objective is to prevent unintended pregnancies, particularly for women who do not want to be pregnant and may undergo a subsequent unsafe abortion if contraception is not made available during this brief interval. Post Abortion Family Planning (PAPF) is one of the most important components of a comprehensive abortion service as it reaches women at the only time they may enter the health system for an abortion related service and offers them the support they need to avoid future unwanted pregnancies.

Method: The data will be collected using the PAPF Data Collection Tool. This is a simple record that collects key information about each client that visits our centres for abortion. This can be printed out and kept alongside client registers in the chosen centres. The tool should be filled out by the centres involved in the project and sent to the project supervisor regularly. If the centres have access to a computer either at reception or in the centre manager’s office the data can be transferred to an excel spreadsheet, before it is sent to the supervisor.

Results: Average age of clients is 27.83yrs and 99% of abortion performed <9 weeks, in which 76% of abortions were Medical Abortion; 61% women not using any regular contraception before coming to Marie Stopes centres; 74% PAPF (slightly skewed due to 2 centres with small sample numbers but 100% PAPF); Pill most popular method for PAPF (43%); Higher IUD rates (14%) than other programmes 70% of women pay for PAPF.

Conclusions: Improve PAPF, especially long term reversible methods, is essential amongst young abortion clients to help them preventing repeat abortion and management their fertility.

P0671
COMPARATIVE STUDY OF EFFICACY AMONG METFORMIN, CLOMIPHENE CITRATE AND AROMATASE INHIBITOR (LETROZOLE) AS THE FIRST-LINE MEDICATION FOR OVULATION INDUCTION, ACHIEVEMENT OF PREGNANCY AND LIVE BIRTH IN ASIAN WOMEN WITH POLYCYSTIC OVARIAN SYNDROME: A PROSPECTIVE TRIAL

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Objectives: To compare the ovulation and conception rates after the treatment with metformin, Clomiphene Citrate (CC) or with aromatase inhibitor (Letrozole) as the first-line medication to be used in anovulatory patients with polycystic ovary syndrome (PCOS) for ovulation induction and pregnancy achievement.

Method: Four hundred sixty newly diagnosed patients with PCOS were undertaken. These patients were assigned to three groups: group 1 (152 patients) received 500 mg of metformin three times a day; group 2 (156 patients) received clomiphene citrate (CC) 100mg daily during the second day of menstrual cycle for 5 days; group 3 (152 patients) received 2.5 mg Letrozole medications twice daily during second day of menstrual cycle for 5 days.

Main outcome measure(s): Rate of ovulation, pregnancy rate (PR), and live birth. Ovulation was monitored by serum progesterone, transvaginal sonography up to six cycles or till pregnancy occurred.

Results: The ovulation rate was 23.7% in the metformin group, 59% in the CC group and 68.4% in the Letrozole treatment group. There were also higher pregnancy rate (PR) and live birth rate in the CC and letrozole groups compared to the metformin groups. The pregnancy rate was (8.9%, 16.6%, and 20.1%) and live birth rate was (7.9%, 15.4%, and 18.4%) in metformin, CC, and letrozole treatment groups, respectively.

Conclusions: The rate of spontaneous first trimester loss was one, three and two in metformin, CC and letrozole group respectively. There were no ectopic pregnancies in metformin group, three in CC group and two in letrozole group. There were no second trimester pregnancy loss in metformin group, three in CC group, one in letrozole group. There were no multiple pregnancies in metformin group, six in CC group, two in letrozole group.
Method: A cross-sectional study was conducted between April 2014 and December 2012 using 502 infertile women who had attended the infertility clinic, Jahrom, Iran. The Female Sexual Function Index (FSFI) questionnaire was used for sexual function assessment. The data were analysed by Descriptive Statistic and presented as mean ± standard deviations, minimum and maximum values and used SPSS11.5 software program.

Results: A total of 502 infertile women were surveyed. The mean age of women 30.95±6.80 years were. The average total FSFI score was 16.35±4.75. Result showed that 430 (87.1%) of women had sexual dysfunction (FSFI <26.55), while only 72 (12.9%) had normal sexual function (FSFI score ≥26.55), the most common sexual problems were decreased libido 95.2% and anorgasmia 94.6%.

Conclusions: Sexual dysfunction in infertile women was very high, which might be due to the lack of knowledge about marital issues, lack of training in the society.

P0673
FEMALE INFERTILITY: A PSYCHOLOGICAL PROFILE
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Objectives: It has become clear in the recent years that infertility is associated not only with gynecological disorders, but also with individual's psyche. The objective of the research is to study the psychological profiles of females with reproductive health problems. The following present cases are from gynecological and homeopathic practice.

Method: 17 female patients with medical history of infertility. Age between 25 and 41. All of them couldn't get pregnant naturally. All of them were treated with in vitro fertilization. 29% have gone through multiple IVF failures. Well structured psychiatric interview was conducted with every patient. A common psychological pattern was established.

Results: Detail findings indicated substantial similarities between all of the interviewed. Existence of history of inability to reconcile with the male figure, exposure to violence as a child or in marriage, sexual abuse, domineering mother personality, traditionally masculine character traits and/or permanent distress.

Conclusions: Nevertheless the small number of cases, we dare to claim, that infertility conditions must be necessary viewed as deep-rooted psychological conflicts. The main personality type is controlling and independent in marriage, as well as in career field. The main attitude towards the male figure is inability to forgive and trust.

P0674
EVALUATION OF UTERINE PERFUSION ALONG WITH ENDOMETRIAL RESPONSES DURING FOLLICULO-UTERINE MONITORING IMROVES ASSESSMENT IN INFERTILE WOMEN
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Objectives: Capability of the uterine perfusion to meet the needs of nidation and then continue pregnancy is unique. Perfusion of uterus is by uterine, radial, basal, and spiral arteries and is an important parameter in the evaluation for success in the management of women planning for pregnancy. Impedance to blood flow of uterus varies during the spontaneous or hormonally stimulated menstrual cycle. The majority of blood supply to the uterus is from the uterine arteries with a small contribution from ovarian arteries. This study was aimed to evaluate the uterine blood flow in relation to the outcome measures.

Method: 148 cycles in 76 infertile women were assessed by follicular monitoring for assessment of their ovarian cycle. During follicular monitoring, uterine endometrium and uterine perfusion were also analyzed. Outcome measures in relation to Doppler study of uterine arteries were analyzed. Doppler assessment was done by transvaginal ultrasound with specification. On 2th, 7, 9, 11, 13, 15 day of cycle. The parameters were noted and analyzed using various statistical tests of variance and significance.

Results: Fertility was 30% in the group and Doppler indices in those who conceived varied significantly as compared to those who did not conceive. The Resistance and pulsatility indices (RI & PI), (0.85±0.03 vs 0.98±0.03 & <3.0±0.02 vs >3.0±0.02) were the sensitive parameters for assessment. The morphological changes in the endometrium were also a important variable, in determining the favorable response.

Conclusions: With the advent of new technology proper assessment of the infertile couple makes a way to use soft protocols & milder approaches to Assisted Reproductive Techniques. Appropriately monitored cycles helps to use selective medicines to be used for modulation of endometrial and ovarian follicular parameters to achieve favorable outcome.

P0675
LAPAROSCOPIC OVARIAN DRILLING – IS IT THE “ULTIMATE ELIXIR” FOR CLOMIPHENE CITRATE RESISTANT PCOS?
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Objectives: To review and summarize the current evidence based literature on the role of laparoscopic ovary syndrome in the management of polycystic ovary syndrome.

Method: A systematic search of various databases was performed from January 1, 1984 to December 31, 2014 using key words “PCOS”, “laparoscopic ovarian surgery”, “LOD”, “laparoscopic ovarian diathermy”, “laparoscopic ablative therapy” and “laparoscopic ovarian electrocautery”. Relevant evidence was identified and assessed for quality and suitability for inclusion in the following order - Systematic reviews, meta-analyses, guidelines, randomized controlled trials (RCTs), prospective cohort studies, observational studies, non-systematic reviews, and case series. A total of 99 publications were included for review and relevant pre-, intra- and post-operative aspects of LOD have been compiled into a poster.

Results: Most authors and recommending bodies advocate its use in selected cases of CC-resistant PCOS – those with hypersecretion of luteinizing hormone (LH), normal body mass index, non-feasibility of the intensive monitoring with gonadotropin therapy or those needing laparoscopic assessment of the pelvis. The most widely performed technique is monopolar diathermy with 4 punctures per ovary, each for 4 seconds at 40 W. Spontaneous ovulation, pregnancy and live birth rates are comparable to medical means of ovulation induction. Although its role in reducing androgen and LH levels is well established, evidence on amelioration of insulin resistance or clinical hyperandrogenism is inconclusive.

Conclusions: LOD should be employed only for the sole purpose of correction of anovulatory infertility in well selected cases of CC-resistant PCOS, not for non-fertility indications. Its main advantages are elimination of the risks of ovarian hyperstimulation and multiple pregnancies encountered frequently with gonadotropin therapy, thus making it cost-effective. Its favourable reproductive and endocrinal effects are sustained long. Despite its advantages, it is neither the first line therapy nor the preferred treatment for CC-resistant cases owing to the potential iatrogenic risks of adhesions and decreased ovarian reserve. It is a promising alternative but not the “ultimate elixir” for CC-resistant PCOS.
**P0676**

THE DYSFUNCTION OF TSPAN-5 AT HUMAN MATERNAL-FETAL INTERFACE MAY ASSOCIATE WITH UNEXPLAINED PREGNANCY LOSS


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Objectives: We detected the expression of Tspan-5 protein in human placental villi and decidual tissues of spontaneous abortions, to explore the fuction of Tspan-5 at maternal-fetal interface.

Method: Trophoblastic and endometrial tissues were collected from 37 unexplained spontaneous abortion. 41 age-matched normal early pregnancy women, who had voluntary abortion, and 12 normally fertile women, who received an uterine sounding before IVF-ET for male infertility, were included as control groups. Immunohistochemistry was used to detect the expression of Tspan-5 in villi and decidual tissues of normal pregnancy and miscarriages in the First-trimester Pregnancy.

Results: (1) In human placental villi: Tspan-5 was detected in the cytotrophoblasts and Extravillous Cytotrophoblas (EVCT), which invading the endometrium during implantation and placentation, in both of normal pregnancy and miscarriages, but not in the syncytiotrophoblasts. The intensity of Tspan-5 expression decreased in miscarriages, showing significant differences (mean of IOD: 53.22±35.47 vs 89.04±36.44; t=-4.39, P=0.000).

(2) In decidual tissues: Tspan-5 was expressed in the decidual stromal cells (DSC) and glandular epithelial cells in both of the two groups, but not in granulocytes. And levels of the Tspan-5 protein were significantly increased in miscarriages (mean of IOD: 53.22±35.47 vs 89.04±36.44; t=−4.39, P=0.000).

Conclusions: The expression of Tspan-5 in decidual stromal cells suggests the migration of DSC. Tspan-5 may take part in the dialogue of DSC and EVCT. If dysfunction of Tspan-5 at maternal-fetal interface may association with unexplained pregnancy loss.

**P0677**

OXIDATIVE STRESS AND ANTIOXIDANT SUPPLEMENTATION IN PATIENTS WITH POLYCYSTIC OVARIAN SYNDROME (PCOS)


Objectives: To determine the oxidative stress level of PCOS patients, to assess the effect of antioxidant supplementation on the outcome of management of PCOS and to compare with a control group.

Method: The study was a randomised control trial involving 200 patients with PCOS. The study was conducted at Usmanu Danfodio University Teaching Hospital Sokoto. They were randomly divided into intervention and control group and base line serum levels of oxidative stress markers, vitamins and minerals were determined. Antioxidant supplementation and placebo were given to the intervention and control group respectively. All the patients had ovulation induction with clomiphene citrate and were followed up for 6 months. Outcome measures were clinical pregnancy or menstrual regularisation. The level of significance was <0.05.

Results: There was statistical significant differences in he serum levels of oxidative stress markers, vitamins and minerals between the groups. Glutathione peroxidase (p=0.001), superoxide dismutase (p=0.0001), catalase (p=0.0369), melondialdehyde (p=0.007), vitamin A, vitamin C, vitamin E (p=0.0001), zinc, copper and manganese (p=0.0001). The clinical pregnancy outcome was 22 (22%) and 2 (2%) in the intervention and control group respectively. Menstrual regularisation was also 48 (48%) and 46 (46%) respectively.

Conclusions: Antioxidant supplementation significantly affected clinical pregnancy rate in patients with PCOS. Larger studies are suggested to revisit the conclusion of Cochrane review that antioxidants supplementation has no significant role in female infertility.

**P0678**

EVALUATION OF OXIDATIVE STRESS, ANTIOXIDANTS, GONADOTROPHINS AND PROLACTIN IN INFERTILE WOMEN


Objectives: To determine oxidative stress markers, antioxidant vitamins and minerals in infertile and fertile controls. To determine the level of gonadotropins and prolactin in both subjects.

Method: It was a case control study conducted at Usmanu Danfodio University Teaching Hospital Sokoto. It determined serum levels of melondialdehyde (MDA), catalase (CAT), glutathione peroxidase (GPx), superoxide dismutase (SOD) antioxidant vitamins and minerals using standard methods in 50 infertile females and their matched fertile controls.

Results: Serum levels of MDA, CAT and GPx were significantly higher (P<0.05) in the infertile group compared to the control: (MDA 5.92±0.39 vs 1.35±0.09, CAT:24.65±2.20 vs 104.14±2.24, GPx: 7.66±0.13 vs 25.24±0.55) while vitamins and minerals were significantly lower: (vitamin A: 0.61±0.05 vs 0.79±0.06, vitamin C: 1.67±0.11 vs 2.15±0.07, vitamin E: 0.23±0.03 vs 0.66±0.04, Cu: 682.84±10.88 vs 779.15±15.13, Mn: 0.46±0.02 vs 0.05±0.01, Zn: 70.41±15.26 vs 1040±41.01). FSH, LH and PRL serum levels were higher in the infertile subjects (FSH: 17.13±1.23 vs 6.80±0.45; LH: 18.38±1.23 vs 5.76±0.41; PRL: 33.84±4.14 vs 18.38±1.23).

Conclusions: Women with infertility have high oxidative stress status and low level of antioxidant. Nutritional Supplementation is recommended to enhance their chances of conception.

**P0679**

EFFICACY AND SAFETY OF INTRAVAGINAL DEAD SEA PELOTHERAPY IN INFERTILITY WOMEN PLANNING IVF

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Objectives: The success rate of reproductive treatment methods depends on many different factors. Insufficiency of the endometrium might be a possible reason for implantation failure. The aim of the present study was to determine the efficacy and relative safety of intravaginal Dead Sea pelotherapy in infertility women planning IVF.

Method: The prospective cohort study included 56 infertile women aged from 20 to 35 years who had tubal pathology and planned IVF. Levels of hormones were determined and laparoscopy with the assessment of pelvic anatomy and tubal efficiency, diagnostic hysteroscopy and endometrial biopsies were performed in all cases. The treatment group of 29 women administered a daily 20-minute intravaginal application of Dead Sea peloid for 10 days, starting on the seventh or eighth day of their menstrual cycle. The control group of 27 women refused pelotherapy. IVF were assessed from 2 menstrual cycle after pelotherapy.

Results: There were no significant differences in levels of hormones and frequency of chronic endometritis (51.7% and 44.4%; p=0.7817) in women of both groups. Intravaginal pelotherapy reduced the rate of chronic endometritis by 2.3 times (51.7 vs 22.6%). The conception rate was 58.6% and 14.8%, respectively (OR=4.0). We observed spontaneous conception after pelotherapy in nine women (31.0%) with proximal tubal occlusion and chronic endometritis. 20 treated
women and 27 controls with tubal infertility underwent IVF. Intravaginal administration of Dead Sea peloids enhanced the efficiency of IVF by 2.7 times (40.0% vs 14.8%). No adverse effects were observed in the treatment group.

**Conclusions:** Intravaginal Dead Sea peloid administration in young reproductive-aged women with tubal infertility substantially improves IVF results and contributes to the higher rate of spontaneous conception.

**P0680**

**IVF FAILURES IN PATIENTS WITH APS**

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**Objectives:** To evaluate the IVF outcome in APA patients.

**Method:** Since 2008 to 2014 we observed 367 women undergoing IVF. Group I composed 228 women with IVF failure and group II consisted of 139 women with IVF success. Control group – 60 healthy pregnant women.

**Results:** Group I: positive APAs were detected in 42%. Anticardiolipin – 8.9%, antiannexin V – 24.7%, anti-b2-GPI – 31%, antiprothrombin – 13.5% of women with IVF failure. Group II: APAs – 19%, anticardiolipin – 4.5%, antiannexin V – 10%, anti-b2-GPI – 15%, antiprothrombin – 8%.

**Conclusions:** APA should be considered an important risk factor – 4.5%, antiannexin V – 10%, anti-b2-GPI – 15%, antiprothrombin – 8%.

13.5% of women with IVF failure. Group II: APAs – 19%, anticardiolipin nant women.

**P0681**

**MALE INVOLVEMENT IN THE MANAGEMENT OF INFERTILE COUPLES AT THE KENYATTA NATIONAL HOSPITAL IN NAIROBI KENYA**

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**Objectives:** To determine the extent, predictors and impact of male involvement in the management of infertile couples at the Kenyatta National Hospital.

**Method:** This study was carried out in the Infertility and Gynaecology clinics at the Kenyatta National Hospital in Nairobi, Kenya. Study design: A hospital based cross-sectional descriptive study that involved couples presenting to the KNH Infertility and Gynaecology clinics.

Subjects: Male and female patients (with a clinical diagnosis of infertility) attending the Infertility clinic and the Gynaecological clinics at the Kenyatta National Hospital. A total of 163 women and 34 men were recruited into the study.

Data was analysed using SPSS (Statistical Package for Social Scientists) data analysis programme version 19, Copyright 1989, 2010 SPSS Inc., an IBM Company.

**Results:** At least 69.9% (114) of the women who participated were ever accompanied to the clinic by their spouses. Couple awareness on male participation in infertility was 61.8% by the men and 67.5% by the women. The male partners who came to the clinic were more involved in the care of their partners (p<0.05). On multiple logistic regression, it was found that male partners of accompanied women were paying the medical bills (p-value = 0.017, OR=3.0 [1.2–7.4]), being investigated (p-value=0.011, OR=3.1 [1.3–7.5]), helping decide the treatment the partner receives (p-value = 0.04, OR=2.5 [1.0–5.9]) and accepting treatment if found to have a problem (p-value=0.005, OR=4.0 [1.5–10.5]).

**Conclusions:** Male partner participation improved the quality of care. In light of our findings, further research should be done on ways to improve male partner attendance and participation in the infertility clinic.

**P0682**

**FOLLICULOGENESIS OF ENDOMETRIOSIS STUDY ON POLYMORPHISM T (TTTA)n INTRON4 GENE CYP19**

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**Objectives:** To investigate folliculogenesis disorders on endometriosis by evaluating the difference of VNTR intron4 gene CYP19 polymorphism frequency relating to the folliculogenesis defects.

**Method:** This research is a case-control study. Blood samples from 25 endometriosis patient and 25 normal. Polymorphism variations are analyzed by Gene Scanning, frequency were compared by bivariate analysis.

**Results:** Result: the length of fragments are 152–191 in accordance to (TTTA) in repeat 2–12. In the endometriosis group there are 7 polymorphism groups (1) 6/6, 6/6, 6/8, 6/11, 2/11, 7/12 and 11/12, most cases are 6/11 genotype or (TTTA)6(TTTA)11 (8 patients, 32%) and the most control groups are 6/6 genotype or (TTTA)6(TTTA)6 (8 patients, 32%). In control group, the dominant homozygote genotypes are 6/6 and 7/7, 7 in 32% and 12%; endometriosis genotype 6/6 groups is 16%. Long allele polymorphism frequency ≥175 bp on endometriosis had significant, OR=4.57 (95% CI: 1.25–16.69). Relationship length alleles endometriosisstage (1+II) was significant OR=6.7 (95% CI: 1.32–34.38).

**Conclusions:** Significance difference in polymorphism (TTTA)n repeat intron 4 gene CYP19 correlate with folliculogenesis between endometriosis patient and control.

**P0683**

**CERVICAL FACTOR IN INFERTILITY – BENEFITS OF COLPOSCOPY ASSISTED CERVICAL ELECTROCAUTERY. DESCRIPTIVE STUDY AT RUKMINI HOSPITAL, NAGPUR, INDIA**

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**Objectives:** To evaluate results of Colposcopy assisted cervical cautery in treatment of infertility due to Cervical factors. To improve evidence based counselling and treatment of Cervical factor infertility patients.

**Method:** 25 Infertility patients attending Rukmini Hospital (private), who had Cervical erosion inspite of trial of oral and vaginal antibiotics on clinical examination were selected for this study. Inclusions – primary or secondary infertility patients without tubal uterine, hormonal or male causes of infertility. Pap smear taken at examination, patients with report of inflammatory smear included. Colposcopy was done, erosion demarkated with Lugols iodine, and cauterized with Electrocautery. Prophylactic antibiotic Ofloxacin 200mg bd for 7 days and metrogly 400mg tds for 7 days given with Antioxidants & multivitamins. Follow up done at 15 days & one month. Color printouts of erosion given.

**Results:** 4 patients reported with spontaneous pregnancy in two months. 5 patients reported with spontaneous pregnancy within three months of procedure. 3 patients reported with spontaneous pregnancy at the end of one year post procedure. 2 patients conceived within 6 months, but had missed abortion at 5 and 6 weeks. 9 patients did not conceive till one year. Statistical analysis calculated in percentages. Cervical cautery under colposcopy gave 48% Success for treating infertility due to cervical factor.
**Conclusions:** Evidence is increasing that infection does not cause cervical erosion but it is rather the other way around - the changed cells of cervical erosion are more susceptible to various bacteria and fungi and tends to get infected. New squamous epithelium grows after electrocautery, and cervical function returns to normal, and spontaneous pregnancy is achieved. Colposcopy guided cauterity gives better results due to better visualization and better patient counselling as pictures can be given to patient. Colposcopy directed cervical cauterity an be a useful method to treat infertility due to Cervical Erosion.

Long term motive of cancer awareness & prevention is achieved.

**Method:** A retrospective study of the case notes of 352 patients seen in the infertility clinic of a teaching hospital over a 5 year period (2010 to 2014) where information on the above information was extracted.

**Results:** Of the 352 cases 110 were among the extremes of reproductive age; 15 (13.6%) were below 18 years while those above 35 years were 95 (86.4%). Thirty six of the clients (32.7%) had primary infertility while 74 (67.3%) had secondary infertility. The commonest single aetiological factor was tubal seen in 31 cases (28.2%) followed by uterine seen in 20 cases (18.2%), and the ovulatory seen in 13 cases (11.8%). A combination of factors was seen in 57 cases (51.8%) and the commonest combination was tubo-peritoneal factor seen in 16 cases (14.5%). Male factor was seen in 27 cases (24.5%).

**Conclusions:** This study confirms a high percentage of infertility at extremes of reproductive age in this environment. One would have expected the ovulatory factor to be the commonest single cause but on the contrary we found it to be the tubo-peritoneal factor. This signifies that infection related causes of infertility is still as source of concern in the developing world.

**Medical Disorders in Pregnancy**

**P0686**

**OUTCOME OF PREGNANCY AMONGST HEPATITIS B VIRUS POSITIVE PREGNANT WOMEN IN A TERTIARY HOSPITAL, NORTHERN NIGERIA**

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**Objectives:** To determine the outcome of pregnancy in Hepatitis B virus infected pregnant women and the risk factors for acquiring the disease.

**Method:** It was a prospective study of pregnant women in Sokoto, Nigeria carried out between 12th, December 2012 to 29th, October 2013. They were recruited randomly, and using structured questionnaires, relevant informations were obtained. They were screened for Hepatitis B surface antigen. Those who tested positive were further screened for Hepatitis B e antigen, antibody to e antigen and Liver function test. The negative samples were further screened for antibody to core Antigen. The exposed neonates were screened for Hepatitis B surface and e antigen. The results thus obtained were then analysed.

**Results:** The sero-prevalence rate was 10.4% (19/183). There was no adverse maternal or fetal outcome and no identifiable risk factors among respondents. None among their babies was sero-positive. Hepatitis B virus infection is hyperendemic in our region, there is need for routine antenatal screening of pregnant women and early active and passive immunisation of exposed neonates to reduce this rate in the sub-region.

**P0687**

**ECLAMPSIA IN AFRICA: WHO, WHERE AND WHEN?**

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**Objectives:** To measure the incidence of eclampsia, determine the type of health facility eclampsias were referred from, the gestational age at first seizure and whether there is seasonal variation or not.

**Method:** A retrospective study of 42 eclampsics at University of Nigeria Teaching Hospital, Enugu, Nigeria from 2004 to 2011 was done. Information collected from the case notes included sociodemographic...
characteristics, booking status, type of health facility referred from, gestational age at first seizure, month of admission and maternal deaths.

Results: The hospital incidence of eclampsia was 0.86%. The mean age was 25.8 years ± 9.6 years. More than half primigravidae (57.1%), and 31% had secondary school education: these observations were statistically significant ($x^2 = 17.05, P < 0.01, x^2 = 27.14, P < 0.01, x^2 = 11.33, P = 0.01$ respectively). 85.7% were unbooked: this was statistically significant ($x^2 = 21.43, P = 0.00$). 33% were referred from a private hospital and 26.2%, maternity home. The mean gestational age at first seizure was 35 weeks ± 4 weeks. 83% of the seizures occurred during rainy season; this was statistically significant ($x^2 = 18.67, P < 0.01$).

Conclusions: Eclampsia is one of the leading causes of maternal motality. Majority of the eclamptics were primigravidae, unbooked and sought care at substandard facilities. There is need for health education of women of child bearing age as well as their families.

**P0688**
PREVALENCE OF ADDICTION OF BETEL NUTS IN PREGNANT ANEMIC WOMEN
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Objectives: To determine the prevalence of addiction of betel nut formulation in pregnant women presented with anemia and to find out the association of this addiction with an adverse pregnancy outcome.

Method: This cross-sectional study was conducted at the obstetric and the gynecological unit III of Liaquat University hospital Hyderabad Sindh for the period of one year from January 2013 to December 2013. All women admitted in ward with hemoglobin less than 10gm/dl were included in study. Variable analyzed were demographic characters, severity of anemia and fetal out come.

Results: A total 1700 women were admitted with hemoglobin <11gm/dl during the study period. Out of these around 50% of women were between age group 25–35 years, 44.17% patients were multipara and 52% patient’s belonged to rural areas. 80% of women with moderate anemia had history of addition of betel nut. 71% of women with low birth weight had similar history.

Conclusions: It is concluded that consumption of betel nut, especially among pregnant women is very high in our community. It is also determined that these products are positively correlated with an adverse pregnancy outcome.

**P0689**
A RARE CASE OF APLASTIC ANAEMIA FIRST DIAGNOSED IN PREGNANCY – A CASE REPORT
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Objectives: The occurrence of aplastic anaemia in pregnancy is very rare. Our current knowledge of the disease is based on few reports of single patients. We review the literature to improve our understanding of this disorder in order to provide appropriate care and treatment.

Method: We report a case of aplastic anaemia diagnosed during pregnancy. We review the literature for the reported cases, and discuss the management options.

Results: A 29 years old primip lady, which was low risk at booking, presented with a history of bleeding gum, nosebleed, and bruising. She was 22 weeks pregnant. The blood tests demonstrated gradual deterioration in her biochemical profile. She was screened for Fanconi’s anaemia. Bone marrow biopsy confirmed the diagnosis of aplastic anaemia. She was managed throughout the pregnancy in collaboration with the haematologist. She had platelets transfusion, and was started on Cyclosporin 50mg/day. She felt improvement in her general condition, and went into spontaneous labour at 38 weeks. She delivered 2.2 kg baby with Apgar score of 10 at 1 minute.

Conclusions: There is no agreement about the optimal supportive care and treatment regime for Aplastic anaemia during pregnancy, however, Cyclosporin seems to be safe drug antenataly. Steroids, antithymocyte globulin therapy are the other treatments to resolve haemoptosis.
Results: A total of 200 normal pregnant women were recruited for the study. Nine of them were lost to follow up. Subsequently, 10.5% of the women developed preeclampsia. The positive and negative predictive values of serum uric acid for preeclampsia were 78.9% and 97.1%, respectively.

Conclusions: Serum uric acid was found to be a useful predictor of the occurrence of preeclampsia and its severity.

P0692
PREVALENCE AND CORRELATES OF BACTERIAL VAGINOSIS AMONG HUMAN IMMUNODEFFICIENCY VIRUS POSITIVE PREGNANT WOMEN AT AMINU KANO TEACHING HOSPITAL, KANO, NIGERIA

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Objectives: To determine the prevalence of BV among HIV positive pregnant women attending antenatal clinic at AKTH, Kano.

Method: It is a descriptive cross-sectional study carried out on 242 HIV positive pregnant women as the study group and 242 HIV negative pregnant women as the control group. Following administration of the questionnaires, high vaginal swabs (HVS) was collected and tested for PH, whiff test and microscopy to identify clue cells were done. The data was analyzed using Epi info version 3.5. Chi-square test was used to determine the strengths of association between exposure (HIV) and outcome (BV) variables in the study and controlled groups. Association was considered statistically significant at p-value of <0.05.

Results: The mean ages for both groups were 28.4 (SD ±4.45) and 28.7 (SD ±4.88) years for reactive and non-reactive groups respectively. The women’s parity ranged from 0 to 7 and mean parity was 1.91 and 2.05 for the reactive and non-reactive groups respectively. The overall prevalence of bacterial vaginosis among pregnant women attending ANC clinic at AKTH was 43.2%. The prevalence of BV HIV positive pregnant women (73.1%) is significantly higher than that of HIV negative pregnant mothers (28.7%), p<0.001.

Conclusions: Pregnant HIV positive women have higher risk of developing Bacterial Vaginosis compared with their HIV negative counterpart. Active screening for bacterial vaginosis among HIV positive pregnant women is advised.

P0693
THE EFFECT ON MATERNAL CBC OF FETOSCOPIC LASER OCCLUSION OF CHORIOANGIOPAUS VESSELS IN TREATING TWIN TO TWIN TRANSFUSION SYNDROME

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Objectives: To evaluate the effect on maternal CBC of fetoscopic laser occlusion of chorioangiopaus vessels (FLOC) in treating twin to twin transfusion syndrome.

Method: The clinical data of 71 consecutive cases of TTTS who had FLOC in the Department of Obstetrics and Gynaecology of Peking University Third Hospital were reviewed and analyzed for red blood cell count, hemoglobin and hematocrit.

Results: 1) The average operation time of FLOC was 64.0±16.3 minutes; the perioperative blood loss less than 5ml, there was 1 case of placental abruption postoperation, 1 case of placental vesel rupture. 2) Removed the above 2 cases, in the left 69 cases, the red blood cell count [(3.47±0.37)×1012/L vs (3.01±0.37)×1012/L, p=0.000], hemoglobin [(107.8±12.3) g/L vs (95.1±11.2) g/L, p=0.000] and hematocrit [0.314 (0.238, 0.387) vs 0.276 (0.213, 0.800), P=0.000] all declined significantly 24 hours after FLOC.

Conclusions: The blood dilution can not be ignored after the FLOC in the patients complicated with TTTS; furthermore we suggest routine assessment of maternal cardiac function for some patients in high risk of cardiac disfunction complicated with TTTS.

P0695
SEROPREVALENCE AND RISK FACTORS OF CYTOMEGALOVIRUS AMONG PREGNANT WOMEN AT ST. PAUL HOSPITAL MILLENNIUM MEDICAL COLLEGE. A CROSS-SECTIONAL PROSPECTIVE STUDY

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Objectives: The overall aim of the study was to determine the prevalence and identify risk factor of CMV infection among pregnant women in St.Paul’s Hospital Millennium Medical College, Addis Ababa, Ethiopia.

Method: A cross sectional types of study was employed on pregnant women starting from June-July 2014. A total of 200 individuals were consecutively recruited. A Blood sample was collected from selected pregnant women who were present at health facility for ANC. Structured questionnaire were used to gather socio-demographic data and risk factors. ELISA was used to detect anti-CMV IgG and IgM.

Results: Human cytomegalovirus IgG was detected 88.5%, and 15.5% IgM also found to be positive among pregnant women. Eleven percent of those participants were at risk of having the infection. Interestingly, only one pregnant woman was identified as having a recent primary infection. There was no statistical significant was detected between CMV positivity and any Obstetrical, socio-demographical and clinical characteristic (p>0.05). Therefore, there was no independent predictor for acquiring CMV infection.

Conclusions: This is the first research in our country, to provide information regarding HCMV seroprevalence in Ethiopia. Despite the high rate of seropositivity, the importance of HCMV testing during pregnancy should not be undermined. A comprehensive study with a long term follow-up examination of Pregnant women and their offspring born to HCMV IgM-positive mothers would be required to provide estimates of an accurate percentage of symptomatic congenital HCMV infection.

P0696
A RARE CASE OF PRIMARY LYMPHEDEMA IN PREGNANCY WITH SUBACUTE VENOUS THROMBOSIS

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Objectives: The objectives of this paper is to discuss and present the management of pregnant women with primary lymphedema. This includes antithrombotic management, fetal surveillance, intrapartum and postpartum monitoring.

Method: This paper is a case report of a 26 year old primigravid with a chief complaint of leg swelling on her 26 weeks AOG.

Results: A 26 year old primigravid, diagnosed case of primary lymphedema, presented with bilateral leg swelling on her 22 weeks AOG. AV Duplex scan of the lower extremity showed subacute venous thrombosis. Antenatally complicated by gestational diabetes mellitus (GDM) controlled by medical nutrition therapy. At 30 weeks AOG, she was admitted for preterm labor controlled with magnesium sulfate. Anti-coagulation with heparin was maintained until 37 weeks AOG. Antenatal corticosteroids were administered with weekly surveillance of Biophysical Profile, (BPS w/ NST), and glucose monitoring. At 38 weeks AOG, she delivered vaginally. Contraceptive with Medroxy Progesterone Acetate was initiated at 6 weeks postpartum.

Conclusions: Rigorous antenatal and postnatal surveillance is key in the management of pregnancy complicated by primary lymphedema and venous thrombosis. Primary lymphedema is generally a stable condition which can be managed conservatively during pregnancy.
**P0697**
**MAGNESIUM DEFICIENCY PREVALENCE ESTIMATION AMONG PREGNANT WOMEN IN THE REPUBLIC OF KAZAKHSTAN**

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**Background:** The normal magnesium level in human body is fundamental constant which controls homeoeostasis and human health respectively. Pregnancy is accompanied by progressive recession of magnesium level due to its high consumption for placental and fetal growth and also due to rising renal egestion in about 25%.

**Objectives:** To estimate the prevalence of magnesium deficiency in pregnant women in out-patient departments of maternity welfare centers in the Republic of Kazakhstan as there was none large-scale multicenter trial performed on magnesium deficiency prevalence among pregnant women in Kazakhstan up to date.

**Method:** The trial has included 314 pregnant women from three cities of Kazakhstan. Status of pregnant women included in trial was registered during the course of 2 visits to a doctor: the 1st is stage of inclusion into the trial and 2nd (final) is stage of long-term follow-up by the decision of a doctor (after 1 month). Diagnosis of magnesium deficiency had been confirmed by recession of magnesium level in blood lower than 0.8 mmol/L and/or overall scoring of ≥20 obtained through the standardized questionnaire on detection of magnesium deficiency which is widely used in international practice.

**Results:** Prevalence of magnesium deficiency among pregnant women made up 257/314 (81.85%) according to the questionnaire results. Magnesium level in blood was detected in 274/314 patients at the first visit. According to the blood test the prevalence of magnesium deficiency made up 209/274 (76.28%) and the average level was 0.77±0.01 mmol/L. Magnesium containing medicine was prescribed to 276 (87.8%) pregnant women with magnesium deficiency detected by the blood test. After the course of treatment magnesium level in blood plasma statistically increased and made up 0.87±0.01 mmol/L. Ratio of pregnant women with magnesium deficiency in blood plasma has decreased from 76.3% to 34.1%.

**Conclusions:** The high prevalence of magnesium deficiency made up 81.85% according to the data of the questionnaire and 76.28% according to the blood test. The magnesium containing medical preparation was prescribed for 1 month. After the course of treatment the magnesium level in blood raised from 0.77 mmol/L to 0.87 mmol/L (p<0.001).

According to the results of questionnaire the average score statistically reduced and made up 11.38±3.04 against 24.43±3.07 at the first visit to doctor (p<0.001). Intake of magnesium containing medication was justified by symptoms and blood test. There were shown its high efficiency, tolerability and safety during the trial.

**P0698**
**FETOMATERNAL OUTCOME OF PREGNANCY IN OVERT AND SUBCLINICAL HYPOTHYROIDISM – A TERTIARY CARE HOSPITAL EXPERIENCE**

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**Objectives:** To see the maternal and fetal outcome of pregnancy with Subclinical and Overt Hypothyroidism.

**Method:** A prospective cross sectional study carried out in the Feto-maternal Medicine wing of Department of Obstetrics and Gynaecology, Bangabandhu Sheikh Mujib Medical University, Dhaka during the period of July2013-December 2013. 75 admitted patients with Subclinical and Overt hypothyroidism diagnosed during ANC were included. Among them 43 were pregnancy with Subclinical Hypothyroidism (Group 1), rest 32 were Overt Hypothyroidism (Group 2). All the patients were managed according to the standard regimen and the collected data were analyzed by SPSS version 18, using the chi-square, “t” test & Fisher’s exact test.

**Results:** Majority (62.8%) of group 1 were 15–24 yrs age group and 65.6% of group 2 were 25–44 years. Medical diseases were more in group 2. Diabetes mellitus was 14% in group 1 and 40.6% in group 2. Anaemia was 37.5% in overt hypothyroidism and 18.6% in Subclinical hypothyroidism. 55.8% of group 1 patients received 50 μg levothyroxine whereas 75% of group 2 were on 150 μg of levothyroxine. Maternal complications (PPH, impending eclampsia) and fetal complications (IUD, fetal distress) were significantly higher in Overt hypothyroidism (p<0.5). LBW babies were 13% in group 1 and 75% in group 2.

**Conclusions:** Hypothyroidism in pregnancy (subclinical and overt) is associated with both maternal and fetal complications. However maternal complications like PPH, uterine rupture, abortion were observed only in patients with overt hypothyroidism. Fetal complications such as IUD, fetal distress and low birth weight babies were more in patients with overt hypothyroidism than subclinical hypothyroidism.

**P0699**
**ASYMPTOMATIC BACTERIURIA IN PREGNANT WOMEN IN THEantenatal clinic at Aminu Kano Teaching Hospital Kano North West Nigeria**

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**Objectives:** Asymptomatic bacteriuria (ASB) is common in pregnant women and if untreated could lead to serious complications. Despite this, its prevalence and microbiological characteristics have not been well studied in Kano and they vary among different populations. This study was to determine the prevalence and microbiological characteristics of ASB and pregnancy outcome following treatment of ASB in pregnancy among women who came for antenatal booking at Aminu Kano Teaching Hospital (AKTH), Kano, North West Nigeria, to make recommendations to improve our antenatal care.

**Method:** This was a cross sectional descriptive study done at AKTH, Kano. Randomly selected, 200 consenting booking antenatal clients between December 2010 and February 2011, who had no symptoms of UTI or use of antibiotics in the index pregnancy, formed the study population. Samples of 10- 15 ml of urine were examined for pus cells and bacteria, and cultured on CLED agar. Colonies yielding bacterial growth of 105/ml or more of pure isolates were deemed significant, and identified to species level. Antibiotic sensitivity test was done, treatment given and pregnancy outcome was determined. The results were analyzed using SPSS version 16.

**Results:** The prevalence of ASB in pregnancy was 9%. Parity and pyuria had statistically significant association with ASB (P<0.05). The commonest organisms isolated were Klebsiella spp and Staphylococcus saprophyticus. Following treatment of ASB, there was no statistically significant difference in pregnancy outcome compared to patients who did not have the condition.

**Conclusions:** The incidence of asymptomatic bacteriuria in pregnancy in AKTH is low. Thus, in such a low resource setting, screening of pregnant women using urine microscopy, culture and sensitivity should be reserved for pregnant women with higher risk of developing asymptomatic bacteriuria such as the grand multiparous women.
Objectives: To determine the relative proportions of vaginal and cesarean deliveries, and the common cesarean indications among women with hypertensive disorders in pregnancy (HDP).

Method: A cross sectional study conducted at the Korle Bu Teaching Hospital in Accra. The study involved daily data extraction from the medical records of women with HDP post-delivery.

Results: A total of 368 women with HDP were studied with 168 (45.7%) and 200 (54.3%) having caesarean and vaginal deliveries respectively. Caesarean birth rate was highest and lowest in chronic hypertension and gestational hypertension respectively. Regarding the timing of caesarean delivery, 31 (18.5%) were in labour prior to the surgery whereas 137 (81.5%) had not gone into labour. The common caesarean indications among women with HDP were previous caesarean birth (26.2%), unfavourable cervix (22.6%), fetal distress (14.9%), failure to progress (10.7%), fetal malpresentation (9.5%), failed induction (7.1%) and placental abruption (3.0%).

Conclusions: There is a high prevalence of caesarean delivery among women with HDP in Ghana with previous cesarean section and unfavourable cervix constituting about 50% of the cesarean indications.

P0701 PREGNANCY WITH CROHN’S DISEASE – A CASE REPORT
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Objectives: To detect the disease earlier if the patient comes with repeated diarrhea during pregnancy.

Method: It is a clinical diagnosis and finally endoscopic biopsy was done to confirm.

Results: Crohn’s disease is diagnosed. In the evaluation of “persistent diarrhea”, sigmoidoscopy with appropriate biopsies is a very useful test. In our case, rectosigmoid biopsy showed fragments of rectal mucosa and portions of submucosa with marked surface ulceration, with granulation tissue and fibrino-purulent exudates. Few ulcers extended deeper into submucosa with fissuring pattern.

Conclusions: Crohn’s disease may be diagnosed before or after pregnancy but diagnosis of disease coinciding with pregnancy is a very rare occurrence. We present such a unique case of disease onset for the first time during pregnancy. The objective is to emphasize the fact that although rare, Crohn’s disease can present for the first time during pregnancy and this possibility should be kept in mind while evaluating a case of pregnancy with persistent diarrhea.

P0702 THROMBOPHILIA AND NON-O-BLOOD GROUP AS RISK FACTORS FOR GESTATIONAL VASCULAR COMPLICATION AMONG TUNISIAN WOMEN
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Objectives: To assess inherited thrombophilia and non-O-blood group for the risk of gestational vascular complications.

Method: The study included 203 test subjects with adverse pregnancy outcomes including recurrent pregnancy loss, intrauterine growth retardation, pre-eclampsia and placental abruption. Each subgroup was matched with 100 controls and analyzed separately. All patients were evaluated for factor V Leiden, factor II G20210A mutations and for non-O- blood group. Protein S, protein C and antithrombin levels were determined and deficiencies noted.

Results: The factor V Leiden mutation, non-O-blood group and protein C deficiency had the highest incidences among patients both as a whole and in the four subgroups. The factor II G20210A mutation, protein S and antithrombin deficiencies were not statistically significant risk factors.

Conclusions: Our study provides evidence for a significant association between the factor V mutation and placental abruption. Furthermore, we found that this and the non-O- blood group independently increased the risk for intra-uterine growth retardation in our population.

P0703 PREVALENCE OF LOW BACK PAIN IN PREGNANCY
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Objectives: The aim of this study was to verify the prevalence of low back pain in pregnancy and its association with several covariates of interest in pregnant women, in Obstetrics Service of Botucatu Medical School, São Paulo State, Brazil.

Method: All pregnant women who underwent prenatal care in the service were eligible for the study, except those who refused to participate and/or had not showed preserved cognitive capacity to answer to the evaluation tool, composed by a structured questionnaire containing general and specific clinical data and description of back pain. The analyzed covariates were age, gestational age, weight, height, body mass, parity, physical activity and oral contraceptive use. In the exploratory analysis were used univariate logistic regression models and the variables those p-values ≤ 0.25 were chosen for the multiple conditional logistic regression model.

Results: From the 781 women interviewed, 155 (19.8%) presented suggestive complaints of back pain. In the univariate analysis, the variables “age” and “more than one pregnancy” were eligible for the multiple model. By adjusting the multiple conditional logistic regression model we observed that “more than one pregnancy” variable was the only that remained in a final model as a factor associated with low back pain (OR=1.912, CI95%=1.326–2.762).

Conclusions: Low back pain was highly prevalent among the pregnant group studied, but less than have been showed by the literature. Have had more than one previous pregnancy was the only factor associated with low back pain in this case series.

P0704 A POTENTIAL ROLE OF CXCR2 IN EARLY-ONSET PREECLAMPSIA: PLACENTA CXCR2 EXPRESSION IS RELATED TO INCREASED BLOOD PRESSURE AND SERUM LDH LEVEL
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Objectives: Preeclampsia, an idiopathic obstetric disease, is a main cause of maternal and perinatal morbidity and mortality. Although the exact cause of preeclampsia is not completely understood, it is widely accepted that the genesis of preeclampsia, especially the early-onset one, is associated with inadequate trophoblast invasion and failure of spiral artery transformation. CXCR2, binding the ELR+CXC chemokines with high affinity, has been reported to exert important role in trophoblast invasion and could be involved in the pathogenesis of preeclampsia. This study was designed to determine the changes in and significance of placenta expression of CXCR2 in preeclampsia.

Method: Women with early-onset preeclampsia, late-onset preeclampsia and healthy pregnancy were included in the study, from March 2012 to October 2012. After immunolocalized in human...
placenta, the levels of CXCR2 protein and mRNA were detected by Western blot, ELISA and Real-time quantitative PCR. Correlations between parameters were examined using Pearson or Spearman’s correlation coefficients.

**Results:** The expression of CXCR2 was found in the syncytiotrophoblasts and vascular endothelial in all groups with no difference between maternal and fetal side. The placental CXCR2 protein as well as CXCR2-mRNA expression of early-onset preeclampsia were significantly lower than those of healthy pregnancy and late-onset preeclampsia. The placental CXCR2 protein expression of early-onset preeclampsia correlated negatively with systolic blood pressure and LDH.

**Conclusions:** Significant abnormality of placental CXCR2 expression in early-onset preeclampsia, and correlations between placenta CXCR2 protein expression and some clinical parameters in early-onset preeclampsia were discovered, suggesting CXCR2 may play role in pathogenesis of early-onset preeclampsia.

**P0705**

**JAUNDICE IN PREGNANCY: A CLINICAL STUDY AT FATIMA MEMORIAL SYSTEM**

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**Objectives:** The objective of the study is to find the effect of jaundice during pregnancy on fetomaternal outcome over a 10-year period at tertiary care hospital.

**Method:** An analysis of fetomaternal outcome of all case records with jaundice in pregnancy from January 2003 to December 2013 is made.

**Results:** The incidence of jaundice in our study is 1 in 278 pregnancies, with the disease more common in younger age group. Viral hepatitis found to be the commonest cause, HEV being the commonest with a high maternal and perinatal mortality. Obstetric cholestasis being the second most common followed by HELLP syndrome, AFLP and sepsis; Hepatorenal failure, encephalopathy, DIC and PPH were the main causes of maternal mortality.

**Conclusions:** Viral hepatitis is most prevalent cause of jaundice in pregnancy, associated with a high maternal and perinatal mortality and morbidity.

**P0706**

**MATERNAL AND FETAL OUTCOME IN PREGNANT WOMEN WITH TAKAYASU AORTOARTERITIS. DOES OPTIMALLY TIMED INTERVENTION IN WOMEN WITH RENAL ARTERY INVOLVEMENT IMPROVE PREGNANCY OUTCOME?**

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**Objectives:** The prevalence of Takayasu Aortoarteritis is common in South-East Asian & Indian subcontinent with female to male ratio of 8:1. Age at diagnosis is less than 30 years in 90% cases. As the disease is common in women of child bearing age group, management of pregnancy in these patients becomes an important issue. The purpose of this study is to evaluate the maternal and fetal outcome in pregnancies with Takayasu Aortoarteritis and also to evaluate whether early intervention for renal artery involvement is associated with improved outcomes.

**Method:** Data of 12 patients with 18 pregnancies was collected prospectively from year 2006 to 2012. The patients were divided into three groups and their outcomes were noted: i) Without renal artery involvement; ii) With renal artery involvement without intervention; iii) With renal artery involvement for which intervention has been done.

**Results:** Renal artery involvement was seen in four patients, one had transluminal balloon angioplasty and another had renal artery stenting. In patients without renal artery involvement, hypertension, abortion and FGR was seen in 60%, 10%, and 40% pregnancies, respectively. In patients with renal artery involvement without intervention, hypertension was seen in 90%, preeclampsia in 20%, abortion in 60%, preterm in 20%, IUGR in 20%. In patients with renal artery involvement for which intervention has been done, hypertension was seen in 66%, abortion and IUGR was seen in 33% of pregnancies.

**Conclusions:** Pregnant women with Takayasu Aortoarteritis involving renal vasculature without any intervention are at high risk of having maternal and fetal complications. Early intervention prior to conception in these women is recommended to prevent pregnancy complications.

**P0707**

**SKELETAL DYSPLASIA**

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**Objectives:** Skeletal dysplasias are a rare group of conditions, 21–47/100,000 deliveries with varied forms and overlapping features. Acromesomelic dysplasia, an even rarer subtype, is suspected in an expectant patient with no prior work-ups. The obstetric difficulties in prenatal care of a short parturient with multiple congenital anomalies is discussed.

**Method:** A 26 year-old G2P1 (1001) came in for her first prenatal check-up at 14 2/7 weeks age of gestation. She had multiple congenital anomalies with predominant skeletal deformities, plus urinary incontinence, which remained undiagnosed at time of consult due to financial constraints.

**Results:** Patient delivered via normal spontaneous delivery with repair of 1st degree laceration under local anesthesia to a live term female with an Apgar score of 9.9, a Ballard score of 38 weeks, weighing 3020 g, appropriate for gestational age.

**Conclusions:** Though limb deformities may seem frequent, some rare forms of skeletal dysplasias are considered to be potentially lethal or life-limiting. Due to the risk of passing on a similar trait, antenatal diagnosis and perinatal management poses an important step in prenatal care. Prenatal sonographic diagnosis of skeletal dysplasias though has become challenging because of the overlapping features. Due to the rarity and risk of lethality in congenital skeletal disorders, difficulty of an exact prenatal diagnosis, and variety of modes of inheritance and multifactorial influences, prenatal genetic counseling may better prepare high risk families for pregnancy outcomes, as in this case.

**P0708**

**URINARY EXCRETION OF BRUSH-BORDER ENZYMES OF THE PROXIMAL RENAL TUBULES IN PREGNANT WOMEN WITH HYPERTENSIVE DISORDERS**

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**Objectives:** Proximal tubules of the kidney have a dominant function in the excretion of different enzymes in the urine, which can be used as markers for renal damage caused by different diseases, medicaments or toxins. Urinary activity of brush border enzymes is known as sensitive indicators of tubular function. The aim of this study was to evaluate urinary excretion of three brush border enzymes: gamma-glutamyl transferase, alanine aminopeptidase and...
leucyl aminopeptidase in pregnant women with various types of hypertensive disorders.

**Method:** The study consisted of 120 pregnant women divided into four groups: 41 women in 20th week of gestation or more, with gestational hypertension, 28 pregnant women after 20 weeks of pregnancy with preeclampsia, 21 pregnant women with chronic hypertension, identified before 20th week of pregnancy and 30 healthy, pregnant women. Urinary activity of enzymes was measured by colorimetric method. The median values of enzymes were expressed as U/g of urinary creatinine. For statistical analyses the ANOVA test and Mann-Whitney U test were used. The strength of correlation between the parameters was measured with the use of Spearman's rank correlation's coefficient.

**Results:** There were no significant differences between the groups that concerned urinary levels of all the three of brush border enzymes. No correlation was found between the concentration of enzymes in urine and values of blood pressure of any of the analyzed groups of pregnant women.

**Conclusions:** The results obtained suggest that, in the early stages of disorders associated with an increase blood pressure during pregnancy, there is no damage to the brush border of the proximal kidney tubules.

**P0709**

**THROMBOPHILIA SERUM MARKERS IN PREGNANT WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS**

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**Objectives:** The aim of the study was to determine the frequency of serum markers for hereditary and acquired thrombophilia and their association with pregnancy in women with Systemic Lupus Erythematosus (SLE).

**Method:** A case-control study was undertaken on 25 pregnant women with SLE (study group) and 33 pregnant women without known disease and with at least one previous pregnancy (control group). The association of presence of antiphospholipid antibodies and hereditary thrombophilia were analyzed in both groups using the chi-square ($\chi^2$) test with the Yates correction or Fisher's Exact Test; $P<0.05$ was considered significant.

**Results:** The serum markers for thrombophilia were present in 72.0% of pregnant women with SLE and in 9.1% of patients in the control group. A significant association was found between the presence of SLE and serum markers for hereditary thrombophilia/antiphospholipid antibodies ($P<0.05$). The relative risks for antiphospholipid antibodies were $13.20 (1.81<RR<96.46)$ in pregnant women with SLE, $7.26 (1.77<RR<29.86)$ for the presence of serum markers of hereditary thrombophilia and $7.92 (2.62<RR<23.94)$ for the presence of hereditary thrombophilia and/or antiphospholipid antibodies.

**Conclusions:** Pregnant women with lupus have a higher relative risk of having serum markers for hereditary thrombophilia and/or antiphospholipid antibodies.

**P0710**

**EFFECTS OF PROSTASIN ON BIOLOGICAL FEATURES OF HUMAN extravillous trophoblast cells under normoxia and hypoxia**

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**Objectives:** To investigate the effects of prostasin, as an invasion suppressor for human cancer cells, on biological features of human extravillous trophoblast cells under normoxia and hypoxia.

**Method:** An immortalized normal human first-trimester trophoblast cell line (HTR-8/SVneo) was used as an in-vitro model. Prostasin in HTR-8/SVneo was over-expressed by treating with different concentrations of recombinant human prostasin, and knocked down by transfecting with siRNA. After altering the expression of prostasin under normoxia and hypoxia, the cell proliferation assay was analyzed by Cell Counting Kit-8 assay; migration and invasion were detected by Matrigel tests; cell apoptosis was assessed by flow cytometry. Moreover, the protein expression of invasion-related molecules under hypoxia was analyzed by Western-Blot. The levels of sFlt-1 and sEng in the culture supernatants were also measured by ELISA.

**Results:** Prostasin over-expression in HTR-8/SVneo cells under 20%O2 and 3%O2 enhanced proliferation, inhibited the invasion and migration. Prostasin knock-down in HTR-8/SVneo cells resulted in inhibition of proliferation under 20%O2 and 3%O2, increased invasive and migratory ability under 3%O2. Up-regulation or down-regulation of prostasin had no effect on apoptosis. Prostasin knock-down in HTR-8/SVneo cells under 3%O2 was associated with up-regulated expression of HIF-1α, snail, MMP2 and down-regulated of E-cadherin. The levels of sFlt-1 and sEng in supernatants under 20%O2 were significantly higher than those under 3%O2. By silencing prostasin expression in HTR-8/SVneo cells under 3%O2, the levels of sEng were significantly increased.

**Conclusions:** Prostasin may be involved in many important biological functions of human extravillous trophoblast cells such as proliferation, invasion, migration, and expression of endothelial cell specific biomarkers. These effects are also influenced by different oxygen concentrations. All the findings could help us reach a better understanding of the implantation and development of trophoblasts, which contributes to the pathogenesis of preeclampsia.

**P0711**

**SOLUBLE AND ENDOGENOUS SECRETORY RECEPTORS FOR ADVANCED GLYCATION END PRODUCTS IN THREATENED PRETERM LABOR AND PRETERM PREMATURE RUPTURE OF FETAL MEMBRANES**

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**Objectives:** The aim of the study was comparison of soluble as well as endogenous secretory receptors for advanced glycation end products (sRAGE, esRAGE) plasma levels in three groups diagnosed with: threatened premature labor - A (n=41), preterm premature rupture of membranes - B (n=49), preterm rupture of membranes at term - C (n=48).

**Method:** Not later than two hours after admission to the department, peripheral maternal blood was sampled from the ulnar vein, then treated with disopotassium ethylenediamine-tetraacetic acid and, after centrifugation, obtained plasma samples were stored at -80°C until assays. Immunoassay methods were used to sRAGE and esRAGE calculations.

**Results:** A positive correlation was found in group A between plasma sRAGE concentration and: pregnancy duration from diagnosis to delivery ($r=0.422$; $p=0.001$), neonate birth weight ($r=0.338$; $p=0.03$) and gestational age at delivery ($r=0.469$; $p=0.002$). In A group the subgroup of pregnancies with latency period extended over seven days, significantly higher concentrations of sRAGE were found, compared with those in whom latency was less ($p=0.004$). In group B higher sRAGE levels occurred in the pregnant women whose latency from pPROM until delivery was over 24 hours ($p=0.007$).

**Conclusions:** High sRAGE concentration can be a favorable prognostic factor in the presence of symptoms of threatened premature la-
bor. High sRAGE plasma concentration in premature gestation complicated by preterm rupture of the membranes seem to delay the development of intrauterine infection.

P0712
ELEVATED HBA1C DURING PREGNANCY IN DIABETIC WOMEN AND LARGE-FOR-GESTATIONAL-AGE INFANTS – A STUDY IN SINGAPORE

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Objectives: Over the years, diabetes mellitus (gestational and pre-existing) has been established by multiple studies to be a risk factor for adverse pregnancy outcomes, with haemoglobin A1c (HbA1c) having been identified as a potential predictor for some of them. While certain outcomes consistently demonstrate a strong association with HbA1c values, there is currently substantial variation in the reported relationship between large-for-gestational-age (LGA) infants and HbA1c values in pregnancy. The aim of our study was thus to investigate whether elevated HbA1c values (≥6.5%) during pregnancy are associated with an increased risk of having an LGA infant (birth weight ≥90th percentile for gestational age).

Method: The study population consisted of 202 women whose babies were born at term (37+0 to 41+6 weeks) in KK Women’s and Children’s Hospital, Singapore, in 2012 or 2013. They had been diagnosed with either pre-existing or gestational diabetes mellitus in the current pregnancy. A single HbA1c measurement was performed during either second or third trimester at a median (minimum, maximum) gestational age of 29 (13, 38) weeks. Relevant data was abstracted from the electronic medical records system for this prospective cohort study. Exclusion criteria included multiple gestation, congenital anomalies/infections, genetic syndromes, significant maternal medical condition or incomplete data records.

Results: Mean maternal age (years) was 33.07. Of the women, 35.1% had high sRAGE plasma concentration in premature gestation complicated by preterm rupture of the membranes seem to delay the development of intrauterine infection.

Conclusions: Currently, despite advances in imaging and laboratory facilities for diagnosis of this entity, the suspected diagnosis remains clinical, In most cases, the diagnosis is made in emergency rooms, with the general health of the patient, committed, so it is important to consider the etiopathogenetic factors to work in preventing such pregnancies.

P0714
CHRONIC COAGULATION DYSFUNCTION DUE TO FETAL LOSS: A CASE REPORT AND BRIEF REVIEW OF THE LITERATURE

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Objectives: We present a case of fetal loss for more than one and a half month with chronic disseminated intravascular coagulation in a woman who presented no bleeding.

Method: A 29-year-old pregnant woman at 38 and 3/7 weeks gestation with a 11-hour history of intermittent mild abdominal pain presented to our Emergency Department (ED). Upon initial history, the patient reported that she was diagnosed with fetal loss equivalent to 23 weeks gestation at the same day in a secondary hospital. A very low fibrinogen level was suggested for disseminated intravascular coagulation.

Results: Finally She discharged two fetuses which weighed 440g and 20g respectively. Few cases have been described in the literature demonstrating chronic disseminated intravascular coagulation in patients due to fetal loss for a very long time.

Conclusions: Few cases have been described in the literature demonstrating chronic disseminated intravascular coagulation in patients due to fetal loss for a very long time.

P0715
IMBALANCE OF ANGIOGENESIS ASSOCIATED CHEMOKINE NETWORKS IN SPONTANEOUS ABORTION

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Objectives: The role of angiogenesis and angiogenetic factors in pregnancy is well known, and it has been shown that chemokines and their receptors are implicated in pregnancy and abortion, but the role of chemokine networks in the development of placenta and decidua has not been elucidated. In the present study, we aim to examine the role of chemokine networks in the associated with pregnancy angiogenesis and the disorders that might lead to spontaneous abortion.

Method: Trophoblastic/placental tissue was collected from women with spontaneous abortion (n=15) and induced abortion (n=10) at the time of the therapeutic evacuation of the endometrial cavity. Tissues were homogenized and total RNA isolation was performed using TRIzol Reagent, following by cDNA synthesis from total RNA using PrimeScriptTM 1st strand cDNA Synthesis Kit, according to the manufacturer’s instructions. Detection of mRNA expression for angiogenic and angiostatic cytokines was performed by conventional PCR, using KAPATaq™ PCR Kit, according to the manufacturer’s instructions and positive results confirmed and evaluated with real-time PCR.

Results: All samples from women with induced abortion, tested with conventional PCR for angiogenic chemokines, were found to express IL-8 mRNA, in contrast to the samples from spontaneous abortion, where the IL-8 mRNA expression was absent. From the group of angiostatic chemokines, the mRNA expression of the chemokine MIG (Monokine induced by interferon-g) was absent in all samples from induced abortion, while it was expressed in 5 out of 15 cases of spon-
taneous abortion. Real-time PCR confirmed these results and demonstrated a statistical significance in the presence of MIG in spontaneous compared to induced abortion.

Conclusions: Women with spontaneous abortion, in contrast to women with induced abortion, were found to abolish IL-8 expression, a strong angiogenic factor, in trophoblastic/placental tissue, while a significant portion of them expressed the chemokine MIG, a strong angiostatic factor. These data support the evidence that an imbalance between angiogenic and angiostatic chemokines might be implicated in the pathogenetic mechanisms of spontaneous abortion.

P0716 INCIDENCE OF POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME IN ECLAMPSIA AND PREECLAMPSIA WITH NEUROLOGIC SYMPTOMS

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Objectives: Posterior reversible encephalopathy syndrome (PRES) is considered a primary central nervous system injury in patients with eclampsia. However, some studies showed PRES was also detected in some patients with severe preeclampsia and not all eclamptic patients developed PRES. We hypothesized the patients who presented neurologic symptoms such as severe headache, visual disturbance, impaired consciousness, and seizure developed PRES. Magnetic resonance imaging (MRI) was prospectively conducted in the patients who developed the neurologic symptoms during peripartum period to reveal the incidence of PRES in eclampsia and investigate whether the neurologic symptoms are the sign of PRES.

Method: This study is a prospective cohort study in a single medical center, TOYOTA memorial hospital. MRI was conducted within 24 hours from the onset in the patients who presented severe headache, visual disturbance, impaired consciousness, or seizure during peripartum period. A total of 47 patients were enrolled in this study between February 2007 and July 2014, but 3 patients were excluded because of a history of epilepsy and 7 patients were excluded because they were diagnosed with dissociative disorder. Maternal characteristics such as age and parity, blood pressure, and laboratory data at the onset were also examined.

Results: Eclampsia was diagnosed in 12 patients, and 11 eclamptic patients (91.7%) were complicated with PRES. On the other hand, among 25 patients who developed severe headache, visual disturbance, impaired consciousness, 5 patients (20.0%) were diagnosed with PRES. Maternal age, parity, systolic and diastolic pressure, platelet count, aspartate transaminase, alanine transaminase, lactate dehydrogenase, and serum creatinine levels were not significantly different in the patients with or without PRES, but hematocrit was significantly higher in the patients with PRES. Severe hypertension: 160/110 mmHg or over, was observed in 14 of 16 patients with PRES and 13 of 21 patients without PRES.

Conclusions: PRES was frequently observed in the patients with eclampsia, but the presence of prodromal symptoms such as severe headache, visual disturbance, and impaired consciousness was not the good indicator of PRES. Clinical background and laboratory data except hematocrit was not useful to assess the risk of PRES. Although previous studies reported that PRES were observed in eclamptic or severe preeclamptic patients, this study indicates that PRES can occur even in patients without severe hypertension. Further study is necessary to more accurately assess the risk of the development of PRES.
pregnancy, and at postpartum day (PPD) 3 – 5 and 25 – 35, respectively. Number of SPAs was determined 15-, 30-, 45-, 60-, 75- and 90-min after phlebotomy for each blood specimen. Correlations between numbers of SPAs with levels of von Willbrand Factor, mean platelet volume (MPV), and fraction sizes of immature platelet were analyzed.

**Results:** Number of SPA increased significantly with advancing pregnancy trimester (15 min after phlebotomy: 41±51 for 1st trimester, 141±235 for 2nd trimester, and 249±338 for 3rd trimester), as well as increasing time after phlebotomy until 60-min after phlebotomy. (for example, in 3rd trimester: 249±338, 642±715, 777±680, and 814±729 for 15-, 30-, 45-, and 60-min after phlebotomy, respectively). The number of SPAs decreased significantly to 192±461 (15-min after phlebotomy) on PPD 3–5. A log-transformed number of SPAs 15-min after phlebotomy was significantly correlated positively with MPV (r=0.45, p<0.01).

**Conclusions:** In the citrated whole blood obtained from pregnant women, spontaneous platelet aggregation occurred. As MPV reflects thrombopoiesis, the increased number of SPA may have reflected increased platelet reactivity. The new method was useful for the assessment of platelet reactivity.

**P0719**

**THE INFLUENCE OF DISEASE ACTIVITY ON BIRTH OUTCOMES IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE: META-ANALYSIS**

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**Objectives:** There is a concern that active disease during pregnancy in women with inflammatory bowel disease (IBD) may be associated with adverse birth outcomes, however data dealing this topic have yielded conflicting results. We performed a systematic review and meta-analysis to evaluate the effect of disease activity at the time of conception or during pregnancy on birth outcomes in women with IBD.

**Method:** A systematic literature search of PubMed, EMBASE, Cochrane Library, Korean Med was conducted to identify studies that investigated the birth outcomes among pregnant women with IBD based on clinical disease activity. Disease activity was assessed at conception or during pregnancy. Various birth outcomes including premature birth, low birth weight, small for gestational age, spontaneous abortion, threatened abortion, still birth, Cesarean section, and chromosomal abnormality was measured. If significant heterogeneity was present, a random-effects model was used for data pooling.

**Results:** Eleven studies with a total of 4739 pregnant women with IBD were included. Regarding disease type, ten studies contained patients with Crohn’s disease (n=2191), and six studies contained patients with ulcerative colitis (n=2548). In women with IBD having active disease, the pooled odd ratios (ORs) for premature birth (OR 2.19, 95% CI: 1.72–2.80), small for gestational age (OR 1.86, 95% CI: 1.14–3.03), low birth weight (OR 2.21, 95% CI: 1.01–4.84), still birth (OR 2.38, 95% CI: 1.03–5.51), and threatened abortion (OR 2.41, 95% CI: 1.08–3.03) were significantly higher than those of women with IBD in remission.

**Conclusions:** Active disease at conception or during pregnancy in women with IBD was associated with adverse birth outcomes including premature birth, small for gestational age, low birth weight, still birth, and threatened abortion. Maintenance of remission at pre-conceptual phase and throughout pregnancy is crucial for better pregnancy outcomes in these patients.
P0722
OUTCOME OF PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV INFECTION (PMTCT) IN SOKOTO, NORTHERN NIGERIA

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Objectives: The aim of the study is to determine the infection rates of the babies following PMTCT intervention.

Method: This is a five year prospective study of all HIV positive women in the PMTCT programme of Usman Danfodiyo University Teaching Hospital Sokoto, North Western Nigeria. The baby’s HIV status was tested with PCR for HIV DNA at 6 weeks and 18 months. All the mothers received anti retroviral drugs (ARV) during pregnancy including prophylaxis for the baby at birth.

Results: There were 13735 deliveries during the study period out of which 127 women were in the PMTCT programme, giving a prevalence of 0.92%. Transmission rate was 13 (10.2%) and 20 (15.7%) at 6 weeks and 18 months respectively. All mothers received highly active anti retroviral therapy. The entire baby’s were given ARV post exposure prophylaxis. Main mode of infant feeding was breast feeding in 72 (56.6%) while 55 (43.3%) used infant formula. Among the infected babies 6 and 11 babies were breast fed at 6 weeks and 18 months respectively. The 7 babies that became positive at 18 months were breastfed.

Conclusions: Transmission is high during breast feeding despite ARV prophylaxis. It is therefore recommended that all HIV exposed babies should be fed with infant formula were affordable.

P0723
ATALAH’S CURVE EVALUATION OF ADEQUACY OF WEIGHT IN GESTATION IN A NEW POPULATION. IS THERE NEED FOR REASSESSMENT?

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Objectives: To evaluate the Atalah’s curve in fresh population according to weight gain during pregnancy.

Method: Prospective study in 333 charts of women. The information about height, weight and gestacional age were collected in each medical visit during the pregnancy. This data generate a total of 2529 measures. We’ve calculated the percents 25%, 50% and 75% in each gestational age evaluated for body mass index. Using these values like a cutoff, we’ve classified the women in low weight, normal, overweight and obese in the beginning of prenatal care, in the middle (around 20 weeks) and in the delivery. The women also were classified using Atalah’s curve. We’ve used McNemar test and kappa (a = 0.05).

Results: In the beginning of prenatal 75.1% of women were classified in the same level by Atalah’s and by recent parameters. 14.4% were classified like normal or overweight by Atalah’s and like overweight and obese following recent parameters. Also 10.2% were classified in normal by Atalah’s and in low weight by recent parameters (p<0.0001, kappa 0.78 (CI: 0.74–0.82)). In the middle of pregnancy 79.8% were concordant and 11.4% (p<0.0001, kappa 0.83 (CI: 0.79–0.86)) were underestimated by Atalah’s (comparing with new parameters), and in delivery these numbers were 78.5% and 8.5% respectively (p<0.0001, kappa 0.82 CI: (0.78–0.85)).

Conclusions: The Atalah’s curve tends to classify differently around 25% of women at the beginning and in the middle of the pregnancy, most of the cases were underestimated. Although the data have not been used in a probabilistic model but empirical to the formation of the new parameters, the update of the curve values and the national parameter appears necessary.

P0724
ACUTE HEPATIC STEATOSIS IN PREGNANCY: A CASE REPORT


Objectives: To evaluate the incidence, the difficult in diagnosis, treatment and prognosis, as well as describe the case of a pregnant patient admitted to the service that developed the condition during pregnancy.

Method: Case report occurred in Mato Grosso do Sul (Brazil). Information was obtained through review of medical records, pregnant interview and literature review. The resolution of the case was after delivery.

Results: The patient presented hypogastric pain, generalized itching, nausea, jaundice and anasarca. She developed acute renal failure and disseminated intravascular coagulation (DIC). Because of DIC, the patient had twice reopening of the abdominal wall (on the 3rd and 7th postoperative c- section) and video-laparoscopy on the 14th postoperative. After three days of delivery, laboratory exams showed great improvement. Despite numerous assumptions have been made about its etiology, its mechanism is still unclear. The AHSP clearly is not an infectious disease nor metabolic. No familial cases and subsequent pregnancies have been normal in women who survive the disease and later become pregnant.

Conclusions: Acute hepatic steatosis in pregnancy is a rare case, difficult to diagnose with high maternal and fetal mortality. Because it is serious illness, the most common treatment includes fast diagnosis, the immediate termination of pregnancy and the early referral to specialist services in liver diseases, which occurs with the first signs of hepatic. Maternal death is still around 25% and is reported as a result of sepsis, aspiration, renal failure, circulatory collapse, pancreatitis and gastrointestinal bleeding. Treatment is symptomatic and, when it fails, liver transplantation is an alternative, this occurs in about 2% of the cases of AHSP.

P0725
ACTIVE MANAGEMENT OF ISOLATED OLIGOHYDRAMNIOIS AT PRETERM: A CASE STUDY AND LITERATURE REVIEW

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Objectives: There are few studies available about the risks, outcomes and management of isolated oligohydramnios at preterm, some of them leading to conservative clinical decisions. This case study brings these risks to attention, with the objective of supporting and showing the importance of interventional and active management of this condition.

Method: Case study: all data were collected from the patient’s medical records, who conceded formal authorization for this case study. The study was approved by the Ethics Committee of the maternity hospital where the patient received medical care.

Literature review: the research was performed using MedLine/ PubMed, LILACS/SCIELO, Cochrane and Scopus databases, looking for national and internationals studies, using key words: “oligohydramnios”, “isolated oligohydramnios”, and “idiopathic oligohydramnios”. Studies with determined cause for oligohydramnios, such as: pulmonary or urinaty tract malformations, premature rupture of membranes and intrauterine growth restriction were excluded from the study.

Results: FZRR, 31 years old, nuliparous, second gestation (1 previous miscarriage), 33 weeks. No prenatal care intercurrences. However, third trimester ultrasounds revealed Amniotic Fluid Index (AFI) decrease from 147mm to 47mm, with no evidence of rupture of membranes or other apparent causes. The patient was admitted and started standard treatment. Amniotic fluid scored zero on biophysical profile and cardiotocography indicated decelerations, leading to...
the indication of a cesarean section. Absence of amniotic fluid was noticed during the surgery. The newborn was admitted to NCIU (due to prematurity) for 10 days, with no further intercurrences. Anatomopathological exam of the placenta: Chronic Intervillous Hypoxemia.

Conclusions: Due to the nearly absence of amniotic fluid noticed during surgery, this case could not have presented satisfactory outcomes if caesarian delivery was not indicated. The anatomopathological of the placenta result – chronic inter villous hypoxemia – could have led to fetal distress and perinatal complications if gestation was prolonged. The reviewed literature confirmed the risks associated to expectant management and indicated risks of premature labor complications on active management. However, based on this case, expectant management must be as much cautious as active management, since the purpose of obstetrical care is providing successful gestations.

P0726
INFERIOR LIMB OSTEOSARCOMA DIAGNOSED IN A PREGNANT ADOLESCENT DURING HER THIRD TRIMESTER
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Objectives: To report the course and treatment of a third trimester pregnant teenager with a recent diagnosis of osteosarcoma in her lower limb.

Method: We report a 17 year old, primigravida, in her 38th week of pregnancy who arrived to the emergency room complaining of a fast growing mass in her inferior right limb. Pain, edema and claudication had developed in the past five months upon her arrival. With no previous medical or prenatal care. She was admitted to the Obstetric Ward. After the evaluation of oncology, pathology and traumatology, interruption of gestation was performed via cesarean section with a low transverse incision. Obtaining a male product, weighing 2,590 g, height 48 cm, Apgar 8/9, gestational age of 37 weeks.

Results: A MRI of the right knee reported lesions in the distal portion of the femur, compatible with osteosarcoma, with involvement of all the muscular compartments. A biopsy was performed confirming osteosarcoma. She declined leg amputation and was treated after pregnancy with 3 cycles of Cisplatin/ Doxorubicin, with an adequate reduction of the tumor's size, with no signs of acute toxicity. Two months after the start of chemotherapy she developed cough and dyspnea, and was diagnosed with lung metastasis. She died of acute respiratory failure afterwards.

Conclusions: Osteosarcoma is the most common primary bone cancer, it is rarely associated with pregnancy. The diagnosis and treatment have to be adjusted to each patient. The complete surgical excision reassures the best prognosis. The stage of the tumor, metastasis, type of chemotherapy, anatomic localization and size of the tumor affects the prognosis. A multidisciplinary approach must be taken, tailored to the mother's health, balancing the needs of a developing fetus, assuring an appropriate oncologic.

P0727
LYMPHOID CELLS PHENOTYPIC PROFILE ON SYSTEMIC AND LOCAL LEVELS IN PREGNANT WOMEN WITH HYPOTHYROIDISM
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Objectives: Investigate the quantitative and functional indices of different populations and subpopulations of lymphocytes in mother-placenta system's blood of pregnant women with hypothyroidism in the iodine deficiency region.

Method: It was used direct immunofluorescence of membrane surface antigens to lymphocytes by flow cytometry.

Results: At the peripheral level marked increase CD3, reduction of cytotoxic and natural killer cells, with increasing cell activation markers, an increase an apoptotic index. At the local level was found decrease apoptotic index.

Conclusions: Disorders of immune cells phenotypic profile from peripheral and cord blood in comparison with the control occur in pregnant women with hypothyroidism, which persists even after correction with thyroid hormones.

P0728
A CASE OF GESTATIONAL CHORIOCARCINOMA WITH MULTIPLE UNCOMMON SITES OF METASTASIS PRESENTING IN A VIABLE PREGNANCY
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Objectives: Choriocarcinoma is a malignant tumour of the syncytiotrophoblast and cytotrophoblast with common metastases to the vagina, lung, brain and liver. The disease presenting during a viable pregnancy is extremely rare. We report a rare case of gestational choriocarcinoma in a pregnant woman with metastatic disease to atypical sites, the investigations leading up to the diagnosis and the management of her pregnancy and disease.

Method: A literature search was conducted using Pubmed, Medline and Cochrane Library with the terms [choriocarcinoma] OR [metastatic choriocarcinoma] OR [gestational choriocarcinoma] AND [pregnancy] OR [intrauterine pregnancy] OR [viable pregnancy]. This yielded 45 case reports, with the oldest dating back to 1907. Six cases reported metastases to less uncommon sites i.e. breast, thyroid, spleen, intestine, myocardium, pancreas or bladder. We believe our case is the second case report on this disease from Australia and the only case of metastatic gestational choriocarcinoma with bony involvement.

Results: A 33-year-old woman who was 33 weeks pregnant presented with hemoptysis and cough. Initial imaging demonstrated a large right lower lobe mass extending via the inferior pulmonary vein into the left atrium, suspicious of malignancy. She was delivered at 34 weeks and placental histology confirmed choriocarcinoma. She was diagnosed with FIGO stage IV choriocarcinoma, with cerebral, pericardial, hepatic, adrenal, cutaneous, breast and bony metastases and was treated with the EMA-CO protocol. Her prognosis remained poor as new cerebral and bony metastases was found on reimaging. Her child was not affected by the disease and made good progress despite his prematurity.

Conclusions: Gestational choriocarcinoma concurrent with a viable intrauterine pregnancy is a very rare occurrence. In practice, the diagnosis of choriocarcinoma in pregnancy is only likely to be made when there is histological or radiological evidence of the disease. The diagnosis should, however, be considered where pneumonic symptoms are resistant to initial treatment, the most common metastatic site for choriocarcinoma is the lung. The decision to deliver the fetus in such circumstances is a delicate strike of balance between the risks of delay in treatment and prematurity of the fetus, and the benefits of prolonging the pregnancy.

P0729
SUBCLINICAL CENTRAL DIABETES INSIPIDUS UNMASKING DURING PREGNANCY. A CASE REPORT
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Objectives: To report the clinical presentation and management of a patient who developed Diabetes Insipidus, during her peripartum period.
Method: Early diagnosis and initial management of Diabetes Insipidus that unmasked during a cesarean delivery at a secondary care Health facility in rural India, followed by appropriate referral and further management in a super specialty tertiary care Hospital.

Results: A 32 year old G3P1A1 with an unremarkable antenatal course underwent emergency cesarean delivery due to protracted descent in active phase of labor. She had severe atonic postpartum hemorrhage which responded to uterotonic. However, she developed intense thirst and polyuria in the postoperative period which lead to further evaluation that confirmed the diagnosis of Diabetes Insipidus. She responded well to Desmopressin nasal spray for 3 months, following which the patient self-discontinued medication. Four years following the diagnosis, she continues to have mildly elevated serum osmolality with reduced urine osmolality, although asymptomatic.

Conclusions: Awareness and prior knowledge of this rare medical disorder may lead to early recognition and appropriate management thereby avoiding serious maternal morbidity and even mortality.

P0730
5 YEARS REVIEW OF MATERNAL NEONATAL OUTCOME ON ECLAMPSIA IN PROF KANDOU PROVINCIAL HOSPITAL MANADO, INDONESIA

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Objectives: Aims of the study is to evaluate maternal and neonatal outcome in patient with eclampsia and the factors affecting the outcome.

Method: A retrospective epidemiological study was undertaken in the departement of obstetrics and gynaecology Prof Kandou Hospital Manado, Indonesia during the period of January 2010 to December 2014. Patient who is diagnosed with eclampsia or developed eclampsia during hospital stay were included in the study. Statistic analysis using Pearson Chi square and Fisher exact test.

Results: During this period the incidence was 38 per 18576 deliveries (0.2%). Most (81.6%) has already developed eclampsia before reach the hospital. Eclampsia happened most frequently on primigravid and most in the age range of 20–35 years old (71%), the gestational age 37–42 weeks (52.6%). The highest blood pressure reach 280/140 mmHg. The most complication was HELLP syndrome (10.5%) with the mortality was 7.9%. Most was delivered by cesarean section (68.4%), with the neonatal outcome was 9 fetal death and 29 life birth. There’s no statistical difference in age, parity and blood pressure (p>0.05) between eclampsia with and without additional complication.

Conclusions: Eclampsia still had poor maternal neonatal outcome and unpredictable.

P0731
PREVALENE OF CANDIDIASIS, TRICHOMONIASIS AND BACTERIAL VAGINOSIS AMONG PREGNANT WOMEN WITH VAGINAL DISCHARGE

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Objectives: The current study was conducted with the objectives to find out the occurrence of candidiasis, bacterial vaginosis and trichomoniasis in abnormal vaginal discharge of pregnant woman, to co-relate between the clinical findings of abnormal vaginal discharge and presence of actual pathology.

Method: This cross sectional study was done in the Out Patient Department of Obstetrics and Gynecology of a tertiary Hospital, Dhaka from July to December 2009. All the pregnant women with the complaints of vaginal discharge were included. Data were collected by interviewing, examining and laboratory investigations. Three consecutive samples of vaginal discharge were collected at the same time from each patient for laboratory investigation. With the 1st sample microscopic examination was done to detect Trichomonas vaginalis, pus cells, budding yeast cells and clue cells. With the 2nd sample Whiff test and with the 3rd sample gram staining and microscopy was undertaken.

Results: One hundred pregnant women with vaginal discharge were enrolled in this study and majority were in the age group of less than or equal to 25 years (77.0%) with a mean of 24.69±6.48 years (range 18–43 years). Vaginal itching was present in 55%, no foul smelling discharge in 68%, homogenous vaginal discharge in 28%, granular vaginal discharge in 59%, mucoid in 13%, thick fluid like vaginal discharge in 46% and curd like discharge in 35%. Whiff test for Gardnerella vaginalis was positive in 38% cases and in 39% cases pseudohyphae of Candida albicans were found.

Conclusions: The prevalence of bacterial vaginosis, trichomoniasis and vaginal Candidiasis was found to be quite common in pregnant women. Proper diagnosis and treatment of vaginal discharge in pregnant women should be done to prevent adverse pregnancy outcomes.

P0732
IMPACT OF MATERNAL THYROID DISORDER ON NEONATAL THYROID FUNCTION

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Objectives: To present the neonatal thyroid status of mothers on thyroid replacement in a multi speciality children's hospital.

Method: Retrospective review of case records of neonates with TSH ≥6 mIU/ml born to mothers who are on thyroid replacement.

Results: Case records of 27 babies were reviewed. The median neonatal TSH was 15.6 mIU/ml; None with clinical symptoms; median birth weight 2.2 kg.

The thyroid disorders in the mothers include pre pregnancy Hashimotos thyroiditis (n=7), pregnancy hypothyroidism (n=18), Graves disease (n=1) and Post thyroidectomy (n=1). To establish the etioloji, antibody testing was performed in three babies, positive in two. The median maternal TSH was 4.3 mIU/ml and 13.3 mIU/ml in mothers with pregnancy hypothyroidism and Hashimoto's thyroiditis. The elevated TSH was picked up on repeat thyroid screening in 7 babies. There was no correlation between maternal and neonatal TSH.

Conclusions: Further research is needed to determine the impact of maternal thyroid status on neonatal thyroid function in the light of the new maternal TSH screening guidelines. Also, whether, direct venous sampling is preferable to neonatal screen in neonates with maternal thyroid disorders needs to be ascertained on a larger sample.

P0733
METABOLUMICS STUDY OF PLASMA PROFILES OF PREGNANT WOMEN WITH PRETERM LABOR

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Objectives: Preterm labour is defined as birth at less than 37 completed weeks of gestation. According to WHO (November, 2014) every year, an estimated 15 million babies are born preterm and this number is rising. Metabolomics fingerprinting is a semi quantitative approach to find metabolic changes in biological samples and it has proven its potential of finding novel biomarkers of under diagnosed diseases. Recently metabolomic approach has become very popular in clinical research. The aim of the study was to analyze metabolic plasma profiles of pregnant women and to find changes of metabolite concentrations which could identify women with preterm labor.
Method: Using liquid chromatography followed by high resolution mass spectrometry (LC-Q-TOF-MS) we have studied plasma of three groups of pregnant women: preterm labor without clinical chorioamnionitis (n=61), false preterm labor (n=48) and term labor (n=27). Plasma samples were deproteinized, filtered and analysed in both polarities modes under the same chromatographic conditions. LC-Q-TOF-MS data analysis was performed by chemometric tools. Univariate and multivariate statistics was applied to find metabolic changes between conditions and build a PLS-DA predictive model with satisfying selectivity and sensitivity. Selected markers were identified by MSMS analysis.

Results: LC-MS data analysis resulted in finding 89 statistically significant metabolites among plasma profiles. Among others there were differences between compared groups in concentrations of: lysophospholipids, fatty acids, some amino acids (lysine, arginine, histidine, phenylalanine), and several hormones or hormones metabolites (progesterone, estrone sulphate, pregnenolone sulphate).

Conclusions: Metabolomic approach revealed changes in metabolite concentrations in plasma of women between studied groups and some of them may be considered as potential predictors of the preterm labor.

P0734
FETO-MATERNAL OUTCOME OF DIABETES MELLITUS IN PREGNANCY AT THE UNIVERSITY OF PORT-HARCOURT TEACHING HOSPITAL, NIGERIA

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Objectives: The aim of the study was to determine the prevalence of pre-gestational and gestational diabetes mellitus and to highlight its associated maternal or perinatal morbidities and mortalities at the University Of Port-Harcourt Teaching Hospital, south-south Nigeria.

Method: This was a retrospective cross-sectional study of all cases of diabetes mellitus in pregnancy managed in the labour ward of the University Of Port-Harcourt Teaching Hospital from January 1, 2008 to December 31, 2012. The delivery records for the study period were reviewed; their data collected, entered and analyzed using the SPSS version 17.0. The results obtained were represented in percentages, means, bar charts, pie chart, line pictograms and frequency tables.

Results: There were a total of 122 cases of diabetes mellitus out of 14,521 deliveries within the study period; giving a prevalence of 8.4 per 1000 deliveries. There were 21 cases of pre-gestational DM and 101 cases of GDM giving a prevalence of 1.45 per 1000 deliveries and 6.96 per 1000 deliveries respectively. The mean birth weight of infants was 3.75kg (0.76kg). There were 60 cases (49.2%) of fetal macrosomia. There were 11 perinatal mortalities giving a perinatal mortality rate of 90.2 per 1000 deliveries. The caesarean delivery rate was 89.3%. There were no maternal deaths or congenitally malformed babies.

Conclusions: Diabetes mellitus in pregnancy is associated with significant adverse maternal and neonatal outcomes. Patients at risk should be encouraged to attend preconception clinics and register early for antenatal care.

P0735
EVANS’ SYNDROME AND PREGNANCY: A CASE REPORT

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Objectives: To report a case of a pregnant patient with a personal history of Evans’ syndrome diagnosed in childhood, controlled and treated at the Pereira Rossell Hospital in Montevideo, Uruguay.

Results: At 31 weeks’ gestational age she is admitted to the hospital with a diagnosis of severe anemia and universal jaundice. Concomitantly diagnosis of Intrauterine Growth Restriction is performed. Medical treatment is initiated with intravenous high-dose corticosteroids, intravenous immunoglobulin and transfusion of red blood cells and platelets. Termination of pregnancy is decided because of maternal and fetal risk. A cesarean section is performed, obtaining a vigorous newborn, with very low birthweight, who installed jaundice in exchange-transfusion range. Maternal postpartum evolution was good, with mild anemia and thrombocytopenia.

Conclusions: Evans’ syndrome is the coexistence of immune thrombocytopenia with autoimmune haemolytic anaemia. It has a very low incidence during pregnancy. The effects of this syndrome in the fetus and newborn are unknown, with a small number of cases reported in the literature. It is a challenge for treatment during pregnancy and when making obstetric decisions. The interruption of pregnancy in our clinical case was a valid therapeutic option to reduce both maternal and fetal complications.

P0736
CLINICAL PROFILE OF ASTHMATIC WOMEN IN PREGNANCY

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Objectives: To evaluate the clinical characteristics of asthmatic pregnant women in Recife, Brazil.

Method: Cross-sectional study among November 2013 and December 2014 developed in Federal University of Pernambuco, Brazil. Trained researchers asked asthmatic women about pregnancy and asthma related factors. Asthma was classified in severe (moderate or severe persistent) or non severe (intermittent or mild persistent; controlled or non controlled (<16 points in Asthma Control Test score); users of inhaled corticosteroids (ICS) or non users. Student’s t-test or Pearson’s chi-squared test were employed when appropriate. Two-tailed p-value <0.05 indicated statistical significance.

Results: Fifty three asthmatic women were enrolled: mean age of 25.6±5.6 years, mean gestational age 21.6±1.3 weeks, and 10.3±2.7 years of education. Half of them were primigravid (28 women, 52.8%); 32 (60.4%) had severe asthma, 33 (62.3%) were controlled and treated at the Pereira Rossell Hospital in Montevideo, Uruguay.

Conclusions: Among 14,521 deliveries within the study period; giving a prevalence of 8.4 per 1000 deliveries. There were 21 cases of pre-gestational DM and 101 cases of GDM giving a prevalence of 1.45 per 1000 deliveries and 6.96 per 1000 deliveries respectively. The mean birth weight of infants was 3.75kg (0.76kg). There were 60 cases (49.2%) of fetal macrosomia. There were 11 perinatal mortalities giving a perinatal mortality rate of 90.2 per 1000 deliveries. The caesarean delivery rate was 89.3%. There were no maternal deaths or congenitally malformed babies.

Conclusions: Diabetes mellitus in pregnancy is associated with significant adverse maternal and neonatal outcomes. Patients at risk should be encouraged to attend preconception clinics and register early for antenatal care.

P0737
QUALITY OF LIFE IN ASTHMATIC PREGNANT WOMEN

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Objectives: To describe the epidemiological profile and the quality of
life related to health in asthmatic pregnant women under treatment at a public university hospital in Brazil.

**Method:** A descriptive cross-sectional study from March, 2013 to May, 2014 with pregnant asthmatic women at antenatal clinics of Federal University of Pernambuco (Recife - Brazil). Asthma was classified in intermittent or persistent (mild, moderate, severe). Disease control was determined by the Asthma Control Test (ACT) and was considered controlled if score > 20. The quality of life (QoL) was assessed by the St. George’s Respiratory Questionnaire (SGRQ), and it was considered impaired when score > 10%. Students’ t-test and ANOVA test were used for statistical analysis of QoL compared to clinical and epidemiological factors. P-value < 0.05 was considered significant.

**Results:** Fifty one asthmatic pregnant women were included. The mean gestational age was 24.4±6.8 weeks, 51% were up to 25 years old (p=0.001), and 41.2% (p=0.005) had severe persistent asthma. Most reported worsening of asthma symptoms during pregnancy (86.3%, p<0.001) and 60.8% of women (p<0.001) had uncontrolled disease. Pregnant women with intermittent asthma had better SGRQ scores compared to other patients (SGRQ general average: 32.5% + 19.7, p<0.001). Patients with controlled asthma also had better QoL (SGRQ general average: 30.1% + 11.9, p<0.001).

**Conclusions:** Asthma is probably the most frequent clinical condition in pregnancy and studies about quality of life are scarce in this population. The obstetrician must be aware about asthma classification, disease control, and women quality of life to offer a proper antenatal care. Controlled and less severe asthma are associated with better health-related quality of life in pregnant women. However, further studies are needed with this particular group of patients to evaluate the influence of the pregnancy on clinical course of asthma.

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**P0738**

**DILEMMAS IN MANAGEMENT OF ACUTE CORONARY SYNDROME (ACS) IN PREGNANCY**

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**Objectives:** ACS is rare in pregnancy, but carries a high maternal mortality rate. A recent UK Obstetric Surveillance System (UKOSS) reported an estimated incidence of 0.7 per 100,000 pregnancies. The relative risk of myocardial infarction (MI) in pregnancy is 3–4 times in excess of the age specific rate of MI per 100 000 women in the reproductive age group, with coronary artery dissection being the more common cause in pregnant women with no prior risk factors instead of an atheroma. Despite the high importance, there is still no specific guidance for the management of ACS in pregnancy.

**Method:** We present the case of a 35-year-old, normal BMI, otherwise fit and well, low risk multigravida with ACS (NSTEMI) confirmed via ECG and elevated Troponin levels. Coronary angiogram revealed dissection of the Left Circumflex artery with thrombus in the Left Anterior Descending artery and good LV systolic function on echocardiogram. The multidisciplinary consensus was management with dual anti-platelet and anticoagulant therapy and arrange for planned caesarean section (CS) 2 weeks following the MI. Patient had an uncomplicated spontaneous normal vaginal delivery at 32 weeks gestation, however had a further NSTEMI 3 days postpartum.

**Results:** Safety and bleeding risk of anticoagulation and antiplatelet therapy, foetal-maternal radiation risk of Primary Coronary Intervention (PCI) and angiography, place/timing/mode of delivery (MOD) are some of the management dilemmas in pregnancy. Dual therapy is more effective, but raises the (dose-dependent) bleeding potential - in our case the patient developed a rectus sheath haematoma. The foetal-maternal radiation effects of PCI/angiography are clinically insignificant. Delivery within two weeks of ACS increases mortality. There’s no preferred MOD, but CS is more predictable, with less haemodynamic fluctuations compared to vaginal delivery. Controlling blood loss reduces hypotension and anaemia which are detrimental to myocardial function.

**Conclusions:** ACS in pregnancy is a rare but has a high rate of maternal mortality. Therefore, early recognition and multidisciplinary team management approach is crucial to having a positive outcome for both mother and fetus.

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**P0739**

**PATENT DUCTUS ARTERIOSUS (PDA) IN PREGNANCY: A CASE SERIES AND LITERATURE REVIEW**

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**Objectives:** To present three cases of PDA in pregnant women and emphasize the importance of this congenital heart disease as a significant cause of maternal morbidity and mortality.

**Case 1:** 26-year-old multipara, 41 weeks of gestation, presented with headache, scotomata, epigastric pain, BP 180/90mmHg, (+++) proteinuria and a continuous 5/6 heart murmur at the pulmonic area. She had an emergency C-section with delivery of a male fetus, weight 3.63kg, APGAR score (9/9).

- Echocardiography (postnatal) – dilated left atrial and ventricular chamber (LAVI = 72mL/m², LVIDd – 6.2cm); preserved systolic function; PDA (5mm diameter); pulmonary hypertension (PAPS – 49mmHg).

**Case 2:** 26 year-old multipara with complex congenital cardiopathy was offered labor induction at 39 weeks.

- Echocardiography – dilated left atrium and ventricle (LAD – 5.6cm, LVIDd – 6.0cm); aortic valve area: 0.35 cm² (systolic gradient (SG) – 163 mmHg (maximum)/104 mmHg (mean)); large PDA (12 mm length-aortic end/10 mm-pulmonary end).

She had forces-assisted vaginal delivery of female fetus, 2.84kg, APGAR (9/9). In postnatal period she had PSVT, stabilized after amiodarone administration.

**Case 3:** 16 year-old primipara with severe congenital cardiopathy was offered C-section at 37 weeks.

- Echocardiogram-severe membranous subaortic stenosis (SG – 159 mmHg (maximum)/99 mmHg (mean)); large PDA (10 mm length-aortic end/8 mm-pulmonary end); signs of pulmonary hypertension.

Elective C-section performed with delivery of male fetus, 2.07kg, APGAR (3/7/10), after which she suffered cardiopulmonary arrest with unsuccessful CPR.

**Results:** Physiological hemodynamic changes in pregnancy contribute significantly to morbidity and mortality in individuals with congenital heart disease. Maternal complications due to PDA are seldom reported, but cardiac decompensations have been observed. The length of the duct, pulmonary and aortic circulations resistance, previous repair, maternal cyanosis, and arrhythmias may determine the consequences of PDA in pregnancy. PDA can be subsequently complicated with Eisenmenger complex when a shunting reversal occurs with progression to pulmonary hypertension. In the absence of contraindication to it and if functional state of the heart is adjudged adequate, vaginal delivery may be considered the preferential route.

**Conclusions:** Pregnancy in women with congenital heart disease such as PDA poses potential risks to the mother and fetus. Asymptomatic young women with a PDA can usually anticipate an uncomplicated pregnancy. On the other hand, moderate or large PDA with significant shunting can cause elevated pulmonary vascular resistance, complicating the pregnancy. This may be the first time the disease can present and subsequent pregnancies further increase morbidity. Therefore, contraception should be offered to these women.
P0740
THROMBOTIC THROMBOCYTOPENIC PURPURA IN PARTURIENT
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Objectives: Thrombotic thrombocytopenic purpura (TTP) is a rare, life-threatening disorder with an estimated incidence of 4–11 patients per million population. Its occurrence during pregnancy causes higher maternal and fetal mortality. We describe the management of a parturient that was diagnosed to have TTP in the immediate postpartum period after having normal vaginal delivery under epidural analgesia.

Case history: A 41 year old G2P1 parturient was admitted to the labour floor at 39 weeks of gestation. She had pregnancy induced hypertension at 24 weeks of gestation and was on antihypertensive medications. Her physical exam was unremarkable. On admission, her laboratory investigations were within normal limits except the platelet count of 85,000/cu.mm. The parturient had epidural analgesia and uneventful delivery. However, the patient’s platelet count dropped to 60,000/cu.mm early after delivery and then to 23,000/cu.mm on 1st post-delivery day (PDD). The diagnosis of TTP was made based on clinical and laboratory work up (Table 1). Specifically, ADAMTS13 activity was found to be <2.5% of normal value.

Discussion: The nature of TTP was discussed with the parturient and plasmapheresis was instituted on 2nd PDD. Blood and blood products were transfused for 2 weeks with close monitoring of neurological status and signs of sepsis. The epidural catheter was left in situ and was removed on 5th PDD when the platelet count was 105,000/cu.mm and ADAMTS 13 activity was >10%. She was discharged on 15th PDD. A warning card documenting the complications that she had during her post-partum period was issued.

Conclusions: Pregnancy increases the risk of TTP relapses between 12 to 61%. The follow up of ADAMTS 13 activity during the pregnancy may identify the patients with the greatest risk for relapse. Plasma exchange is the cornerstone for the treatment of patients with frank TTP but its role to prevent relapse in patients with high risk has not yet been elucidated.

Reference:

P0741
OBSTETRIC AND ONCOLOGIC MANAGEMENT OF A PATIENT DIAGNOSED WITH BREAST CANCER DURING THE FIRST TRIMESTER OF PREGNANCY: CASE REPORT
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Objectives: Demonstrate the obstetric and oncologic management of a 33 year old patient in her 8th week of pregnancy who is diagnosed with poorly differentiated ductal infiltrating adenocarcinoma (IDC), presence of an intramammary positive lymph node, positive estrogen receptors (65%), positive progesterone receptors (25%), negative Her2/neu.

Method: Review of the clinical record of a patient diagnosed with breast cancer during pregnancy who received medical-surgical management through gestation. The clinical record was reviewed for case report documentation and literature revision.

Results: Clinical detection of a breast mass during first the obstetric appointment, in the 8th week of gestation of the first trimester, which is later classified as BIRADS-4. Surgical management is performed with modified radical mastectomy and sentinel lymph node with technetium-99 in week 13 of pregnancy. Chemotherapy is initiated at week 19 of gestation with doxorubicin 100 mg and ciclofosfamide 1000 mg. Cesarean delivery is performed at week 37 obtaining a female neonate of 2,626 g and APGAR 9 at 5 minutes. Breast-feeding is avoided through puerperium and paclitaxel is initiated at 120 mg per day.

Conclusions: As fertile women nowadays delay pregnancy, situations in which cancer occurs during pregnancy become more common. Management of an obstetric patient with cancer is multidisciplinary and initial clinical evaluation is essential for the early detection of pathologies that could endanger life. Follow-up of a pregnant patient with cancer must be close with special attention to the fetal well-being. Medical-surgical management is safe during gestation and should not be postponed for the clinical state of pregnancy.

P0742
COMPLICATIONS AND MANAGEMENT OF PREECLAMPSIA AND ECLAMPSIA IN DOUALA GENERAL HOSPITAL
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Objectives: The aim of the study was to analyse the complications and therapeutic aspects of the severe preeclampsia and eclampsia in the departments of obstetrics and intensive unit of Douala general hospital.

Method: It was a retrospective study carried out in the 2 services from January 2005 to August 2011. All files of patients admitted for severe preeclampsia and eclampsia were included. Complications and therapeutic aspects were studied. Factors associated to death were identified by chi square test and exact Fisher test.

Results: Overall, 158 patients were included with the mean age of 31.4±5.4 years. The most observed complications were acute renal failure (13.2%), HELLP syndrome (12.6%), infection (8.2%), placenta abruptio (3.8%) and acute pulmonary edema (3.8%). Death was mainly by caesarean section (57.8%). Diazepam was the most used anticonvulsant (57.5%) and Nicardipine the most used antihypertensive drug (69.8%). The maternal and perinatal mortality was 4.4% and 21.5% respectively. The occurrence of acute renal failure and acute pulmonary oedema were highly associated to death (p=0 and 0.0005).

Conclusions: Maternal and fetal mortality and morbidity due to severe pre-eclampsia and eclampsia remain high in our milieu. We then need to ameliorate treatment of these patients.

P0743
PERIPARTUM CARDIOMYOPATHY: A CASE REPORT
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Objectives: Peripartum cardiomyopathy is a non familial form of heart failure presenting with left ventricular systolic dysfunction towards the end of pregnancy or in the months following delivery, where no other cause of heart failure is found. It’s a relatively rare condition, not well known by clinicians. The aim of this poster is to review the current knowledge of its pathophysiology, therapeutic strategies and prognosis, as well as new treatments and future directions.

Method: We report a case of peripartum cardiomyopathy in a previously healthy postpartum woman, followed by a bibliographic review on the disease.

Results: A 20 year old woman with no previous history of cardiovascular disease presented to the emergency department 2 months after a cesarean section. She reported dyspnea and chest pain and was diagnosed with congestive heart failure due to peripartum cardiomyopathy. The patient was referred to an intensive care unit where
her condition improved and was discharged 1 week after she presented.

Conclusions: Peripartum cardiomyopathy is a relatively rare disease, which can have devastating consequences if an early diagnosis and correct treatment is not provided. This patients are diagnosis and therapeutic dilemmas to physicians, that are not always aware of this rare but interesting condition.

P0744
SPONTANEOUS BILATERAL CHYLOTHORAX IN PREGNANCY: A CASE REPORT
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Objectives: Chylothorax refers to the presence of lymphatic fluid in the pleural space secondary to leakage from the thoracic duct or one of its main tributaries. Chylothorax complicating pregnancy is a rare condition and is usually associated with labor. The aim of this poster is to review the current knowledge of its etiology and pathophysiology of this rare disease.

Method: We report a case of spontaneous bilateral chylothorax in a pregnant woman, followed by a bibliographic review on the etiology, and physiopathology of this rare disease.

Results: A 42 year old pregnant woman, with no previous history of cardiovascular or respiratory disease, presented to the emergency department with dyspnea and chest pain, where she was admitted and initially treated for a respiratory infection. She was later diagnosed with a bilateral progressive chylothorax, with bad response to treatment. A cesarean section was made at 35 weeks gestation. The etiology of the disease in this patient is still unknown.

Conclusions: Chylothorax in pregnancy is a very rare disease. The etiology of the condition is not always known and it presents as a real dilemma for physicians.

P0745
CENTRAL SEROUS RETINOPATHY IN ANTEnatal MOTHERS
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Objectives: Central serous retinopathy in antenatal mothers incidence, demographics and management.

Method: 5 cases of antenatal women reported with visual loss, positive scotoma in front of eyes. Patients age average 35 years, period of gestation above 28 weeks, all 5 patients were primigravida, 3 patients had history of infertility treatment. On detail eye examination BCVA of both eyes was 6/9 in 3 patients, 6/12 in 2 patients. On retinal examination 4 patients had had macula oedema, 1 patient had re macular oedema. Photostress test was positive. Macular OCT showed pigment epithelium detachment and neurosensory detachments. Patients had no systemic disease, blood and urine checkup were normal. Patients were treated with NSAID eyedrops and followed UP TO 1 year postpartum with monthly eye checkups.

Results: All 5 patients had good visual recovery, with reduction and disappearance of visual symptoms after delivery. Retina OCT demonstrated reduction of macular oedema overtime.

Conclusions: Central serous retinopathy has a self remitting course in pregnant women.

P0746
OBSTETRIC AND PERINATAL COMPLICATIONS ASSOCIATED WITH THE USE OF CRACK DURING PREGNANCY
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Objectives: To describe the epidemiological profile of pregnant women that were CRACK (a cocaine product) users attended at Hospital Materno Infantil de Brasília (HMIB-DF), as well as the clinical and obstetric complications, and early perinatal outcomes in this group.

Method: A descriptive, retrospective and cross-sectional study was designed, to analyse obstetric and early perinatal outcome of pregnant CRACK users attended at HMIB, from March 2012 to June 2013. By a systematic collection of data from medical and psychology electronic and book records, we had a sample of 22 pregnant women or in the puerperal period, users of CRACK, who gave birth in public hospitals in Distrito Federal area. Abortions and lacking information records were excluded. The descriptive data was evaluated using averages and frequencies. The study had the assent of the Ethics Committee on Research.

Results: Mean age of pregnant users were 28 years; 50% were married or in a stable relationship. 41% had not completed primary education, and 66% started using CRACK between 21 and 30 years; 77% were multiparous. None of them carried out Brazilians Ministry of Health recommendation of at least 6 prenatal consultations, and 73% didn’t attend any prenatal consultation. 86%, used other drugs besides CRACK. 36% reported domestic or sexual abuse historic. A high frequency of obstetric complications as well as early perinatal complications was observed and is linked with low socio-economic level and consequently an accomplished prenatal precariously which further aggravates the complications frame. Knowledge of epidemiological aspects of pregnant CRACK users may be helpful in suggesting preventive measures and reduction of damage caused by the drug use during pregnancy.

Mixed Bag

P0747
T-CELL IMMUNE RESPONSE TO HUMAN PAPILLOMAVIRUS 16 FOR PREDICTING THE CYTOLOGICAL PROGRESS
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Objectives: To investigate whether the T-cell reactivity to human papillomavirus (HPV) 16 E7 antigen is associated with cytologic progress of the cervix.

Method: In this prospective study of 104 women who visited hospital for routine checkup, Pap smear and HPV test were followed up at 3 to 4-month intervals, and enzyme-linked immunospot assay using HPV 16 E7 antigen was performed at study entry to examine the specific T-cell response. According to the two consecutive results of cytology, “favorable trend” was defined as consistent normal cytologies or regression, whereas “unfavorable trend” was defined as persistence or aggravation of abnormal cytology.

Results: A total of 18 patients were suitable for analysis. The initial cytology was negative in 12 patients, ASCUS in four, and LSIL in two. The positive rate of T-cell response was 6.2% in normal cytology or ASCUS, but 100% in LSIL (p=0.02). Between the patients with an increasing and decreasing level of high-risk HPV viral load on follow-up, there was no significant difference in the rate of positive T-cell response (p=1.0). None of six patients with a favorable trend on cytology showed positive immune response, and 2 of 4 patients with an unfavorable trend had a positive response without significant difference (p=0.133).

Conclusions: T-cell reactivity to HPV 16 E7 seems to be associated with the severity of abnormal cytology at initial diagnosis, but less
helpful to predict the cytologic progress, indicating that T-cell immunity is not an independent factor that can decide the occurrence of cervical neoplasia.

P0748
ROUTINE DATA QUALITY ASSESSMENT ON KENYA EMR AND PAPER SYSTEM AT NDARAGWA HEALTH CENTRE, NYANDARUA COUNTY

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Method: October 2014, baseline RDQA was conducted by APHI-APLUS, I-TECH Kenya in conjunction with MOH. A standard RDQA tool for electronic data developed by ITECH Kenya with 20 indicators from MOH257 was used. Sample size was determined by use of sample size calculator, nth value and start point for systematic random sampling determined by dividing total number of patients by sample size and last figure of birth date of one staff respectively. Ndarakwa Health Centre had 650 cumulative clients, the sample size used was 94 patient files, n=7 starting point was 7 since selected staff birth date was 27th. With 2 teams of 2 people each, one dealt with paper data while other dealt with the Electronic data.

Results: 4/20 indicators had a matching level of above 75% while 5/20 indicators had a matching level of less than 50%. The indicators that had dates as the data had low consistency level due to wrong use of the programmed calendar. The results were shared to the facility staff and way forward on improving data quality discussed.

Conclusions: Routine data quality assessments on electronic systems help achieve quality electronic data. Quality data contributes to improved service delivery and also leads to quality evidence based decisions.

P0749
DETERMINANTS OF ANTENATAL BLOOD DONATION PRACTICES AMONG MARRIED MEN IN ILORIN METROPOLIS, NORTH-CENTRAL NIGERIA

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Objectives: 1. To determine past blood donation practices among the study population. 2. To determine the predictors of antenatal blood donation among the study population. 3. To determine the deterrents to antenatal blood donations among the study population.

Method: Using a pre-tested, semi-structured, interviewer-administered questionnaire, a descriptive cross-sectional study involving 500 married men was carried out using a multi-stage sampling technique. Data analysis was done using SPSS version 18 software package. Regression analysis was used to test for significant associations between variables. A p-value of less than 0.05 was considered as statistically significant.

Results: Even though, majority (85.8%) of the respondents were willing to support voluntary blood donation, less than half of them (43.4%) had ever donated blood. Fear of contracting infections such as HIV/AIDS and Hepatitis (66%) and fear of fainting spell and bloodletting (41.6%) were the major deterrents to blood donation. Regression analysis revealed that age (B=0.061; p=0.002), occupation (B=0.125; p=0.000) and level of education were significant predictors of antenatal blood donation practices among respondents.

Conclusions: Voluntary antenatal blood donation practice is still low among the study population. Certain socio-demographic factors such as age, level of education and occupation are important predictors of antenatal blood donation. Improvement in public enlightenment campaigns to raise level of awareness and allay fears and misconceptions about antenatal blood donation is advised.

P0750
CLINICAL EVALUATION OF STANDARDIZED FENUGREEK SEED EXTRACT AS FUROSTENOLIC SAPONINS (FUROCYST) IN POLYCYSTIC OVARY SYNDROME PATIENTS

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Background: Polycystic ovarian syndrome (PCOS) is one of the most common endocrine conditions affecting women of reproductive age group with prevalence of approximately 7–10% worldwide.

Objectives: The objectives of the study were to find out the effect of Standardized Fenugreek Seed extract as Furostenolic Saponoins (Furocyst) on reduction in ovarian volume and the number of ovarian cysts.

Method: An open labeled, Multicentric, single-arm, and non-comparative study was planned on 50 female patients suffering from PCOS. Patients were enrolled as per inclusion i.e. Premenopausal women between 18–45 years of age, BMI less than 42, diagnosed with PCOS, with adequate hepatic, renal and haematological functions. Patients willing to give informed consent in writing. Patients with Hysterectomy, Congenital adrenal hyperplasia, Cushing’s syndrome, Androgen secreting tumour, Thyroid-dysfunction and Hypo-gonadism were excluded.

Women were allocated to receive Furocyst and were assessed on parameters of USG & hormonal on second day of cycle before and every 4 weeks within treatment period of 12 weeks.

Results: After treatment for 3 months with Furocyst caused significant reduction in ovary Volume (p=0.000), 46% of study population showed reduction in cyst size who had bigger cyst, 36% study population showed complete dissolution of cyst who had small cyst, 12% study population got pregnant and 71% patients reported regular menstrual cycle on completion of treatment and LH:FSH ratio was also reduced to normal.

Overall 94% of patients reported positively or got benefitted from Standardized Fenugreek seed extract dosing. No changes were observed in LFT, KFT and Haemogram level.

Conclusions: Present study indicates that Standardized Fenugreek seed extract as Furostenolic Saponoins (Furocyst) is very effective and safe in the management of Poly Cystic Ovary Syndrome in women of reproductive age Group.

P0751
PERINATAL OUTCOMES IN THE LARGEST PUBLIC MATERNITY IN URUGUAY

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Objectives: To describe perinatal outcomes in the largest maternity of Uruguay in the last ten years.

Method: We performed a descriptive study and a time series analysis in which perinatal outcomes were analyzed using data obtained from the Perinatal Information System (CLP/PAHO/WHO). The analyzed period was 01/01/2004 – 12/31/2013. The Pereira Rossell Hospital is the largest maternity hospital in Uruguay (7.942 births per year). We considered as an adverse perinatal outcomes: Stillbirth, prematurity, Low Birth Weight and Small for Gestational Age. The findings from the study period were compared with data from previ
ous period of the center and with similar outcomes from the region and the word.

**Results:** The births recorded for the study period was 79,429. The prevalence of preterm births and LBW was 11.3% and 12.9% respectively. SGA (based on regional charts) corresponded to 10.9% of all births. A total of 920 were fetal deaths for the whole period (11.6 per 1000 live births). During the period 2004–2008 fetal death was 15.1 and for the second period (2009–2013) was 10.7 per 1000 being this difference statistically significant (p=0.0007).

**Conclusions:** There was a decrease in the fetal mortality in the last ten years in our institution. Considering historic figures (around 22.0 per 1000 previous 2000) we can conclude that the decrease of stillbirth was remarkable and continuous over time. No other significant changes were found in other perinatal outcomes.

**P0752**

**SUMMARY OF MATERNAL MORTALITY IN UPPER SILESIA, POLAND BETWEEN 2000 AND 2012**

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**Objectives:** Upper Silesia is an urban and industrial area of Poland with good access to maternal health-care with several tertiary perinatal centers located in different parts of the region. It covers 12,333.09 km² with population of 4,635 mln (12.14% population of Poland). Our analysis is from 2000 to 2012 with the average number of deliveries ranges from 38,000 to 47,000, nevertheless the good maternal health care in the region, we notice constant number of perinatal deaths. We aim to detect the underlying diagnosis of maternal death to improve women health care in our region.

**Method:** Regional patient’s chart analysis. 2000 – 42,112 deliveries/5 deaths (Pulmonary embolism, Amniotic fluid embolism, DIC resulting from hemmorhage in placenta praevia, Oligovolemic shock after extrauterine pregnancy rupture, Infarct of intestinal mesentry); 2001 – 40,672 deliveries/3 death (Hemorrhage after unrecognized uterine rupture; DIC resulting from placental ablation; Complications after legally not-allowed interruption); 2002 – 39,672 deliveries/5 deaths (“street death” due to HTN, HELLP 2×, Acute hepatitis, DIC resulting from placental ablation); 2003 – 38,860 deliveries/6 deaths (Lymphoma stage IV, Pulmonary hypertension, DIC resulting from uterine rupture, DIC resulting from placental ablation, DIC resulting from plaenta acrera, Pulmonary embolism); 2004 – 39,796 deliveries/5 deaths (Pulmonary embolism (2×), Liver toxicity, DIC resulting from septic shock, Post-partum hemorrhage); 2005 – 40,684 deliveries/4 deaths (Amniotic fluid embolism (2×), Mediastinal lymphoma, Postpartum hemorrhage); 2006 – 42,263 deliveries/1 death (DIC resulting from urosepsis); 2007 – 44,003 deliveries/4 death (Pulmonary embolism, Myocardial infarcrt, Uterine rupture ("house death"). Viral/bacterial encephalitis); 2008 – 46,998 deliveries/5 death (Pulmonary embolism (2×), Pulmonary hypertension, Hemorrhagic gastritis (“house death”), Amniotic fluid embolism); 2009 – 43,014 deliveries/3 deaths (Anterior cerebral artery aneurysm, Postpartum hemorrhage, AH1N1 infection); 2010 – 47,745 deliveries/3 deaths (Electric shock, Cerebral ischemic infarct, Amniotic fluid embolism).

**Conclusions:** 2011 – 44,803 deliveries/3 deaths (Amniotic fluid infarct, Pulmonary embolism, Hemorrhage due to plaenta accreta); 2012 – 44,192 deliveries/4 deaths (Rupture of Aorta, Rupture of left lower limb varices, Pulmonary embolism, Uterine rupture due to plaenta percreta). The most common underlying diagnosis for maternal death in years 2000–2012 was pulmonary embolism followed by amniotic fluid embolism, however comorbidities played significant role in increasing the rate of maternal death. We advised for better detection of patients in need of anti-embolic prophylaxis.

**P0753**

**MYOMETRIAL CONTRACTION ACCELERATES THE ENDOMETRIAL SCARLESS HEALING IN THE POSTPARTUM UTERUS**

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**Objectives:** The endometrium undergoes continuous repair and regeneration without or through the reproductive life of women. However, the mechanisms responsible for this complete restoration remain mostly unexplored. We hypothesized that the ischemic state and local hypoxia caused by uterine contraction after parturition may create a special microenvironment for endometrial healing. To clarify the mechanism of endometrial healing without scar, we observe uterine morphological changes and factors affecting repair using an original endometrial restoration model.

**Method:** We developed a mouse model using a combination of cesarean section and the administration of a beta 2 adrenergic receptor agonist (ritodrine hydrochloride) in postpartum mice that had been ovariectomized to eliminate the effect of ovarian hormones. The animals were maintained till use for 1, 2, 3, 5, 7, or 14 days after delivery. Before sacrifice, intravascular perfusion of fluorescent tomato lectin to identify blood vessels, pimonidazole hydrochloride (Hyoxprobe) to label of hypoxic cells, Bromodeoxyuridine (BrdU) were operated. The local microenvironment was analyzed with immunostaining and molecular biological techniques.

**Results:** Our results revealed that transient hypoxia occurred in postpartum uterus with staining of Hyoxprobe and HIF1alpha. Furthermore, we found that the number of M2 macrophages, which play a central role in wound healing, peaked on Postpartum Day 3 and gradually decreased thereafter in hypoxic injury sites. By RT-PCR, significant upregulation of vascular endothelial growth factor and tissue growth factor beta (TGFbeta) was observed concurrently. In particular, the antifibrotic factor TGFbeta3 was released during the endometrial healing process. These were significantly changed by inhibition of uterine contraction.

**Conclusions:** These results suggest that uterine contraction is essential, not only for hemostasis, but also for endometrial regeneration, leading to a process that involves the activation of macrophages, increased endometrial cell proliferation, and upregulation of nonfibrotic growth factors. This study paves the way to a novel approach for investigating the process of scarless wound healing.

**P0754**

**THE TRANSFER OF 2-NAPHTHOL ACROSS THE HUMAN PLACENTA**

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**Objectives:** To determine the transfer of 2-Naphthol (NPH) in full-term human placental tissues using the ex vivo human perfusion model.

**Method:** A total of six placentas were obtained from women undergoing elective Caesarean section or vaginal delivery at term. Schneider’s ex vivo human placentation perfusion model was adopted. The perfusate at fetal side was circulated at a flow rate of 4 ml/min. The flow at maternal intervillous space was at a rate of 12 ml/min. After equilibration, the perfusate in the maternal compartment was replaced with fresh perfusate containing 2-NPH at 100ug/mL, antipyrene at 50 mg/mL. Samples were obtained from the maternal and fetal circulations at 15, 30, 60, 120, 240, and 360 minutes.

**Results:** A total of 6 term placentas were perfused. The mean weight of the perfused cotyledon was 26.3 (± 5.5) grams. The fluid shift between the fetal and maternal compartments was <3ml/h. All pre-perfused placental samples contained 2-Naphthol (NPH) in their tissues with a mean NPH level of 7.98 (± 1.73) ug/g compared
to a mean of 15.58 (± 4.53) ug/g after 360 minutes perfusion. NPH showed rapid drop in the maternal compartment. It dropped 5.54 ug/g in the first 15 minutes and 13.8 ug/g in 360 minutes. However, the increase of NPH concentration on the fetal side was much slower.

**Conclusions:** Pregnant women seem to be exposed to high levels of environmental NAP. Its metabolites, NPH, and accumulates in term placentas. NPH has the ability to rapidly cross the placenta from the maternal to the fetal compartment within 15 minutes. The placenta seems to play a role in limiting the passage of NPH in the fetal compartment.

**P0755**

**SERVICE READINESS ASSESSMENT OF PUBLIC HEALTH FACILITIES TO PROVIDE MATERNAL AND NEWBORN CARE IN 15 REGIONS OF MADAGASCAR**


**Objectives:** To evaluate the capacity of public health facilities to deliver maternal and neonatal services.

**Method:** A cross-sectional assessment of 52 public health facilities within 15 out of the 22 regions of Madagascar was conducted during 3 weeks in September 2014. Facilities included 62% of basic health centers (CSB), 27% of referral hospitals at district and regional level (CHD/CHRR) and 11% of university hospitals (CHU). Data was collected with an adapted version of World Health Organization’s SARA instrument, on tablet using CommCare© and analyzed by facility type with SPSS 20.0 and Microsoft Excel.

**Results:** General readiness (availability of basic amenities, basic equipment, standard precautions, diagnostic capacity, essential medicine) mean score was 86% [76%-96%) for CHU, 70% [65%-76%] for CHD/CHRR, 65% [61%-69%] for CSB. Lowest score was in CSB for diagnostic capacity and availability of essential medicines (53%) and highest score observed was in CHU for availability of functional basic equipment (95%). Regarding availability of 13 life-saving commodities of UN Commission, oxytocin was the most available in 78% of CSB, 64% of CHD/CHRR and 67% of CHU. Equipment for newborn resuscitation was available only in 31% of primary care centers (CSB).

**Conclusions:** The findings show low capacity of each level of public health facilities to provide maternal and neonatal health services. Furthermore, this poor service readiness was one of the main causes of Madagascar’s failure for achieving the MDG goals 4 and 5.

**P0756**

**A RARE AND DELAYED PRESENTATION OF HERLYN-WERNER-WUNDERLICH SYNDROME**

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**Introduction:** Congenital mullerian and wolffian duct system abnormalities can cause urogenital anomalies, including a relatively rare condition, termed Herlyn-Werner-Wunderlich syndrome. This anomaly was first reported in 1922. HWW syndrome is characterised by uterine didelphys, unilaterally obstructed hemivagina and ipsilateral renal agenesis. Patients may present with dysmenorrhoea or dyspareunia, sometimes accompanied by a palpable mass. The correct diagnosis is often made after a delay due to a lack of awareness and the clinical presentation may be multifaceted. The diagnosis is confirmed with ultrasound imaging, cystoscopy, and hysteroscopy in the female patient. This case report describes a patient who presented with symptoms of menorrhagia, dysmenorrhoea, and dyspareunia. The patient was a 32-year-old woman who presented with a history of menorrhagia, dysmenorrhoea, and dyspareunia. On physical examination, the patient had a palpable mass in the left anterolateral wall of the vagina. MRI showed two separate uterine cavities, cervix and vagina, pointing to a diagnosis of uterine didelphys. The left smaller moiety continued into a stenosed hemivagina and haematocolpos, measuring 7.2 × 7.0 × 7.3 cm. This was compressing the normal right moiety and causing displacement of the right vaginal wall. A diagnostic laparoscopy also confirmed the diagnosis.

**Discussion:** HWW syndrome usually manifests shortly after menarche as haematocolpos or haematometra, and causes progressive dysmenorrhoea. As in most of the cases reported previously, diagnosis could be clinched pre-operatively using ultrasonography and magnetic resonance imaging. There is a 100% incidence of ipsilateral renal agenesis in HWW syndrome, with the lateral distribution of obstructed hemi-vagina and renal agenesis favouring the right side twice as likely when compared with the left side. Our patient had a rarer left sided pathology.

**Conclusions:** Awareness of this rare congenital anomaly of the female genital tract would help in preventing the suboptimal management causing by diagnostic delay and help reduce the incidence of complications like endometriosis.

**P0757**

**STILLBIRTH – IS CULTURALLY SENSITIVE CARE REQUIRED IN THE DEVELOPED WORLD?**

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**Objectives:** Death rituals and grief reactions after adult loss vary across cultures and are often influenced by religion. Little is known of cultural mores and parents' wishes after stillbirth according to their religious and cultural status, largely because the literature on bereavement care in maternity services is derived from surveys of white middle-class professionals.

The aim of this study was to identify themes of commonality and variations in needs and practices for religious groups within the UK.

**Method:** Semi-structured interviews with male and female representatives from a healthcare support network, expressing Jewish, Christian, Sikh, Hindu, Buddhist and Islamic beliefs, who had cared for parents after a stillbirth. All interviews were digitally recorded, transcribed and analysed independently by 3 researchers using content analysis.

**Results:** All representatives accepted there would be differences between religions and even within religions, because of the different cultures practiced. The timing of birth was divided by religion; Christian, Buddhist and Jewish representatives said "... no particular recommended time", but the Hindi, Muslim and Sikh representatives said “as soon as possible”. Buddhists, Christians, Sikhs and Hindus stated; no religious reasons why a post-mortem should not be performed. However the Jewish and Muslim faiths opposed this view. Regardless of what religion the cultural group representatives worshipped all said the need for a supportive, empathetic approach to provide holistic maternity bereavement care was required.

**Conclusions:** Accepting that religions have different belief systems about stillbirth and using a Parent led approach to guide care is important. It is important to provide options, knowledge and support to parents when they are making these difficult decisions. Allowing time for decision making and not making assumptions regarding the religion and culture practiced by the parents is key and staff should not be afraid to ask parents for guidance about cultural practices and beliefs so they can help facilitate them and enable culturally competent care to be provided within the NHS, such as providing non-invasive MRI, instead of post-mortems.
P0758
ESTROGEN INFLUENCES THE CROSSTALK BETWEEN APOPTOSIS AND AUTOPHagy OF OSTEocYTEs IN THE OVARIECTOMIZED RAT MODEL OF OsteoporOSIS
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Objectives: To investigate whether estrogen influences osteocyte survival by regulating autophagy.

Method: Sixty-six adult female rats were sham-operated (SHAM) or ovariectomized (OVXG). After 21 days, the rats received daily subcutaneous injection of 30 μg/kg of body weight of estrogen (OVXEG) or vehicle solution (OVXG) for 15, 30 and 45 days. Twelve non-estrogen-treated SHAM and OVX female rats were used as baseline groups (SHAMBL and OVXBL, respectively). Afterwards, the rats were euthanized and the maxillae containing the alveolar processes of the first molars were fixed and embedded in paraffin. Sections were subjected to immunohistochemistry for detection of apoptosis (cleaved caspase-3, BAX and TUNEL method) and autophagy (beclin1, LC3II and p62).

Results: The incidence of caspase-3, TUNEL and p62-positive osteocytes increased in the OVXBL in comparison to SHAMBL. Meanwhile, the frequency of beclin1-1 and LC3II-positive osteocytes decreased in the OVXBL group, whereas the incidence of caspase-3-immunolabeled osteocytes increased, whereas the frequency of beclin1-positive osteocytes decreased in the OVXG, in comparison to OVXEG. Also, a significant increase in the incidence of p62-positive osteocytes and significant reduction in the incidence of LC3II was observed in the OVXG in comparison to OVXE, at 45 days.

Conclusions: Our results point to a possible correlation between apoptosis and autophagy in osteocytes, which is influenced by estrogen status in estrogen deficient rats.

P0759
EVALUATION OF THE HYALURONIC ACID AND SULFATED GLYcosAMINoglyCAN ON RATs BREAStS AFTER TREATMENT WITH STEROID HORMONES
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Objectives: To evaluate the hyaluronic acid and sulfated glycosaminoglycan on breasts of female rats ovariectomized (OVX) after hormonal treatment.

Method: 40 adult rats were initially ovariectomized and after 21 days randomly divided into four groups, each containing 10 animals, namely: CG - received saline solution, EG - received estradiol benzoate (37.6 μg per animal/day) for 7 consecutive days, PG - received medroxyprogesterone acetate (11.28 mg per animal/day) for 23 consecutive days, EPG - received estradiol benzoate (37.6 μg, for 7 consecutive days) and medroxyprogesterone acetate (11.28 mg, for 23 consecutive days). The results were subjected to statistical test (p<0.05).

Results: Dermatan sulfate in breast tissue of hormonal-treated animals showed a lower concentration in all groups compared to CG, p<0.05. Heparan sulfate and Hyaluronic acid in breast of P-treated animals showed a lower concentration compared to others groups (CG, EG and EPG), p<0.05. There were no differences among the other groups analyzed.

Conclusions: The results showed that the treatment with estrogen in their composition were able to stimulate the production the sulfated glycosaminoglycans (heparan and dermatan) and non-sulfated glycosaminoglycans (hyaluronic acid) in breast tissue compared to progesterone treatment. Although the concentration of GAGs analyzed was higher in the breast of the control group animals.

P0760
CONCENTRATION HYALURONIC ACID AND SULFATED GLYcosAMINoglyCAN ON UTERUS OF MICE OOPhORECTOMIZED AFTER TREATMENT — LONG TIME WITH SEX STEROIDS
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Objectives: To evaluate the influence of hormone replacement therapy for long time on concentration hyaluronic acid and sulfated glycosaminoglycan on the mice uterus.

Method: 50 female mice (non- or oophorectomized) were divided into five with 10 animals/group: CG (control, non-ovx group) and OG (ovx group): 0.2mL saline solution; EG group: 2μg of 17β-estradiol; PG group: 2mg of progesterone and EPG group: 2μg of 17β-estradiol associated to 2mg of progesterone. All animals received for gavage of hormone dissolved in sunflower oil for 50 consecutive days. After 50 days the animals were euthanized and the blood samples were collected for measurements hormonal and the uterus used for quantitation of the hyaluronic acid and sulfated glycosaminoglycans. Data were statistically analyzed by ANOVA (p<0.05).

Results: Treatment with sex steroid hormones (17β-estradiol and progesterone) stimulated the synthesis of CS/DS and HS compared to control group (p<0.05). The 17β-estradiol treatment increased the amount of CS/DS compared to other groups (p<0.05). The progesterone treatment showed lower amount of HS compared to group that received the treatment with estrogen associated to progesterone (P<0.05). However, the treatment only with progesterone stimulated the synthesis of hyaluronic acid compared to other groups (p<0.05).

Conclusions: Our results showed that treatment with sex steroid hormones (17β-estradiol and progesterone) stimulate the synthesis of sulfated glycosaminoglycans (CS/DS and HS). And treatment with progesterone stimulates the synthesis of non sulfated glycosaminoglycan (hyaluronic acid). Suggesting that there is a significant increase in the synthesis of estrogen in the treatment with progesterone 17β-estradiol and progesterone have a different action on estrogen extracellular matrix.

P0761
PERCEPTION ATTITUDE AND PRACTICE EXPERIENCE OF HEALTH CARE PROVIDERS TOWARD OCCUPATIONAL EXPOSURE TO HIV AND POST-EXPOSURE PROPHYLAXIS IN NIGERIA
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Objectives: To assess the perception, attitude, interventional and practice experience of healthcare providers towards occupational exposure to HIV infected body fluids and post-exposure prophylaxis.

Method: A cross-sectional questionnaire based survey was conducted among 84 healthcare providers, who attended a prevention of mother-to-child transmission of HIV capacity building workshop in June, 2014. Data was collated and analyzed with Epi-info statistical software. The process involved descriptive statistics.

Results: Among 84 participants, only 26 (31%) had correct information on PEP, its procedure and benefits. Over two-fifth (42.9%) had a history of occupational exposure, while only two received PEP with only one complete adherence. Others adduced fear of side effects (73.5%), non-availability (52.9%), and lack of awareness (23.5%) as
reasons for not taking PEP. About two-third (65.5%) were of the opinion that PEP was necessary and effective.

**Conclusions:** Healthcare provider practicing in high burden areas faces enormous risk of occupational exposure to HIV, with little or no knowledge of appropriate post-exposure interventions and lack of insight of the benefits of post-exposure prophylaxis.

**P0762**

**RAPID ANALYSIS OF MIDWIFERY PRE-SERVICE EDUCATION IN MYANMAR**

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**Objectives:** Jhpiego, an affiliate of Johns Hopkins University administered a rapid midwifery education assessment as part of a project supporting the Ministry of Health (MoH) in Myanmar. The assessment’s primary objective was to provide evidence guiding interventions aimed at improving the quality of midwifery education and the competency of graduating midwives in Myanmar.

**Method:** A rapid assessment tool (RAT) was developed and validated to assess six major areas of PSE: Infrastructure; Teacher, tutors and preceptors; Students; Clinical practice sites; Curriculum; and factors that influence midwifery education. Myanmar is the first country where assessment was conducted employing the RAT in the first six of twenty two project schools. The RAT uses key informant interviews, observations and document review to produce a quantitative score representing each of the key inputs in relationship to whether or not they meet the International Confederation of Midwife education standards. Those categories with lower scores were identified for priority project attention.

**Results:** School infrastructure accommodates trainees but classrooms are congested with 50–70 students (ICM standard 30). Skill labs have basic training equipment, however, do not fulfill ICM standard list. Teacher student ratio meets the standard and there is special consideration for student enrollment. Most of the student respondents are motivated to enter the midwifery profession. On average a student conducts only 5–10 deliveries before graduation and clinical preceptors are not specifically assigned and/or workload unadjusted. The current midwifery curriculum (2011) has substantial compliance with ICM competencies. Myanmar Nursing and Midwifery Council (MNMC) is the regulatory body for setting standards and midwifery licensing.

**Conclusions:** Jhpiego will provide support to equip skill labs for midwife trainees practice. Teachers’ capacity building will be provided including competency based training. Coordination between midwifery schools and teaching hospital/practicum sites should also be strengthened in regard to appointing clinical preceptors and facilitating supported standardized clinical practice. Special enrollment schemes allowing lower entry requirement for remote ethnic population with the agreement for serving in the area-for applicants should be maintained and scaled up. The midwifery curriculum will be updated in 2016 in line with ICM standards and a greater focus to ensuring graduates are competent and confident on completion of educational programs.

**P0763**

**KNOWLEDGE AND AWARENESS OF THE INTEREST GROUPS ON HUMAN PAPILLOMAVIRUS VACCINE FOR MALES IN KOREA**

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**Objectives:** The quadrivalent human papillomavirus virus vaccine was recently licensed for use in males in Korea. However, the successful introduction and acceptance of the vaccine will depend on a range of factors, including awareness of HPV infection as an important problem related to cervical cancer, the affordability and acceptability of the vaccine. The major objective of this research is to examine knowledge and awareness toward Human Papillomavirus (HPV) vaccination for males among people who are directly or indirectly related to HPV vaccine.

**Method:** It is a cross-sectional survey type study from multiple interests group. The subjects of the study were about 500 people recruited in community. These subjects were classified into 5 groups with 100 people each. The 5 groups are as follows: high school students, parents of high school students, college students who are not related to medical studies, health providers, and employees of administration in health center. This study used constructed survey to assess knowledge and awareness of HPV vaccination for male in Korea. We used same questionnaire and measurement variables to survey each groups.

**Results:** In five groups, 31.8% knew nothing about HPV (79%, high school students). And only 24.6% knew that HPV vaccine could be used for men (8%, high school students). Acceptance score for vaccination of high school student group was significantly lower than other groups. Other measurement variable scores of high school student group were also lower. Only 14.2% parents had a plan to suggest getting HPV vaccination to children.

**Conclusions:** The group of high school students was vulnerable to measurement variables related to HPV vaccination. More effective education methods for each group should be implemented and right information about HPV vaccination should be exposed by media.

**P0764**

**A CASE CONTROL STUDY ON MATERNAL AND NEONATAL SERUM 25-HYDROXYVITAMIN D3 LEVELS AND THE RISK OF VERY EARLY ONSET NEONATAL SEPSIS IN MULAGO HOSPITAL**

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**Objectives:** To determine the association between maternal and neonatal serum 25-hydroxyvitamin D3 levels and the risk of very early onset neonatal sepsis and to determine the correlation between maternal and neonatal serum 25-hydroxyvitamin D3 levels in Mulago hospital.

**Method:** This was a case control study conducted in Mulago-Hospital-Uganda. The study population comprised of mother/baby pairs, the babies were full-term neonates aged 0–72hours. A total of 73 neonates (cases) with clinical/laboratory evidence of very early onset neonatal sepsis and 73 neonates (controls) without clinical/laboratory evidence of very early onset neonatal sepsis were recruited. Serum 25-hydroxyvitamin-D3 levels were determined for the Mother/Baby pairs. Logistic regression model was used to determine association between very early onset neonatal sepsis and maternal/neonatal serum 25-hydroxyvitamin-D3 levels. Correlation between maternal and neonatal 25-hydroxyvitamin-D3 levels was quantified using Spearman’s correlation coefficient at 0.05 level of significance.

**Results:** There was good correlation between maternal and neonatal serum 25-hydroxyvitamin D3 levels (Spearman’s correlation coefficient – 0.77, p-value 0.001). The odds of developing early onset neonatal sepsis among the neonates whose mothers were serum 25-hydroxyvitamin D3 deficient was 46% lower compared to the odds among neonates whose mothers were not serum 25-hydroxyvitamin D3 deficient (Odds ratio 0.54, CI 0.25–1.16, p=0.12). The odds of developing early onset neonatal sepsis among the neonates who were serum 25-hydroxyvitamin D3 deficient was 60% lower compared to the odds among neonates who were not serum 25-hydroxyvitamin D3 deficient (Odds ratio 0.40, CI 0.13–1.15, p-value 0.059).
Conclusions: The positive correlation between maternal and neonatal serum 25-hydroxyvitamin D3 levels confirms the fact that a mother needs to have adequate levels during pregnancy for her neonate to have the normal levels. In vivo serum 25-hydroxyvitamin D3 levels alone may not be responsible for an increase in the risk of very early onset neonatal sepsis.

P0765
FRAC TURE FEM UR IN A NEW BORN: A RARE COM P LICATION OF BREECH PRESENTATION IN DIFFICULT POST CAESAREAN SECTION
(A CASE REPORT)
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Objectives: To increase the awareness of the clinical complication of fracture of the femur during breech extraction in the course of caesarean section.

Method: A male baby weighing 2800gm delivered by emergency caesarean section with breech extraction for a booked case of post caesarean section 39 week pregnancy with breech presentation in active labor with scar tenderness was diagnosed fracture femur of left side on 3rd day. 90°–90° splinting was done for two weeks. Mother was readmitted after one month for wound granuloma which was treated conservatively.

Results: Evaluation of the baby after one month by x-ray showed abundant callous formation around the fracture site. The findings showed that this fracture fully consolidate when treated conservatively. Both the mother and baby were doing well at present.

Conclusions: The risk of accidental traumatic injury of long bones of newborn should not be underestimated in difficult caesarean section for breech presentation. The mother should be informed about the risk before delivery. Every surgeon needs to take precautions to avoid this accidental injury. Care to rule out the possibility of fracture of long bones of newborns is essential for early diagnosis and management specially in difficult caesarean section for breech extraction.

P0766
WHOLE GENOME STEADY STATE EXPRESSION ARRAY REVEALS THAT CATIONIC ANTIMICROBIAL PEPTIDE LIKE (ALA8,13,18) MAGAININ II AMIDE MAY AFFECT IMMUNOMODULATORY FUNCTION OF HUMAN FIRST TRIMESTER VILLOUS CYTOTROPHOBLASTS
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Objectives: The anti-nidatory function of a cationic anti-microbial peptide, AlA8,13,18 magainin II amide (AMA) has previously been reported. It has been indicated that placental trophoblast cells could be a potential target of AMA resulting in its anti-nidatory action. In the present study, we have examined the effect of different doses of AMA on the molecular phenotypes of the first trimester placental cytotrophoblasts in-vitro using whole genome expression microarray.

Method: Villous cytotrophoblasts were isolated from freshly collected early placental samples, purity checked and cultured on three-dimensional collagen biomatrix as described elsewhere. After 24 hours following the administration of different doses (0, 1, 10, 100, 1000 ng/ml) of AMA, the cells were harvested, total RNA was extracted, quality of extracted RNA was checked and subjected to whole genome expression microarray analysis as described elsewhere. The expression data were subjected to exploratory and differential display analysis using ANOVA followed by Tukey test with Benjamin-Hochberg correction. The data was further analyzed for pathway based analysis using GENEGO MetaCore Web portal.

Results: Administration of AMA to cytotrophoblasts in-vitro resulted in differential expression of 27 genes at steady state. Post-hoc analysis identified that these genes were primarily involved in the Toll-like receptors (TLRs)-mediated immunomodulatory functions of early placental cytotrophoblasts.

Conclusions: It appears from the present study that administration of antimicrobial peptides like AMA adversely affect the immune regulatory function of placenta, which may result in significant imbalance in the adaptive control of placentation. Further studies in this area may give us the important leads towards understanding the underlying mechanism of anti-nidatory effect of cationic antimicrobial peptides.

P0767
A NEW CASE OF CONGENITAL POLYMALFORMATIONS IN AFRICAN RICH MINERAL ENVIRONMENT REGION
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Objectives: To discribe a new case of congenital malformations which is close to MURCS associations.

Method: Clinical examination, paraclinic investigations and laparotomy.

Results: A 19 years old girl consulted 2 years ago for a problem of miction, primary dysmenorrhea since age of 14. Gynecological check observed a fuse of labia minora in a thin membrane. There was a tiny tunnel behind the membrane going to another opening located at 1cm from the anus. The 2 labia majora, vaginal cavity, uterine cervix were normal as well as the biological investigations. The x-rays confirmed squeletic abnormalities and a non functional left kidney; the ultrasound didn’t show this kidney image. The laparotomy revealed an agenetic left fallopian tube and hemi-uterus while the right were well developed.

Conclusions: All these findings: genitalic, squeletic, limbs and renal abnormalities let us conclude that the patient had a syndrome similar to MURCS associations. But as she doesn’t have primary amenorrhea we think that the present syndrome is a new one; so that more investigations such as cariootype and genetic are needeed.
management framework rather than NCD framework. There is a call to integrate cervical cancer screening and treatment services with infectious and chronic disease management programmes at the Primary Healthcare level. Preventive strategies such as education and vaccine delivery can be achieved through existing vaccination drives. The integration model provides scope for improving cancer registry quality. Global funding models can be emulated to ensure rapid financial assistance.

**Conclusions:** Recognizing and reclassifying cancer cervix as an “infectious disease” in South Asia will pay regional cognizance to the human rights based public health response, currently the cornerstone of reproductive and sexual health programmes in the region. The epidemiological transition from infection to chronic disease management provides training, care and advocacy opportunities in situ. Compartmental Non-Communicable Disease frameworks encourage pharmaceutical and philanthropic dependence. Cross-cutting, rights based and gender transformative infectious disease control efforts in the region have elicited the opportunities to integrate infectious cancer prevention, treatment and palliation within existing national sexual and reproductive health programmes for women and men.

**P0769**

**IMBALANCE BETWEEN THE APOPTOTIC CELL DEATH (CASPASE-3 CLEAVED) AND THE CELLULAR PROLIFERATION (PCNA) IN LACRIMAL GLAND OF FEMALE MICE OF HYPERPROLACTINEMIC FEMALE MICE**

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**Objectives:** To investigate expression of cleaved caspase-3 and PCNA in the lacrimal gland of female mice of hyperprolactinemic female mice.

**Method:** 20 female/group: control (non pregnant, Ctr1): 0.2 mL of saline (vehicle) and the experimental group (non pregnant, HPr11): 200 μg/day of metoclopramide, dissolved in vehicle. After 50 days 10 females of each group were placed for mating with males and continued to receive treatment. The females non pregnant were euthanasia on 50th day (experimental I) and the females pregnant were euthanasia on 5.5th to 6.5th post-coital day (Ctr2: control group and HPr12: experimental group). The blood samples were collected for hormone measurements. The uterus was processed for immunohistochemistry. The results were subjected to statistical test (p < 0.05).

**Results:** The decreased immunoeexpression of caspase 3 in the non pregnant controls compared to non-experimental group (p < 0.05). And increased cell proliferation (PCNA) in the pregnant control group compared to pregnant experimental group (p < 0.05). Serum prolactin levels were higher whereas the levels of estradiol and progesterone were lower in the animals that received metoclopramide compared to controls.

**Conclusions:** The metoclopramide-induced hyperprolactinemia altered the cellular activity in lacrimal glands in non pregnancy and pregnancy as a consequence of the imbalance between the apoptotic cell death (caspase-3 cleaved) and the cellular proliferation (PCNA). It is hypothesized that this effect might be related with decrease in the hormonal production of estrogen and progesterone.

**P0770**

**THE IMPACT OF DIET ON GESTATIONAL DIABETES IN SOUTH ASIAN IMMIGRANTS**

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**Objectives:** Diabetes is found in significantly higher proportions within the South Asian population, independent of traditional risk factors such as age and weight. This trend also translates to gestational diabetes. The relationship between the traditional South Asian diet and diabetes risk has been studied, with the high intake of refined carbohydrates and saturated fats noted to play a role in disease development. However, limited information is available regarding the relationship between the South Asian diet and management of gestational diabetes (GDM).

**Method:** This was a retrospective cohort study of pregnant South Asian women who delivered at Bellevue Hospital in New York City between January 2010 and October 2012. Subjects were selected from obstetric logbooks, which record all deliveries in the hospital. All patients received prenatal care and nutritional counseling at the Hospital. The electronic medical record (Quadra-Med) was used to obtain the information regarding weight gain, dietary recommendations from the nutrition counselors, and birth weights. Inclusion criteria for the study were South Asian ethnicity, pre-natal care and delivery at Bellevue Hospital, and nutritional counseling.

**Results:** 37/145 (26%) had GDM, diagnosed via GCT > 140, and 8/145 (6%) had pre-gestational diabetes. All had 2nd trimester screening. 13/37 were screened, but not diagnosed, in their 1st trimester. Average age weight gain for the GDM group was 22.4lbs, compared to 25.2lbs in the entire study group. Per nutrition records, dietary modification was the treatment for 22/37 (59%) of the GDM group, while 13 required the addition of oral hypoglycemics to control sugar levels. 20/37 (54%) delivered vaginally, and 17 (46%) had c-sections. Average birth weight in the GDM group was 3123.9g, and 3357.5g (+233.6g) in the pre-gestational diabetes group.

**Conclusions:** Dietary guidelines provided by the nutritional counselors to those diagnosed with GDM are generic and vague. Usual recommendations are to follow the food guide pyramid and increase fruit, vegetable, and whole grain intake. While most patients were successful with the diet, they reported difficulty controlling rice and fried food intake, which hindered their ability to optimally control their sugar levels. These findings highlight the necessity for culturally specific dietary modifications targeted to the South Asian population.

**P0771**

**CERVICAL PREGNANCY: TWO CASE-REPORTS AMONG 138,000 LEGALLY INDUCED ABORTIONS IN MEXICO CITY. CLINICAL PRESENTATION AND REVIEW OF THE LITERATURE**

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**Objectives:** The objective of the study is to review two cases of cervical pregnancies, and to present an updated review of the literature, in order to analyze the expected incidence of this pathology, its clinical presentation as well as the present recommendations for diagnosis and treatment.

**Method:** We report the clinical history of two cases of cervical pregnancies that occurred among more than 138,000 women presenting for legal termination of pregnancy, between April 2007 and February 2015, in the public legal abortions (LA) services in Mexico City Ministry of Health. Patient histories, ultrasound results, clinical presentation of symptoms and medical/surgical management are analyzed. A search of the literature was performed, through PubMed, to examine published case reports/series of cervical pregnancies, and to review updated evidence on presentation, symptoms, diagnostic methodologies and therapeutic approaches of this rare illness.

**Results:** Both women presented during first trimester of gestation. Case 1 was diagnosed preoperatively, via US screening; she underwent a planned hysterecomy, due to satisfied parity. Case 2 was diagnosed intraoperatively, during the aspiration procedure, when she started with profuse bleeding. She was managed with transfusions, uterine artery clamping and emergency hysterectomy. Literature confirms the rarity but the severity of this ectopic pregnancy variant: cervical implantation accounts for less than 0.1% of all ectopic pregnancies, however is associated with high morbidity and
mortality. Management should take into account severity of bleeding, available resources and preservation of fertility, whenever desired. **Conclusions:** Cervical ectopic pregnancy is due to implantation of the fertilized ovum in the endocervical canal distal to the internal cervical os. Cases are usually asymptomatic or include painless vaginal bleeding. Diagnostic tools include US imaging, but even US diagnosis is difficult in early pregnancies without fetal cardiac activity, as cervical ectopic may be confused with spontaneous abortion retained by a closed external os. Evolution may be catastrophic without previous diagnosis, when pregnancy continues, as well as when treatment (surgical or medical evacuation) is initiated. An early diagnosis is key for a correct and whenever possible, conservative management of this condition.

**P0772**
HIGH PREVALENCE OF MULTI-DRUG-RESISTANT-ORGANISMS (MDRO) IN PRE OPERATIVE STOOL SURVEILLANCE CULTURES OF GYNAECOLOGY PATIENTS IN AN ONCOLOGY CENTRE IN EASTERN INDIA

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**Objectives:** The commonest morbidity of gynaecological cancer patients undergoing major surgery in Indian hospitals is infection. An audit carried out in our institution identified that 23% of patients who had major gynaecological oncology surgery had sepsis in the post-operative period. Appropriate antibiotic prophylaxis is therefore of paramount importance to minimise the infection rate among these patients. We introduced a policy of stool surveillance culture to identify the potential offending organisms prior to surgery to tailor antibiotic prophylaxis and treatment started based on the surveillance results. This study investigates the prevalence of different organisms and their antibiotic sensitivity among gynaecological cancer patients.

**Method:** Stool samples of all women listed for major gynaecological oncology surgery were subjected to culture processed based on standard reference method (Landman et al. J Clin Microbiol, 2005), validated in our hospital’s microbiology department. The results were auto-populated in the electronic hospital management system (HMS) and their antibiotic sensitivity was analysed from 1st January 2014 to 31st December 2014.

**Results:** During the study period 138 samples were processed. Of these, 118 (85.5%) samples grew one or more multi-drug-resistant-organisms (MDRO) and 133 organisms were isolated. Only two of these 133 organisms were enterococcus, the rest were Gram negative organisms (MDRO) and 133 organisms were isolated. Only two of these, 118 (85.5%) samples grew one or more multi-drug-resistant-

**Conclusions:** There is a high prevalence of Gram negative MDRO among women undergoing gynaecological cancer surgery attending our hospital. As these organisms were grown prior to surgery, it may reflect the acquisition in the community and has important public health implications. Surgical antibiotic prophylaxis and empirical treatment strategies in case of clinically suspected infections following surgery must take into account this background prevalence of high MDRO. Adding Amikacin to Co-amoxiclav may be a relatively inexpensive and broad spectrum antibiotic sparing strategy for prophylaxis.

**P0773**
VITAMIN D ATTENUATES GROWTH OF CERVICAL CANCER CELLS THROUGH ACTIVATION OF p27kip1, JAB1 AND VDUP1

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**Objectives:** The goal of this study was to investigate expression of cell cycle signaling protein p27kip1 and Jun activation domain-binding protein 1 (Jab1) and vitamin D up-regulated protein 1 (VDUP1). VDUP1 is a protein that is up-regulated by 1α,25-dihydroxyvitamin D3 (vitamin D), an active form of vitamin D, and stress environment. As VDUP1 has anti-tumor effects, its expression either highly decreased or disappeared in various human cancer type. It is exported that VDUP1 stabilizes nuclear p27kip1 by inhibiting Jab1/CSN5 which is known to translocate nuclear p27kip1 to cytoplasm for ubiquitin-dependent degradation pathway.

**Method:** Hei cervical cancer cells (2 × 10⁶ per well) were seeded in a 96-well plate overnight and then treated with varying concentrations of vitamin D in serum-free medium for 24 hr. Cell growth was assayed using a MTT assay. Western blotting analyses were performed to clarify molecular changes (p27kip1, Jab1 and VDUP1).

**Results:** In in vitro experiments, Vitamin D inhibited the growth of cultured Hela cells in a dose-dependent manner by 20–25%. Doses were Vehicle, 5, 10, and 20uM. In western blotting, results indicated that expressions of p27kip1 protein were increased in a dose-dependent manner. And expressions of Jab1 and VDUP1 were decreased in a dose-dependent manner.

**Conclusions:** The data presented here strongly indicate a relationship between the vitamin D and Hela cervical cancer cell line, p27kip1, Jab1 and VDUP1. VDUP1 expression is involved in the proliferation of the tumor cell, but not always to the anti-cancer activity, depending on the type of cancer.

**P0774**
CHANGING TRENDS AND DETERMINANTS OF CAESAREAN SECTIONS IN A TERTIARY CARE HOSPITAL OF A DEVELOPING NATION

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**Objectives:** 1. To study changing trends and determinants of caesarean section in last five years in a tertiary care hospital and associated perinatal outcome. 2. To evaluate and suggest steps for optimizing the caesarean section rates which are a cause of concern in a developing nation.

**Method:** A retrospective analytical study of caesarean sections done during 2008–2009 and 2013–2014 at VMMC & Safdarjung hospital, New Delhi. Former was designated as Group A which was 27,250 and the latter as Group B which was 29,175. Determinants of Caesarean sections and those for repeat sections were analyzed including the perinatal outcome. Inferences were drawn regarding factors which can be modified for optimizing the said rates.

**Results:** Caesarean rates have risen from 12% to 16.3% over five years. Major determinant was Fetal distress being 35.6% in group A and 33.25% in group B. Previous one cesarean was second major deter-
minant which rose from 23.19% to 30.32%. NonReassuring fetal heart pattern was major cause of fetal distress in 55.92% cases. While repeat cesareans were done commonly for features of scar dehiscence in group A (55.28%), it showed a declining trend in group B (39.20%). Women not willing for TOLAC showed a percentage rise of 1.6%. The perinatal mortality declined from 24 to 20/1000 live births.

**Conclusions:** Cesarean rates have risen in last 5 years by 4.3%. Fetal distress remains the major indicator for primary cesareans contributed by nonreassuring fetal heart pattern. Scar dehiscence was second major determinant while a rise of 9.7% was observed in sections done for fetal distress in this group. No significant decline observed in perinatal mortality. Sections done for fetal distress should be carefully audited whether nonreassuring fetal heart, meconium stained liquor are absolute indications for surgery and whether maternal tachycardia itself is an indicator of scar dehiscence. Proper spacing, good nutrition, improved surgical skills, asepsis will improve scar healing.

**P0775**

**BASELINE EVALUATION OF INFECTION PREVENTION AND CONTROL (IPC) IN THE CONTEXT OF EBOLA VIRUS DISEASE (EVD) IN NINE HEALTHCARE FACILITIES IN THE CITY OF CONAKRY, GUINEA**

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**Objectives:** As a means to contribute to the response to the EVD epidemic and support health system strengthening, Jhpiego, with funding from USAID, committed to strengthening health service capacity in IPC. To ensure that the interventions to reinforce IPC were appropriate for the needs of the healthcare providers and facilities, the project team started by conducting a rapid assessment of focus sites using established performance standards in order to assess current practices in IPC, identify gaps in performance and inform the implementation of corrective measures.

**Method:** The assessment was conducted in December 2014 and January 2015 in the nine public hospitals of Conakry; three teaching hospitals, comprising 66 services, and six communal medical centers (CMC). The main assessment tool was based on performance standards for IPC previously introduced in several facilities in Guinea as part of the quality improvement methodology, Standards-based Management and Recognition® (SBM-R). A materials inventory and interview questions were also used. Data collection consisted of observation, interview and document review by a team of two evaluators per facility, for 2–3 days per facility. Evaluators were trainers in IPC and/or SBM-R.

**Results:** In the three national teaching hospitals, among 66 services, one service achieved 75% of performance standards, and eight (12%) achieved none. 33 (50%) of the services achieved below 30% of standards, while 17 (26%) scored between 31 and 49% and seven were performing at 50–74% of standards. In the 6 CMC, four were performing between 16 and 20% of standards, and two were performing at 53% and 37% respectively. Key reasons for poor performance included: 1) lack of IPC materials and equipment, 2) non-observance of IPC procedures and norms, 3) poor management of IPC activities, such as waste management.

**Conclusions:** The assessment of the nine public hospitals in Conakry allowed for the identification of gaps in IPC practices and guided the implementation of a strategy for reinforcing IPC practices. Key interventions included training of healthcare workers, provision of an initial stock of IPC materials, onsite follow-up and close supervision, and monitoring and evaluation to feedback results to providers and managers. These actions ultimately will contribute to the reduction of EVD and other infections among healthcare workers, improve the quality of healthcare services, and help to restore community confidence in the public health services.

**P0777**

**ANALYSIS OF A PILOT PROGRAM TO IMPLEMENT PHYSICAL THERAPY FOR WOMEN WITH GYNECOLOGIC FISTULA IN THE DEMOCRATIC REPUBLIC OF CONGO**

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**Objectives:** To describe components of a physical therapy pilot program for women with gynecologic fistula, and to report prospective data from the first 2 years of program implementation.

**Method:** A single-cohort observational study with repeated measures was conducted at HEAL Africa Hospital, Goma, Democratic Republic of Congo. Hospital staff received training in pelvic floor physical therapy. Guidelines for exercise, functional training, and reproductive health education were integrated into the existing program. Demographics, clinical findings, and functional outcomes were recorded. Key stakeholders were interviewed to understand the perceived strengths and limitations of the program.

**Results:** A total of 205 women were followed up; 161 participated in physical therapy, with an average of 9.45 sessions. Of 161 women examined postoperatively, 102 (63.4%) reported no incontinence; they remained continent at discharge. Of 21 who indicated a change in level of incontinence during postoperative physical therapy, 15 (71.4%) improved. The program was feasible and well received by staff and patients.

**Conclusions:** Pelvic floor physical therapy could have significant results in women with gynecologic fistula, may be an important adjunctive treatment in comprehensive fistula care, and warrants further investigation.

**P0777**

**ECTOPIC CERVICAL PREGNANCY: THE NEARLY MISSED DIAGNOSIS. A CLINICAL CASE**

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**Objectives:** Cervical pregnancy is a rare form of ectopic pregnancy, accounting for less than 1% of all ectopic pregnancies, and is often associated with significant morbidity and devastating effects on future fertility. Its etiology remains unclear, despite association with few risk factors, and its diagnosis is often delayed or missed, made mainly intraoperatively during dilatation and curettage for a supposed abortion.

Our main objective is to bring awareness to this, thought infrequent, potential life-threatening condition and support the recent reports that a conservative approach with methotrexate can be safe and effective, preserving the woman’s reproductive ability.

**Method:** We describe a clinical case of ectopic cervical pregnancy managed successfully with a conservative medical approach, with a single intramuscular dose of methotrexate.

**Results:** 44 y.o. woman, gravida 4, para 2 (1 CS), presented to our emergency room with lower abdominal pain and vaginal hemorrhage at 10 wk. amenorrhea. A previous evaluation defined an abortion in progress.

A light bleeding and a distended congestive cervix were observed. The ultrasound: empty uterine cavity, cervical gestational sac with an 8 wk. embryo, no cardiac activity. B-hCG level was 384 IU/L. Intramuscular administration of methotrexate 50mg/m², was the elected treatment for the cervical pregnancy.

Progressive drop of the B-hCG level and collapsing of the gestational sac was seen by day 7, and complete remission after 3 weeks.

**Conclusions:** Cervical pregnancy is a rare condition that can be haz-
ardous if not diagnosed and treated early during the course of pregnancy. Timely and prompt diagnosis, distinguishing a true cervical pregnancy from cervical ablation, is essential for successful treatment and fertility preservation. Therefore increased awareness and suspicion index among the Ob-Gyn practitioners should be fomented. Since the 1980’s several reports supporting successful methotrexate treatment reinforced our decision for a conservative attitude, as well as the patient’s desire for fertility preservation and her hemodynamic stability. The ideal therapeutic approach remains to be defined, and should be tailored accordingly to each patient.

Neonatal Care

P0778
IMPROVING CHLORHEXIDINE ADVOCACY FOR NEWBORNS (I-CAN)

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Objectives: The objective of the study was to prepare a “Situation Analysis Report on Use of Chlorhexidine for Cord Care in Pakistan”. The situation analysis was based on two components, Literature review and Field Consultations. Literature Review consolidates the existing evidence base for cord care from global, regional, and national studies. Field Consultations determine the existing practices and protocols for cord care at various levels and to collect recommendations and advice from key stakeholders (e.g. technical experts, policy makers, program implementers, service providers and communities) about the use of Chlorhexidine for cord care.

Method: The literature review included analysis of global, regional, and local studies and strategies related to cord care. Biomedical and social sciences databases were searched for publications related to Chlorhexidine use for umbilical cord care. Health Sector Strategies were also reviewed to assess the extent to which MCH and cord care was prioritized in provincial health plans. Field consultations were done in three provinces (Baluchistan, Punjab, and Sindh) and two regions (AJK and GB). Healthcare providers working at the public and private sector were approached to assess their knowledge and practices regarding cord care and to gather recommendations from key stakeholders.

Results: All studies proved that Chlorhexidine was superior to any other anti-septic for cord care although 4% Chlorhexidine tested during trials in Asia was the most efficacious. Hence, 4% Chlorhexidine is now considered the gold standard drug. The WHO approved 7.1% Chlorhexidine digluconate and included it in the Essential Medicines List for Children.

Field consultations found that knowledge about Chlorhexidine decreased as we moved down from policy makers to PHC providers. Few, if any, private healthcare providers, CMWs, LHW, & TBAs had ever heard of Chlorhexidine. However, most groups were able to identify sepsis as the leading cause of newborn mortality.

Conclusions: To advance the use of Chlorhexidine for cord care in Pakistan, most of the interview participants suggested improving advocacy at the policy and programmatic level for inclusion of Chlorhexidine into the Essential Drugs List, purchase list of LHWs and MNCH Program and purchase list of Executive District Officer Health. Further, they recommended advocating with pharmaceutical companies for local production of Chlorhexidine in required concentration.

P0779
DEVELOPMENT OF THE PROMOTING STRATEGIES TO SUPPORT BREASTFEEDING MOTHERS AND THEIR BABIES IN SOCIOCULTURAL CONTEXT OF IRAN: USING THE NOMINAL GROUP TECHNIQUE MEETING

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Objectives: Exclusive breastfeeding is one of the important aims of healthy nutrition and public health program in the world. Many women are employed or educated in universities. So, supportive strategies can increase successful breastfeeding rates in Iran. This study was for evaluating the perspectives of maternal and child health care providers on the appropriate strategies for increasing breastfeeding rates among Iranian mothers and their children using Nominal Group Technique (NGT).

Method: A semi-quantitative/qualitative methodology research using NGT, a panel discussion was held in December 2014 with 15 maternal and child health care providers who were selected through purposive sampling method.

Results: In the first round, 18 strategies were generated; after eliminating irrelevant items and integration similar items, 15 strategies remained. Overall 15 generated items were further listed as the accepted as supportive strategies to breastfeeding among Iranian mothers and children. After group discussion and voting, the following 3 items had scored higher than 30 point: Maintaining mothers work seat and occupational position during breastfeeding period (49 point); father involvement as a supportive strategy during breastfeeding period (39 point); and community involvement by establishing supportive peer group and health care provider campaign during pregnancy and breastfeeding period (38 point).

Conclusions: The interesting strategies presented in this study are the special health care providers in promoting breastfeeding in the context of Iranian society. Since many of Iranian women educate in university or employ, so maintaining mothers work seat and occupational position during breastfeeding period received the highest score by all the participants of NGT. These strategies may be used by maternal and child health care providers, policy-makers and managers to improve maternal and child health.

P0780
PERINATAL RISK FACTORS OF HYPOXIC ISCHEMIC ENCEPHALOPATHY IN NEONATAL INTENSIVE CARE UNIT IN EL-MINIA UNIVERSITY HOSPITAL FROM 2007 TO 2012

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Objectives: To assess the risk factors of birth asphyxia in neonates in EL-Minia University Hospital from 2007 to 2012, to be used as basic information for preventing birth asphyxia in the future and to detect the role of antenatal care.

Method: We conducted a case control study of HIE in EL-Minia University hospital Neonatal Intensive Care Unit, Egypt. Over 6 years from 2007 to 2012. We studied files of 80 neonates fulfilling criteria of neonatal asphyxia and we excluded major congenital anomalies and we studied the files of 80 neurologically free neonates were included as a control group in the same period.

Results: About 18.8% of cases having grade 1 encephalopathy HIE, 47.5% having grade 2 encephalopathy, 33.8% having grade 3 encephalopathy. We found that antepartum, intrapartum and postpartum factors are important in the causation of neonatal encephalopathy in our study. It revealed that inappropriate ANC, meconium stained amniotic fluid, prolonged 2nd stage of labour, chorioamni-
ionits, placenta previa, abruptio placentae, prolapsed cord, PROM ≥12h, polyhydraminos, forceps and oxytocin use as maternal factors highly affect the occurrence of encephalopathy in cases than control.

Conclusions: Early identification of high risk cases with improved antenatal and perinatal care can decrease such high mortality as absent antenatal care was associated with an increased risk of encephalopathy in our study.

P0781
NEWBORNS AND APGAR SCORES: STUDY ON MATERNAL AND CHILD HOSPITAL IN THE EXTREME NORTH OF THE BRAZILIAN AMAZON

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Objectives: The study was conducted to analyze the influence of age, educational level, number of prenatal consultations, the delivery route and weight of the newborn in the 5th minute APGAR in the far north of Brazilian Amazon, so pointing out the biggest influencers of result of APGAR scores <7, supporting future interventions to prevent such results.

Method: The study was conducted at the Hospital Materno Infantil Nossa Senhora de Nazaré, maternity located in Boa Vista, the capital of Roraima, northern Brazil. This is a descriptive, retrospective, cross study, which analyzed 3507 medical records of women from November 2012 to July 2013. Statistical analysis was performed using Epi Info 7, using the chi-square test for proportion of qualitative variables with p ≤5% and the odds ratio (OR) in the risk assessment of prevalence study. Newcomb method with 95% confidence was used to analyze the sample means of the confidence interval. Ethics Committee approved the study.

Results: From those born with values of APGAR ≥7, 59.5% were born vaginally. From the newborns with APGAR <7, the prevalent delivery route was vaginal with 60% (p<0.002, OR=1.0196, 95% CI: 0.4630–2.3282). From infants with APGAR <7, 53.3% were of mothers aged between 21 and 35, in the group of APGAR ≥7, also prevailed these ages (57.2%) (p<0.05, OR=1.171). Patients who had more consultation during prenatal care, had less newborns with APGAR <7 (0.65%). From newborns with APGAR <7, 73.3% were of mothers who attended ≥6 visits during the prenatal (OR=1.4997). Those born weighing ≥2500g, 4.63% had APGAR <7, against 0.38% of patients weighing <2499g (p<0.00001, OR=0.078).

Conclusions: Becomes evident the relationship of vaginal birth and prenatal consultations (≥6), with values of APGAR ≥7, although the group with APGAR <7 has presented vaginal delivery as prevalent. Is worth noting regional peculiarities, such as age, mothers aged 21–35 have children with APGAR <7 and newborns weighing over 2500g have worst APGAR, perhaps is due to this weight range being the prevalent. Such findings should be used to improve the prenatal care quality and the fathers’ participation in it, and to evaluate the delivery care quality, since the women at childbearing age and newborns with appropriate weight who are having lower APGAR scores.

P0782
A CASE-CONTROL STUDY OF INTRAHEPATIC CHOLESTASIS OF PREGNANCY INDUCED RESPIRATORY DISTRESS SYNDROME IN NEONATES

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Objectives: To investigate the association between maternal intrahepatic cholestasis of pregnancy (ICP) and neonatal respiratory distress syndrome (NRDS).

Method: A case-control study was conducted. There were 75 childbearing women identified with ICP in the study group and 75 cases in the control group. In both groups, maternal and umbilical cord blood cholylglycine levels were tested delivery. Mothers and infants were followed up to 7 days after delivery. Incidence of NRDS was compared between two groups. Conditional Logistic Regression mode was used for analysis of risk factors of NRDS.

Results: The average level of cholylglycine in maternal serum was significant higher in study group than that in control (t=20.36, P<0.05). This was similar in comparison of the average level of neonatal cholylglycine (t=7.19, P<0.05). The odd ratio for NRDS was 4.57 among newborns in study group in contrast to control (OR=4.57, 95% CI: 1.23–16.94). Conditional Logistic Regression mode showed delivery in advance of expected date (OR=0.57, 95% CI: 0.40–0.83), cholylglycine levels of umbilical blood above 500ug/dl (OR=11.59, 95% CI: 3.14–42.71) were the major risk factors of NRDS.

Conclusions: Maternal ICP was significantly associated with the occurrence of RDS in the newborn.

Operative Obstetrics

P0783
UTERINE ARTERIOVENOUS MALFORMATION: A RARE CAUSE FOR SECONDARY PPH – A CASE REPORT

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Objectives: We discuss a case of secondary postpartum haemorrhage (PPH) diagnosed as arteriovenous malformation (AVM) of uterine artery on Doppler and angiography, and successfully managed by bilateral embolization.

Method: We report a case of arteriovenous malformation presented as secondary PPH. We review the literature for similar reported cases, and compare our surgical management with other management options, and discuss the outcome.

Results: We report a case of a 26 years old para 1 lady, who presented to the emergency department with heavy postpartum vaginal bleeding and passage of blood clots. She had C-Section 7 weeks prior to admission. On admission she had massive PPH: 1.5L. Hb levels dropped from 12g/dl to 6.2g/dl. She needed resuscitation with fluid and 4 units of blood, in addition to syntocinon infusion 40U. No cause identified. Angiography of uterine vessels was performed which showed lesions of arteriovenous malformation. Bilateral uterine artery embolization was done. The patient recovered well. She had no further heavy PV bleeding episodes.

Conclusions: We conclude that in a woman with unexplained vaginal bleeding after c-section delivery, AVM is a potentially life-threatening complication and should be considered in the differential diagnosis of secondary postpartum hemorrhage. Although data are scant, bilateral uterine artery embolization for obstetric hemorrhage appears to have no increased deleterious effect on future fertility and is more effective when compared to unilateral embolization.

P0784
A PILOT STUDY TO ASSESS THE ADEQUACY OF “BRIGHAM 20 KITS” FOR CESAREAN DELIVERIES AT AN URBAN HOSPITAL IN RWANDA

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Objectives:
- Create a standardized cesarean section kit that is COST-EFFECTIVE.
- Create a system to insure that the kits are intact.
- Introduce a system for counting instruments for patient safety.

Method:
- Brigham 20 Kits introduced into Kibagabaga Hospital in November 2011.
- 1 hour of education provided to staff.
1 OR Supervisor nurse placed in charge of the instruments and provided with additional education and access to extra instruments.

After 3 months, all the kits were inventoried and forms reviewed.

Results:
- 399 cesarean deliveries performed.
- 196/399 (49%) forms completed.
- 5 of 8 kits (62.5%) with correct 20 instruments.
- 3 remaining kits with 21, 21 and 22 instruments.

Conclusions: With proper education and enforcement, Brigham 20 kits can provide:
- Consistent, higher quality instruments.
- An easy system for instrument counting.
- An easy system for instrument processing and inventory.

P0785
PRIMARY REPAIR OF OBSTETRIC UTERINE RUPTURE CAN BE SAFELY UNDERTAKEN BY NON-SPECIALIST CLINICIANS IN RURAL ETHIOPIA: A CASE SERIES OF 386 WOMEN
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Objectives: This study was undertaken to explore the outcome of repair surgery for uterine rupture and its associated factors at Aira hospital, West Ethiopia.

Method: A retrospective case record analysis was carried out over a 10-year period from January 2000 to December 2009.

Population: 390 cases of uterine rupture.

Primary outcome measure was death before discharge from hospital.

Data were collected using structured questionnaire. Data was cleared, coded and entered into computer software (SPSS) for analysis and findings were presented using tables, charts and graphs. Selected variables were cross-tabulated and tested for statistical associations with the outcome of treatment.

Results: There were 10 270 deliveries over the 10-year period. Uterine rupture occurred in 386 (3.7%) women and was surgically treated. Primary uterine repair, which was carried out by non-specialised doctors in 43% of cases, was the treatment for 98% of women, and appears to be simple and effective.

Univariable analysis revealed that women were more likely to die if their labour lasted more than 24 hours (P=0.05), if their labour ceased more than 12 hours before treatment commenced (P=0.02).

Conclusions: Our series suggests that simple resuscitation with crystalloid fluids followed by primary repair surgery can be safely carried out by non-specialist clinicians with varying experience, and has a low mortality rate in women who reach a suitable facility within 12 hours of uterine rupture.

P0786
CLINICAL EFFECT OF FETOSECOND LASER OCCLUSION OF CHORIOANGIOPATHIC VESSELS FOR TWIN-TWIN TRANSFUSION SYNDROME: EXPERIENCE OF A CENTER FROM CHINA
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Objectives: To study the clinical effect of fetoscopic laser occlusion of chorioangiopagous vessels (FLOC) in treating twin to twin transfusion syndrome.

Method: The clinical data of 44 consecutive cases of TTTS who had FLOC in the Department of Obstetrics and Gynaecology of Peking University Third Hospital were reviewed and analyzed for perioperative complications, perinatal outcomes and fetal survival rate.

Results:
- (1) There was 1 case of placenta vascular rupture in the operation. The average operation time was 60.1±15.1 minutes.
- (2) There were 25 patients after FLOC had delivered in the perinatal period. The average gestational age of delivery was 33.5±2.7 weeks. The donor fetuses survival rate was 88% (22/25), the recipient fetuses survival rate was 100% (25/25). The birth weight of donor fetuses was significantly less than that of recipient fetuses (1631 vs 2071g, P=0.016).

From Quintero staging I to IV, the rate that 44 cases of TTTS had entered the perinatal period was 4/7, 11/14, 7/19, 3/4, both twins survival rates were 4/7, 10/14, 5/19, 3/4, at least one fetal survival rate was 8/14, 21/28, 12/44, 6/8, respectively.

Conclusions: FLOC for TTTS is associated with a better survival rate. Quintero staging probably does not effectively predict the fetal diagnosis of TTTS after FLOC. When TTTS diagnosed, the sooner FLOC given, the better fetal prognosis had.

P0787
DOES SKIN INCISION-DELIVERY INTERVAL AND INDUCTION-DELIVERY INTERVAL AT ELECTIVE CAESAREAN SECTION HAVE ANY EFFECT ON NEONATAL OUTCOME?
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Objectives: To determine the effect of skin incision -to - delivery interval, and induction of anaesthesia - to - delivery interval during elective caesarean section, on neonatal Apgar score.

Method: A cross-sectional study of elective caesarean sections done at Nnamdi Azikiwe University Teaching Hospital, Nnewi, South-east, Nigeria from January 2008 to Dec 2012. Patients with high risk fetal or maternal obstetric conditions were excluded from the study.

Women with previous caesarean section were however included.

Information on socio-demographic characteristic, the indication for surgery, type of anaesthesia, the induction-delivery interval (InDI), incision-delivery interval (IDI), first and fifth minute Apgar scores and birth weight of the babies were obtained and documented. Statistical analysis was done using SPSS version 17.0 for windows.

Results: A total of 154 patients were included in the study. The mean IDI was 8.58±4.66 minutes and the mean InDI was 11.08±2.89 minutes.

No association was found between the IDI and neonatal Apgar scores at first minute (p=0.999) and 5th minute (p=0.978). There was no association between InDI and neonatal Apgar scores at first minute (p=0.842) and 5th minute (p=0.364). There was also no association between the type of anaesthesia and 1st minute and 5th minute Apgar scores (p=0.184 and 0.767 respectively).

Conclusions: The IDI and InDI at elective caesarean section have no significant effect on neonatal Apgar scores in a tertiary health care facility. Awareness of this fact could obviate the need for speed during elective caesarean sections and focus therefore should be more on improved techniques and interventions that would reduce maternal and neonatal morbidity and mortality.

P0788
CLINICAL ANALYSIS OF EMERGENCY PERIPARTUM HYSTERECTOMY, A 5 YEARS REVIEW
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Objectives: To investigate the incidence, indications & outcome of emergency peripartum hysterectomy.

Method: A retrospective analysis of case files of patients who required emergency peripartum hysterectomy at the department of obstetrics & gynaecology, Shalamar Hospital, Lahore, Pakistan from Jan, 2010 to Dec, 2014 was conducted. Their demographic data, indications, outcome including maternal morbidity (ICU admission, Blood transfusion, urological injuries, DIC) and maternal deaths were recorded and analyzed in SPSS version 13.

Results: During 5 years, 22 cases out of 10.030 deliveries were required emergency peripartum hysterectomy giving incidence of
CESAREAN MYOMECTOMY: IS IT AS SAFE AS A CESAREAN?
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Objectives: To find out if there is increased morbidity in Cesarean Myomectomy and compare it with complications in a routine Cesarean.

Study period: March 2008 to December 2014.
Study population: 30 women who underwent cesarean myomectomy were compared with 30 women who underwent routine cesarean section.

Analysis: Parameters analyzed were operating time, intraoperative blood loss, as indicated by need for blood transfusion or fall in hemoglobin percentage, postoperative morbidity, need for relaparotomy and hysterectomy.

Results: Mean age and mean hemoglobin of the two groups were comparable. The mean operating time in cesarean myomectomy was 79.26 minutes which was slightly more than a routine category IV cesarean. Fall in hemoglobin in cesarean myomectomy was 0.31gm%. There were no cases of relaparotomy or hysterectomy in the myomectomy group.

Conclusions: Cesarean myomectomy in selected cases may be an appropriate surgical intervention without significant increase in risk or morbidity compared to routine cesarean. The duration of surgery is more than cesarean, but this potentially avoids a future surgery for the patient.

EMERGENCY PERIPARTUM HYSTERECTOMY: A FIVE YEAR RETROSPECTIVE STUDY
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Objectives: Peripartum hysterectomy is a major surgery which may be the last resort to save a woman's life but makes her sacrifice the reproductive capability. The objectives of this study were to determine the incidence, indications, associated risk factors and complications of emergency peripartum hysterectomy at a tertiary care hospital in north-east India.

Method: This is a retrospective analysis of 62 cases of emergency peripartum hysterectomy among 57535 deliveries from January 1, 2010 to December 31, 2014 at Regional Institute of Medical Sciences, Imphal, India. The incidence, indications, associated risk factors and outcome of emergency peripartum hysterectomy were studied.

Results: Out of 57535 deliveries during 5 years study period. 62 (0.10%) women underwent hysterectomies. Out of them, 56% of the women were booked, with a mean of 4.22 antenatal visits. Uterine atony (56%), morbidity adherent placenta (25%) and uterine rupture (10%) were the main indications of hysterectomy. Increased parity and post cesarean pregnancy was at increased risk. Three women died (4.8%) during operation and 8 (12%) women were admitted to the intensive care unit postoperatively. The study showed a good fetal outcome as 76% of the babies has an Apgar Score of ≥7 at 5 minutes.

Conclusions: The present study suggested that uterine atony, placenta accreta and uterine rupture were the most common indications for emergency peripartum hysterectomy. With only three (4.8%) maternal death and good foetal outcome, the study reiterated the importance of emergency peripartum hysterectomy in modern obstetric practice as an indispensable life-saving procedure to reduce the maternal mortality rate.
P0792
A NOVEL TECHNIQUE OF Tourniquet Application TO MINIMIZE INTRA-OPERATIVE BLOOD LOSS IN PLACENTA ACCRETA CASES REQUIRING CAESAREAN HYSTERECTOMY – OUR EXPERIENCE

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Objectives: To assess the efficacy of tourniquet for minimising intra-operative blood loss in cases of placenta accreta requiring caesarean hysterectomy.

Method: Nine cases of diagnosed placenta accreta with previous caesarean section were chosen to utilize this novel approach. These cases were planned for caesarean section followed by hysterectomy. The utero-vesical fold was dissected using scissors and the bladder was pushed down if possible. The baby was delivered through upper segment of placenta and then a tourniquet of cotton gauge was tied all around the lower pole of uterus by making a window in the broad ligament on both sides at the level of internal os. This step minimized the blood loss tremendously. The total hysterectomy was performed with placenta in situ.

Results: Total average operative time taken was 50 minutes. Average blood loss was 800–1200 ml approx. Blood transfusion required was two units on an average in any case. No intra-operative or post-operative surgical complication seen in any case. Both mother and baby were healthy at discharge in all the cases.

Conclusions: The presence of placenta accreta/increta/percreta is associated with major feto-maternal complications as its incidence is increasing day by day. This tourniquet application is very helpful in minimizing the intra-operative blood loss and surgical complication due to obstruction of operative field by massive bleeding and also prevents complication related to massive blood transfusion.

P0793
INFLUENCE OF BOLUS ADMINISTRATION OF OXYTOCIN ON CARDIOVASCULAR SYSTEM DURING CAESAREAN DELIVERY

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Objectives: During caesarean delivery, oxytocin is often used to help uterine contraction and to reduce uterine bleeding. Some of adverse effects such as tachycardia, hypotension, and ST-T depression on electrocardiogram (ECG) have been reported to occur after bolus administration. We have investigated whether influence of bolus administration of oxytocin on cardiovascular system may be dose dependent retrospectively.

Method: 383 patients were underwent caesarean section from January to November, 2014 in our hospital. Three patients were excluded because of their history of heart disease. Caesarean section was underwent under spinal and/or epidural anesthesia and five or ten units of oxytocin were intravenously administrated immediately after the delivery which dissolved in 500 ml of saline and dripped full open. Bleeding amount as the effect of oxytocin and the change of heart rate, blood pressure and ST-T depression as the influence were compared between the five-unit- (5U) and the ten-unit-administration (10U).

Results: Bleeding amount were not so much different between 5U and 10U. Increase of heart rate, decrease of blood pressure, and ST-T depression were observed immediate to twenty minutes after administering oxytocin in both groups. There was significant difference only in heart rate between 5U and 10U within five minutes after the administration. However, No other differences were found in blood pressure and ST-T depression between 5U and 10U.

Conclusions: Five units and ten units of oxytocin were comparable for uterostonic effect. However, there were not any remarkable dose depending adverse effect of oxytocin for cardiovascular system.

P0794
CAESAREAN SECTION AND BIRTH TRAUMA

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Objectives: To show that caution should be a watch word in extraction during caesarean section.

Method: Case report.

Results: Long bones fracture are not uncommon; femoral fracture was seen in this case and healed well after treatment.

Conclusions: Caesarean section is not completely risk- or trauma-free to babies especially. caution should be exercised during extraction, prompt recognition and appropriate treatment will result in adequate healing.

P0795
SHORT-TERM EFFECT OF CLOSURE VERSUS NON-CLOSURE OF PERITONEUM AT CESAREAN SECTION

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Objectives: The objective of this study is to assess the short term morbidity of closure versus non closure of peritoneum at CS.

Method: A prospective randomized controlled trial of 80 cases undergoing elective caesarean section was done randomized into closure and non closure groups. Preoperative, Intraoperatively and postoperative details were recorded.

Results: Operative time (p=0.01, Z=5.3), postoperative pain (p=0.01, Z=5.6), postoperative distention (p=0.002, Z=9.1) and wound infection (p=0.007, Z=7.2) are significantly lower in the non closure group. Febrile morbidity and hemoglobin level were similar in both groups (p=0.2, Z=1.4).

Conclusions: Non closure of both visceral and parietal peritoneum at CS is associated with less operative time and less postoperative pain and distention and wound infection, hence routine closure of peritoneum at CS can be avoided.

P0796
IS UTERINE ATONY STILL A LEADING INDICATION FOR OBSTETRICAL HYSTERECTOMY?

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Objectives: Obstetrical hysterectomy refers to the surgical removal of a pregnant uterus or a recently pregnant uterus. In the past majority of obstetrical hysterectomies were performed for postpartum hemorrhage but now the trend is shifting and morbidity adherent placenta has emerged as the leading indication.

Method: A retrospective analysis of obstetrical hysterectomy performed over a period of 8 years from January 2007 till December 2014 in the obstetrics and gynecology department of Patel hospital Karachi. Each case record is analyzed in detail as regards to frequency, age, parity, previous obstetric history, gestational age, parity, booking status, risk factors predisposing to obstetric hysterectomy, mode of delivery, indication of hysterectomy, duration of surgery, amount of blood transfusion, transfer to ICU. Intra-operative and postoperative complications were recorded like organ injury, sepsis and wound infection. The data processed in SPSS version 20.

Results: Total 48 patients underwent obstetrical hysterectomy most were between 20 to 45 years, unbooked, multiparous and delivered after 33 weeks gestation. Risk factors analysis showed that 38 had history of caesarean delivery, 26 were diagnosed morbidity adherent placenta, 8 patients had obstructed labor and 6 antepartum hemor-
rhage. Leading indications were morbidly adherent placenta in 26 cases, ruptured uterus in 9 cases, uterine atony in 8 cases. Mean operative time was 100 minutes. 6 bladder injuries repaired successfully. Mean blood loss was 2000ml and transfusion was required in all cases. Mean hospital stay was 7 days. There was one maternal mortality and rest of patients remained stable postoperatively.

Conclusions: Morbidly adherent placenta has got a lead over uterine atony as an indication for obstetrical hysterectomy.

P0797
CERVICO-ISTHMIC CERCLAGE FOR THE TREATMENT OF RECURRENT BLEEDING IN EARLY PREGNANCY: A RANDOMIZED CLINICAL TRIAL
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Objectives: To determine the effectiveness and safety of cervical cerclage using the McDonald technique in patients with recurrent bleeding in early pregnancy due to low-lying placenta.

Method: Forty one pregnant patients with recurrent early bleeding due to low lying placenta were recruited for this study. They were randomly assigned to cervical cerclage (n=20 patients) or conservative management (control group =21 patients). Primary outcome was gestational age at delivery. Secondary outcomes were cessation of bleeding, number of episodes of bleeding since randomization till delivery, birth weight and neonatal outcomes.

Results: Mean gestational age at the time of delivery was significantly higher in the cerclage than the control group (37.1±3.3 vs. 30.9±7 weeks, respectively, p=0.001). Patients in cerclage group had fewer bleeding episodes than control group (0.75±1.3 vs. 3.7±2.3, respectively). The continuation of pregnancy ≥37 weeks gestation was achieved in 14 cases (70%) in the cerclage group compared to 5 (23.8%) in the control group Mean birth weight was significantly higher in the cerclage compared to the control group (2900±710 g vs. 1842±117 gm, respectively).

Conclusions: Cervical cerclage is effective and safe in the treatment of recurrent bleeding in early pregnancy due to low lying placenta with favorable maternal and neonatal outcomes.

P0798
B-LYNNCH SUTURE FOR THE CONTROL OF POSTPARTUM HEMORRHAGE: AN ALTERNATIVE TO CAESAREAN HYSTERECTOMY? ELOBIED, FROM 2008 TO 2014
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Objectives: The aim of this study is to know the efficacy of B- Lynch suture done in ElObied town from 2008 - 2014 in controlling primary postpartum haemorrhage due to uterine atonia which did not respond to uterotonics drugs, together with the reflection of its role in reducing caesarean hysterectomy and so that preserving patient fertility.

Method: Study design: This is a case series descriptive study. Study area: ElObied teaching hospital and other private hospitals (Kordoffan specialized clinic, police hospital and ultimate care hospital) all are located in ElObied town.


Results: The total number of cases were 22. It succeed in 21 patient (95.5%) with preservation of the uterus. There was no post operative complications. 8 (36.4%) of them had atonia due to multiple pregnancy. 18 (81.8%) patents were presented stable while 4 (18.2%) were shocked. 15 (68.2%) patients delivered at 38 - 40 weeks gestation, it was done by consultant in 16 (72.7%) patients while the registrars perform it in the remaining 6 (27.3%) patients. 7 (31.8%) patients had spontaneous vaginal delivery, 2 (9.1%) operative vaginal delivery, 7 (31.8%) elective caesarean section and 6 (27.3%) emergency caesarean section.

Conclusions: B-Lynch compression suture is easy to apply and should be considered as primary treatment in cases of severe atomic postpartum haemorrhage when oxytocic agents failed, and before resorting to hysterectomy.

P0799
LOW FORCEPS APPLICATION: A LOST ART OR USEFUL TOOL TO REDUCE LSCS RATES
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Objectives: To assess the effect of low forceps applications on LSCS rates.

Method: Retrospective analytical study of a hospital data from October 2010 to April 2014. Total 4184 patients were delivered out of which 2578 had normal vaginal delivery, 1301 underwent LSCS; 200 were delivered by forceps application – 68 outlet & 132 low forceps; 105 Vacuum assisted vaginal delivery. Assuming that the patients delivered with low forceps would otherwise land up in LSCS the LSCS rates were calculated. The complications if forceps group were compared with random one year LSCS and normal delivery patients.

Results: The LSCS rate was 31.1% when low forceps delivery was conducted which would have been 34.1% had these patients undergone LSCS. By application of both tests: chi square test and standard error of difference between proportions; the difference was found to be statistically significant.

Conclusions: In expert hands low forceps applications significantly reduces LSCS rates, without significant increase in maternal & neonatal morbidity.

P0800
THE EFFECTIVENESS OF URGENT CERCLAGE FOR MEMBRANE PROLAPSE
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Objectives: Amniotic sac prolapse in the 2nd trimester is a serious problem. Several observational studies affirmed prophylactic value of rescue cerclage, but there is still considerable controversy on its effectiveness. In the viewpoint that weights with success of rescue cerclage is to distinguish between prolapse with and without CAM, in our institute rescue cerclage is applied to cases fulfill the criteria of original score composed of cervical length and severity of uterine contraction. In this paper we show the effectiveness of rescue cerclage in our institute.

Method: The subjects were 85 cases including 16 twins to whom cerclage was performed (Group A). Those were 69 of protrusion from external os and 16 of appearing near os, gestational week of whose were from 17th to 27th, mean 24.0 week. Followed by replacement of the membrane into uterine cavity using a rubber balloon (Mini metro, Tokyo) cerclage was conducted. Another 40 cases without fulfilling the criteria were given only conservative treatment including vaginal douche with UTI suppository (Group B). In the present study the endpoint was made as 34th week in singleton and 32th week in twins.

Results: 1) In group A the successful ratio was 79% (67 out of 85). Excluding maternal complication such as PIH, it rose up to 82% (67 of 82). In contrast, in group B none achieved the endpoint. 2) The main cause of 18 cases who failed was CAM (50%) which occurred at the mean 5.4 weeks after operation. And the second cause was re-operation which was conducted at another hospital (4 cases). 3) The mean prolongation of pregnancy was 82.2 days in group A and 5.3 days in group B, where pathological CAM was detected in 38/40 (95%).

Conclusions: Up to now there is still controversy on effectiveness of urgent cerclage. The key point of getting success of urgent cerclage is on whether CAM exists or not. Our original score system is a use-
ful clinical indicator on judgement of selecting cerclage procedure. In the present study urgent cerclage brings an excellent result, while it is notable that it possess a risk of inducing inflammation like CAM.

P0801
AN EVALUATION OF THE SERVICE PROVISION BY INTERVENTIONAL RADIOLOGY IN THE MANAGEMENT OF POSTPARTUM HAEMORRHAGE IN THE UNITED KINGDOM
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Objectives: Guidelines advise that interventional radiology is an important management option both for the prophylactic planning for anticipated post partum haemorrhage, and emergency treatment of postpartum haemorrhage. The utilisation of intervention radiology for these indications is however variable. This study aimed to evaluate the provision of intervention radiology services for post partum haemorrhage management in the UK.

Method: Online questionnaires were emailed to 498 Consultant Interventional Radiologists, identified from the electronic mailing list of the British Society of Interventional Radiologists. These questionnaires explored the availability and accessibility of intervention radiology for management of post partum haemorrhage in units, the level of confidence of the radiologists in offering these services and the barriers if any to utilizing the service appropriately or adequately.

Results: Of 100 completed questionnaires received, 89 worked in units providing some cover for post partum haemorrhage control (70 stating this service was available 24/7), and 11 in units with no provision for this service. Most utilised prophylactic pre-procedure balloons and embolisation postdelivery; however, only 35% considered themselves to have a good level of competency with these procedures. In emergency cases the median time lag from referral to the intervention radiology procedure was 30 to 60 minutes. All respondents viewed the provision of intervention radiology for post partum haemorrhage as important.

Conclusions: The 20% response rate is partly explained by not all sent the survey eligible to complete it (eg. some radiologists not working within intervention radiology any more, or having moved abroad). This study found that guidelines advocating more widespread use of intervention radiology are not met to an acceptable standard. Limitations reported include obstetricians not utilizing the service often enough, or radiology and maternity being on different sites. Greater awareness of the role of intervention radiology, and better communication between the disciplines managing post partum haemorrhage may help to ensure best practice is achieved.

P0802
NEW SURGICAL APPROACHES DURING MASSIVE BLEEDING IN OBSTETRICS
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Objectives: To find out differentiated surgical approaches during caesarean section in order to reduce intraoperative blood loss.

Method: A case-control study was held in 56 pregnant, who had high rates of blood loss during cesarean section. Evaluation scale of blood loss was formulated in RSS&PMC of Ob&Gyn depending on the anatomical localization of the bleeding source: Level 1 – bleeding from the uterine at uterine atony; Level 2 – bleeding from uterine at one vomers and lower segment; Level 3 – bleeding from the cervix, the upper third of vagina, parametrium and retroperitoneal space. In cases of inefficient treatment, there were carried out next steps of surgeries – phased uterine devascularization, in the absence of effect - hysterectomy.

Results: Level 1 bleeding was in 48.2%. Ligation of tubal artery in 7.4%, or imposition of compression sutures in 7.4% was performed. Estimated blood loss was 982±78.2 ml. Level 2 was diagnosed in 26.7% with bleeding volume 1183±28.8 ml. Surgical interventions included imposition of compression sutures in 13.3%, ligation of tubal artery in 33.3%, hysterectomy in 6.6%. With level 3 were 25% patients with hemorrhage 1555.5±196.2 ml. Surgical interventions included ligation of internal iliac artery with hysterectomy in 28.5%, and only hysterectomies in 42.8%. Conservative treatment was effective in 92% during Level 1 bleeding.

Conclusions: 1. Level 1 bleeding often relievers conservatively with adequate medical methods. 2. When level 2 bleeding ligation of tubal artery, imposition of compression sutures on the uterus is quite effective. 3. When Level 3 bleeding should be applied ligation of internal iliac arteries as well as a first-aid measures.

P0803
MEASUREMENTS OF THE LOWER UTERINE SEGMENT AT TERM IN WOMEN WITH PRIOR CESAREAN DELIVERY

Objectives: To evaluate the accuracy of sonographic measurements of the lower uterine segment (LUS) thickness at term in predicting uterine scar defects in women with prior cesarean section (CS).

Method: Sixty-three pregnant women who underwent CS between 37 and 41 weeks of gestation from October 2013 to February 2015 were enrolled in this prospective study. We performed an ultrasound evaluation of the myometrial thickness and full thickness of LUS (mLUS and fLUS, respectively) transvaginally before they underwent a CS and evaluated the appearance of LUS during surgery. Sonographic LUS thicknesses were compared with LUS grade, which was defined as follows: grade I, well-developed; grade II, thin without visible content; grade III, translucent with visible content; and grade IV, either dehiscence or rupture.

Results: We observed statistically significant differences in median mLUS thickness between grades I/II (1.52 mm) and grades III/IV (0.75 mm) (p=0.0178) and in median fLUS thickness between grades I/II (4.05 mm), and grades III/IV (2.48 mm) (p=0.0031). We found that both mLUS and fLUS were independent predictive factors by multivariate logistic regression analyses. ROC analysis showed that LUS thickness for prediction of LUS grades III/IV was 0.97 mm of mLUS and 3.13 mm of fLUS, having a sensitivity of 83.3%, a specificity of 85.7%, a PPV of 45.5%, and a NPV of 97.3% in both measurements.

Conclusions: Sonographic measurements of LUS at term may be a feasible and reliable method to predict uterine rupture or uterine dehiscence in women with prior CS.

P0804
CESAREAN SECTIONS: PROFILE OF PATIENTS IN A CAPITAL IN THE NORTHERN BRAZILIAN AMAZON
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Objectives: Evaluate the profile of patients who had cesareans and vaginal deliveries in the Hospital Materno-Infantil Nossa Senhora de Nazaré (HIMINSN) in a capital in the extreme north of the Brazilian Amazon. Also, discuss the proportion in which these types of deliveries take place at the hospital to meet the predominant type of delivery.

Method: The study was conducted at the Mother and Child Hospital Our Lady of Nazareth, maternity located in Boa Vista, the capital of Roraima, northern Brazil. This is a descriptive, retrospective, cross-
Results: Analyses using a hierarchical modeling were evaluated with multivariate multinomial and logistic regression. Pregestational and anxiety symptoms were measured by Edinburgh Postnatal Depression Scale. Obstetric intervention data were obtained from the medical records, and depressive symptoms and adverse obstetric outcomes and suggest that anxiety and depression may have different effects on obstetric outcomes. Understanding the mechanism in which depression increases the risk of emergency cesarean birth needs further research.

Conclusions: It is observed that the profile of patients undergoing vaginal and cesarean delivery was similar, characterized by being young patient 23 years (vaginal) and 24 (cesarean), residing in Boa Vista, who performed prenatal care on the public network, married/stable relationship, with 1–3 previous pregnancies.

Unlike other regions, a high number of births is found among adolescents of Roraima suggesting peculiarities in population and cultural matters. Therefore, it is important to recognize these factors so that is possible to take actions to reduce the number of cesareans, which increase maternal morbidity and mortality rates, and increases expenses for the health system.

P0806
PREVALENCE OF CESAREAN SECTION IN A LOW RISK MATERNITY IN BAIXADA FLUMINENSE, RJ, BRAZIL, IN A PERIOD OF TWO AND A HALF YEARS

Hospital Maternidade Terezinha de Jesus, Mesquita, Rio de Janeiro, Brazil

Objectives: Assess the prevalence of cesarean section in a low risk maternity in Baixada Fluminense –RJ - BRAZIL, in a period or two and a half years.

Setting. Baixada Fluminense, an area in Rio de Janeiro state, with 3,500,000 inhabitants and a reference for 11 counties. In this area the government of the State built a maternity in June 2012 to assist low rik pregnancies, which is managed by a private organization Hospital Maternidade Terezinha de Jesus and monitored by the government. The maternity has 70 beds for pregnant patients and 10 for intermediate care for the new born. The data were collected from the data base of the administration and they analysed using the Epi Info programm.

Results: The activities cared in this cenario were 2,222 maternal admissions in 2012 (6 months), 7,518 in 2013 (12 months) and 8,787 in 2014 (12 months); normal deliveries 1,310 (2012), 4,177 (2013) and 5,220 in (2014); forceps deliveries 10 (2012), 55 (2013) and 42 (2014); cesarean sections 447 (2012), 1,511 (2013) and 1,552 (2014). The qui square statistics for trend of cesarean section was 14.20 (p value=0.00016, significant for a risk increase OR=1.06 in 2013, but a decrease OR=0.871 in 2014. There 25 stillbirth in 2012 (rate of 14.14/1,000), 88 in 2013 (rate of 15.32/1,000) and 17 in 2014 (2.53/1,000).

Conclusions: It was possible to keep a low prevalence of cesarean section in low risk patients and a low rate of neonatal mortality. The high fetal mortality rate was due to non optimal prenatal care.

P0807
RETROSPECTIVE COMPARATIVE STUDY BETWEEN INFRAUMBILICAL C SECTION AND MISGAV-LADACH TECHNIQUE IN OUR ENVIRONMENT


Objectives: To compare the surgical outcomes of Misgav Ladach modified method (MLM) with infraumbilical technique (IMI) in our environment.

Method: A retrospective, observational, case control in which clinical records were reviewed of all patients with cesarean delivery in the months of February and March 2011 in the Hospital HMI, NL, Mexico. We included all patients with normal evolutionary pregnancy without previous surgery, separated into two groups (cases and controls) to compare the operative time and time of birth. We excluded patients with diseases associated with pregnancy, premature, previous surgery, or information was incomplete. Statistical analysis was performed using the U test of Mann-Whitney for comparison of the variables considered statistically significant at p<0.05.

Results: We obtained a group of 242 patients with IMI technique (controls) and 57 with MLM technique (cases). The mean operating time of the IMI was 42.99 minutes (± 14.496) compared with the MLM technique of 30.6 minutes (p<0.0001). The mean extraction time in the IMI was 5.93 minutes (± 3.869) compared with the MLM technique of 2.84 minutes (p<0.0001). Postoperative pain was measured in two groups of patients 59 (IMI) and 57 (MLM). The mean pain of the IMI was 3.54 compared to MLM who presented a value of 2.45 (p<0.0001).

Conclusions: There is a statistically significant difference in surgical...
time and time extraction of the newborn in the MLM. Blood loss in both surgeries is expressed subjectively by the surgeon, nosignificant differences in both techniques. Postoperative pain measured by visual analog scale, showed a lower intensity in the MLM group statistically significant. There were no patients in either group with fever.

P0808
THE EFFECT OF EARLY ORAL INTAKE TO REGULAR DIET TOLERATED OF CESAREAN WOMEN IN RESIDENT TRAINING SETTING: A RANDOMIZED CONTROLLED TRIAL
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Objectives: To compare time to regular diet tolerated between conventional step diet, early oral feeding (EOF) and EOF with domperidone of women who underwent cesarean section by obstetrics and gynecology residents.

Method: Randomized controlled trial in women who underwent cesarean section by obstetrics and gynecology residents at Siriraj Hospital, Bangkok, Thailand during September 2014- February 2015. The pregnant women were randomly assigned to three comparative studied arms; arm 1 is conventional step diet, arm 2 is EOF, and arm 3 is EOF with domperidone. The mean time to regular diet tolerated was compared.

Results: 63 patients were met the inclusion criteria. Median age of studied patients was 28 (range 18–41) years. The median operative time was 47 (range 29–160) minutes. The median blood loss was 350 (range 150–900) ml. Abdominal adhesion was noted in 8 patients (12.7%). Overall, the mean time to regular diet tolerated was 41.4±16.2 hours, which arm 2 showed the shortest significantly. There were no patients in either group with fever.

Conclusions: EOF without domperidone should be standard practice in postoperative cesarean section.

P0809
REPEATED CAESAREAN SECTION – POTENTIAL FACTOR FOR SERIOUS OBSTETRIC COMPLICATIONS
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Objectives: Objective of this study is the analysis of the trend of caesarean section births in the Republic of Kosovo and serious obstetric complications as a consequence of repetitive births via caesarean section.

Method: In the two million inhabitant Republic of Kosovo, public and private health institutions, during the period from 2000 to 2014, have reported 458,191 births, of which 75,377 delivered via caesarean section. Repeated caesarean sections are a potential factor for serious obstetric complications. Study data is presented through graphs, echographic images and photographs.

Results: Study data shows that caesarean section birth rate is annually increasing, from 7.5% in 2000 to 28.4% in 2014. The complications which obstetricians are faced are Cesarean scar pregnancy, diagnosed until the 12 gestational week and which have usually ended with total abdominal hysterectomy and pathological insertion of placenta into the frontal wall of the uterus, placenta accreta, increta and percreta. Such obstetric cases are also accompanied by a dramatic situation in operating theatres due to profuse bleeding. Majority of these cases end up with total abdominal hysterectomy, multiple blood transfusions and in some cases with urinary tract injuries.

Conclusions: Increase of the ratio of births with caesarean section in Republic of Kosovo from 7.5% in 2000 to 24.8% in 2014 is worrying. Among serious obstetric complications in births with repeated caesarean section are cesarean scar pregnancy, placenta previa, placental insertion in the frontal wall of the uterus and pathologic insertion, consequence of repeated caesarean sections, multiple transfusion of blood and its products and urinary tract injuries.

P0810
OBSTETRIC HYSTEROCTOMY IN PATIENTS WITH PLACENTA ACCRETA, INCRETA AND PERCRETA: COMPARISON OF TWO SURGICAL TECHNIQUES, GENERAL HOSPITAL OF OCCIDENTE, JALISCO, MEXICO
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Objectives: To analyze maternal and fetal complications in patients with placenta accreta, percreta increta or by utilizing two surgical techniques obstetric hysterectomy in the General Hospital of Occidente, Jalisco, Mexico from 2011 to 2014.

Method: Quantitative study, descriptive, retrospective, analyzing complications in patients with placenta accreta, increta or percreta, intervened with two surgical techniques obstetric hysterectomy: a) modified hysterectomy (published: Ginecol Obstet Mex 2014;82:194–202) and b) conventional hysterectomy. Was reported the medical records: insertion type placental and analyze bleeding, hospital stay, blood transfusion, admission to intensive care. Data is captured in Excel and processed in epi-info 7 calculating frequencies, percentages, measures of central tendency and dispersion. Respond raised the alternative hypothesis: the bleeding with the modified surgical technique is less with the conventional technique, using the z test for difference of means.

Results: Study period 71 obstetric hysterectomies were performed, 34 (47.88%) placenta: accreta (23), increta (6) and percreta (5). 16 patients were with modified technique (group 1) and 18 with conventional technique (group 2). Group 1: median days hospital stay 5, 18.8% income intensive therapy, 94.4% needed blood transfusion, bleeding median 2293 milliliters (± 1308). Group 2: median days hospital stay 6.5, 61.1% income intensive therapy, 56.2% needed blood transfusion, bleeding median 4483 milliliters (± 2506). Hypothesis test, value z of ~3.2424, with value 0.05 was found accepting hypothesis that bleeding technique surgical modified, is smaller than bleeding with the conventional technique.

Conclusions: The results serve two main purposes: to save the life of the patient and cause the least amount of secondary morbidity to this placental problems in both the mother and the newborn, highlighting minor bleeding from a technical and noting the null presence of maternal deaths from this cause, which affects the progress of the fifth Millennium Development Goal: Improve maternal health.

P0811
EXPANSION OF CEONC SERVICES LEADS TO REDUCING MMR IN NEPAL
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Objectives: To expand CEONC services through regular mentoring, monitoring and supervision for reducing MMR.

Method: Nepal government developed the plan for expansion of CEONC service sites in the district. Planning workshop and series of review meetings have been conducting at local level (hospitals) and developed the particular action plan locally with intra-sectorial coordination. The process and programs have been facilitating and following by CEONC mentor.

Results: Despite geographical, political and economic hardship, government expanded CEONC service sites from 14 in 1995 to 63 dis-
PLACENTA ACCRETA AND ASSOCIATED BLEEDING RISK

P0812
ANALYSIS OF THE CLINICAL RISK FACTORS OF SEVERE PLACENTA INCRETA/PERCreta

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Objectives: To explore the clinical risk factors of severe placenta increta/percreta.

Method: A retrospective study was used to obtain histories of patients with diagnosis of placenta accreta/increta/percreta from 2003 to 2014 in obstetric and gynecology department of Peking university third hospital, using logistic regression method to single factor and multiple factors analysis, to find severe placenta increta/percreta high risk factors.

Results: 633 patients were included, 69 cases placenta increta/percreta and 564 cases acreta. Single factor regression analysis results suggest placenta previa, pregnant times, production times, scared uterus, primary elective cesarean delivery, cavity operation times, multiple pregnancy was statistically difference (P<0.05). When complicated with previa is more serious, as increasing number of cesarean section, severe placenta increta/percreta rate OR=12.915 (5.714, 29.192) (1 time cs) vs OR=76.154 (8.920, 650.158) (2 times cs). Further multiple factors regression analysis result shows that placenta previa, scared uterus, multiple pregnancy are important high risk factors of placenta increta/percreta.

Conclusions: To strengthen monitoring for all pregnant women with placenta previa or caesarean, especially combined with multiple pregnancy, severe placenta increta and percreta should be vigilant.

P0813
EFFICACY OF ULTRASOUND IN THE ASSESSMENT OF TYPES OF PLACENTA ACCRETA AND ASSOCIATED BLEEDING RISK

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Objectives: To discuss the value of ultrasound in assessing the different types of placenta accreta and the associated bleeding risk.

Method: Collecting the ultrasound images of 27 patients with placenta percreta and 38 patients with increta from January 2005 to November 2014, who were diagnosed through operation and pathology. For the control group, choosing 115 patients with accreta under the same criteria. We devised a scoring system, giving a score of 0, 1, 2 according to the condition of the placenta position, placenta thickness, clear space, bladder line, lacuna, subplacental vascularity, cervical morphology and sinus, and history of cesarean section. We compare if there are differences between the three groups in their scores and the hemorrhage or the uterine resection rate.

Results: For the patients with accrete (group 1), increta (group2), percreta (group3), the scores were 1.88±1.45, 6.08±2.62, 8.74±2.75 respectively. Comparing 1 and 2, 2 and 3, the results were p<0.001; By ROC curve, the “cut off” values between 1 and 2, 2 and 3 were 2.5 and 9.5. The median hemorrhage in 1, 2, 3 were 200/2095/4700 ml respectively. Comparing 1 and 2, 1 and 3, p<0.001; however, p=0.371 comparing 2 and 3. The uterine resection rates of 1, 2, 3 were 0 (0/115), 18.4% (7/38), 44.4% (12/27) respectively. The comparison between 1, 2, 3 are all statistically significant.

Conclusions: Ultrasound is an effective diagnostic tool that can assess the types of placenta accrete, predict the associated bleeding risk, and alert the possibility of hysterectomy. It also facilitates preoperative planning and guides physicians in formulating subsequent treatment plans.
Vaginal bleeding and abdominal pain are major clinical presentation. Delay in diagnosis or treatment cause uterine rupture and hypovolemic shock.

Sonographic findings in CSP patients include trophoblast among anterior uterine wall and bladder, fetal part out of uterine cavity, interruption of the anterior uterine wall and high velocity with low impedance vascular flow around the sac.

Method: A 31 year old patient (gravid 2, para 1, L1) presented to emergency department of Shariaty hospital with chief complaint of vaginal bleeding and abdominal pain, from the first day of last menstrual period she was at the 9th week of gestation. She had the history of one cesarean delivery. In physical examination there was mild abdominal tenderness in hypogastric area. The patient admitted to emergency room and β-hCG and hemoglobin were measured. Transvaginal sonography was performed.

Results: Before surgery, the patient’s serum β-hCG and hemoglobin were 77558 mIU/ml and 11.1 gr/dl, respectively. The transvaginal sonography showed a gestational sac containing an embryonic pole with heart motion in left side of uterus. In exploratory laparotomy, the fallopian tubes appear normal. the lower segment of uterus was ballooning, with suspicion of CSP the uterus was incised. After hysteroscopy a 9 week of gestation fetus was appeared and the lower uterine implementation, in previous cesarean scar was confirmed. The hemoglobin level in the post operation day was 10.3 gr/deciliter. The patient was discharged second day postoperative.

Conclusions: The best management of patient with CSP is not confirmed, the dominances of surgical method include shorter hospitalization and lower risk of uterine rupture during treatment. Conservative management such as uterine artery embolization, local or systemic methotrexate therapy should be performed under close observation because of higher risk of uterine rupture. In Jurkovic et al study in 18 CSP patients Success with methotrexate therapy should be performed under close observation because of higher risk of uterine rupture. Incised, the detected adhesions categorized as no adhesions, Filmy adhesions and dense adhesions.

Intra-operatively the detected adhesions categorized as no adhesions, Filmy adhesions and dense adhesions. The previous skin scar inspected preoperatively and categorized as flat or non-flat scar (which included elevated and depressed scars).

Intra-operatively the detected adhesions categorized as no adhesions, Filmy adhesions and dense adhesions.

Results: Out of 138 women included in this study 67 (48.6%) had flat scar and 71 (51.4%) had non-flat scar (elevated or depressed). 70.4% of non-flat scars had dense adhesions, (29.6%) of flat scars had dense adhesions (OR+5.22; 95% CI: 2.53–10.77, p=0.001).

The study revealed that depressed scar significantly associated with dense adhesions compared to flat scar (53.3 vs. 46.7%) (OR=17.52; 95% CI: 4.75–64.72, p=0.000), followed by elevated scar (55.3 vs. 44.7%) (OR=3.16; 95% CI: 1.43–6.99, P=0.004). The least scar character associated with dense adhesion was flat scars.

Conclusions: Non-flat scar (depressed and elevated) are found to be significantly associated with dense intra-abdominal adhesions.

P0816
PREOPERATIVE PREDICTION OF INTRA-ABDOMINAL ADHESIONS BY SKIN SCAR CHARACTER IN PATIENTS WITH TWO PREVIOUS CESAREAN DELIVERIES
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Objectives: To identify the skin scar characteristics, that most commonly related to intra-abdominal adhesions in a women with two previous cesarean deliveries.

Method: This is a prospective descriptive cross sectional hospital base study. 138 pregnant women underwent an elective third cesarean delivery. The previous skin scar inspected preoperatively and categorized as flat or non-flat scar (which included elevated and depressed scars).

Results: Out of 138 women included in this study 67 (48.6%) had flat scar and 71 (51.4%) had non-flat scar (elevated or depressed). 70.4% of non-flat scars had dense adhesions, (29.6%) of flat scars had dense adhesions (OR+5.22; 95% CI: 2.53–10.77, p=0.001). The study revealed that depressed scar significantly associated with dense adhesions compared to flat scar (53.3 vs. 46.7%) (OR=17.52; 95% CI: 4.75–64.72, p=0.000), followed by elevated scar (55.3 vs. 44.7%) (OR=3.16; 95% CI: 1.43–6.99, P=0.004). The least scar character associated with dense adhesion was flat scars.

Conclusions: Non-flat scar (depressed and elevated) are found to be significantly associated with dense intra-abdominal adhesions.
tics and major morbidity between these second and third-trimester patients.

**Results:** In the 13 cases of second-trimester patients, who terminated pregnancy for fetus malformation, antepartum hemorrhage/inevitable abortion, complications or patients desire, 6 cases received predelivery intervention. There was no statistically significant difference between the patients with/without predelivery intervention when comes to estimated blood loss and major morbidity (3000 vs 2700ml, p=0.551; 100% vs 85.7%, p=1.000). Compared with the 55 third-trimester patients, expect the mean gestational age of termination was significantly earlier (22.9±5.0 vs 35.5±2.6w, p<0.001), the difference in regards to estimated blood loss (3856 vs 3665ml, p=0.850) and severe clinical outcome (92.3% vs 85.5%, p=1.000) was not significant.

**Conclusions:** For a patient with placenta increta/percreta who terminate pregnancy in second trimester, neither potassium chloride intracardiac injection feticide, nor prophylactic bilateral uterine artery embolization may effectively reduce the amount of estimated blood loss and the rates of severe clinical outcome, we should pay attention to these patients as to third trimester patients, who need competent predelivery preparation and multidisciplinary cooperation therapy for prevention of severe outcome.

**P0819**

**UTILITY OF MODIFIED UTERINE COMPRESSION SUTURES IN THE MANAGEMENT OF ATONIC PPH, AND THEIR LONG TERM OUTCOME, IN A LIMITED RESOURCE SETTING IN RURAL INDIA. A CASE SERIES**

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**Objectives:** To report a 5 year experience in the utility of Haymen’s suture in the management of atonic post partum hemorrhage during cesarean deliveries.

**Method:** 23 patients who underwent Haymen’s suture over a period of five and a half years (from July 2009 to February 2015), were identified from the Hospital birth records of Dr. TMA Pai Rotary Hospital, a secondary health care facility in rural India. Case charts, both inpatient & outpatient, were reviewed & further details obtained by telephone interviews. The immediate results following the procedure and their long term reproductive outcome described.

**Results:** Haymen’s brace sutures were performed for women who had atonic PPH, during cesarean delivery, who failed to respond to conventional management. Bilateral uterine artery ligation was also performed in 6 cases who had angle lacerations in addition to uterine atonicity. The procedure resulted in control of hemorrhage and none of our series required hysterectomy or hypogastric vessel ligation, thus translating into 100% success rate. There were no immediate postoperative complications. Four patients have had their successful second pregnancy and the remainder continue to have normal menstrual function and are currently using contraception.

**Conclusions:** The Haymen’s technique of brace suture is a simple, safe & efficacious surgical procedure in treating atomic PPH that doesn’t respond to conventional management, particularly in recourse constrained settings with non-availability of blood and blood products and it has the capacity to preserve the uterus and thus the reproductive & menstrual functions.

**P0820**

**SEVERE MATERNAL OUTCOME FROM CAESAREAN SECTION RELATED HAEMORRHAGE IN SOUTH AFRICA**

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**Objectives:** To determine the risk factors and causes of severe maternal outcome due to caesarean section related haemorrhage, and to evaluate the management.

**Method:** This is a cross-sectional prospective study in southern Gauteng province. These preliminary data were collected by the researcher using ongoing surveillance at public hospitals.

**Results:** Data were collected from July to December 2014, in 13 hospitals. A total of 100 women were included: 93 near-misses, and 7 maternal deaths. The near-miss ratio was 2.22/1000 live births from caesarean section related haemorrhage. The mortality index was 7%. Previous caesarean section was associated with caesarean section related haemorrhage. Forty-four women (47%) who were near-misses had a caesarean section in a previous pregnancy. Trauma and atonic uterus were the primary causes of bleeding. The most frequent near-miss markers included emergency hysterectomies (n=38; 40%), intensive care unit admissions (n=30; 32%), and artificial ventilation (n=39; 41%).

**Conclusions:** For each maternal death from caesarean section related haemorrhage, there are a large number of cases of near-miss. Valuable information has been gained towards potential prevention of maternal death from bleeding at and after caesarean section.

**P0821**

**SURGICAL REPAIR OF CLOACA-LIKE PERINEAL DEFECT AFTER VAGINAL DELIVERY**

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**Objectives:** Cloaca-like perineal defect generates a direct communication between rectum and vagina. Patients often refer fecal incontinence, sexual dysfunction and quality of life impairment.

**Method:** Patients with a cloaca-like perineal defect treated between June, 2013 and June, 2014. Age, BMI, parity, time from last birth and time to first visit were considered. Cleveland Clinic Florida Fecal Incontinence Score (CCF-IS), Fecal Incontinence Severity Index (FISI) and Fecal Incontinence Quality of Life Scale (FIQL) were used to evaluate the symptoms associated with fecal incontinence and its impact on quality of life. Anal manometry previous and after surgical repair was performed. All patients were treated with surgical repair using a V Flap reconstructive technique.

**Results:** Three patients were enrolled in this study. Median age was 34 years. Median BMI was 32. Each patient referred three vaginal deliveries. Median time between last childbirth and first visit was 2.5 years. CCF-IS improved from 17 before surgery to 4 after repair. FSI improved from 54 before correction to 13 after reconstruction. FIQL showed an increase in all categories after the surgery (average preoperative 7, postoperative 13). High resolution anal manometry showed an increase of both resting and squeeze pressures. No major complications were reported.

**Conclusions:** Cloaca-like perineal defect repair results in clinical, manometrical and quality of life improvement. V flap reconstruction permits a tension free closure associated with a low morbidity rate.

**P0822**

**WHAT FACTORS AFFECT THE MEAN DURATION OF A CESAREAN SECTION PROCEDURE?**

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**Objectives:** To determine the mean duration of performing a cesarean section and the associations with demographic, prenatal and intrapartum factors and, consequently, the potential impact on clinical outcome.

**Method:** Start time and stop time for cesarean procedures are routinely recorded in our health system. We obtained the obstetri-
cal electronic records of over 8000 term (>37 weeks), singleton neonates delivered in 2013. We calculated the mean duration of the cesarean section procedure. Both longest quartile and shortest quartiles for duration were compared with demographic, medical, obstetrical, intrapartum and maternal/fetal outcome factors. We used Chi-square, student t test and regression analysis as indicated.

**Results:** Valid duration times were calculated for 2757 cesarean procedures. Factors that significantly predicted shortest or longest quartile of duration included BMI, maternal age, previous cesarean section, insurance type, marital status, ethnicity, failed induction, 2nd stage of labor, and use of vacuum extractor. Duration of cesarean section was significantly predictive of umbilical blood gas results and blood loss (p = 0.001). Regression analysis showed that BMI and 2nd stage of labor were independent predictors of the longest quartile of cesarean section duration, and that duration was independently predictive of umbilical blood gas values and blood loss.

**Conclusions:** We have demonstrated factors that predict duration of cesarean section procedures and have shown that duration may potentially affect clinical outcome.

**P0823**

**TRENDS AND INDICATIONS FOR CAESAREAN SECTION IN MISURATA**

F. Elrishi, Misurata Teaching Hospital, Misurata, Libya

**Objectives:** This study was conducted to determine the recent cesarean rate and to evaluate the related indications for cesarean section (CS).

**Method:** Between 2003 to 2014, there were 83163 deliveries at Misurata Teaching Hospital, of which 18693 CS were performed. A retrospective study was conducted and two periods for this study were taken; the first from Jan. 2003 to Dec. 2004 and the second from Jan. 2013 to Dec. 2014; to examine the changes in the rate and indications for CS. Comparison by indication and type of CS between the 2 periods was discussed. Demographic and clinical data (age, gestational age, parity, indications, perinatal outcome) were recorded which was collected from the Medical Records. Significance of differences was assessed using Z-score test.

**Results:** Out of 13359 deliveries during the first period, 1774 CS were performed (13.3%), while 4193 CS (33.6%) during the second period out of 12474 deliveries with a significant increase (p = 0.0001). The success rate of vaginal delivery after prior CS was significantly limited understanding of the technical aspects of the instruments. As well as the mnemonic POSITIONN - which incorporates a structured approach to assessment and serves as a vector through which they not only perform an interdisciplinary assessment of mothers in a consistent transparent way during labour.

**Conclusions:** The higher cesarean rate in our locality attributed to the declining art of birth leads to injuries such as the obstetric fistula as well as rising intervention rates in labour known to be associated with physical and psychological morbidity. To show that birth wether it be vaginal, instrumental or Caesarean could be made safer if the art of birth is more appreciated and taught in an inter-professional environment.

**P0825**

**THE IMPORTANCE OF ART IN THE EDUCATION OF BIRTH**

G. Esegbona, Art Of Delivery, London, UK

**Objectives:** The declining art of delivery leads to injuries such as the obstetric fistula as well as rising intervention rates in labour known to be associated with physical and psychological morbidity. As well as the mnemonic POSITIONN - which incorporates a structured approach to assessment and serves as a vector through which they not only perform an interdisciplinary assessment of mothers in a consistent transparent way during labour.

**Method:** Since September 2012 32 art of operative vaginal delivery courses have been taught in the UK and Africa to doctors, midwives and clinical officers. Participants are introduced to art – a simple innovative evidence-based interface standing for: a = assess, address, arrange. r = recruit, right application, review. t = talk, tract, time. As well as the mnemonic POSITIONN – which incorporates a structured approach to assessment and serves as a vector through which they not only perform an interdisciplinary assessment of mothers in a consistent transparent way during labour.

**Results:** There were 41 OVDs during September 2014 in the unit. Majority of the women were nulliparous (n=33). Three-quarters of the women had forceps vaginal delivery (FVD) with the remaining having ventouse delivery. There was documentation of examination of vertex, cervical dilatation, caput, station and presentation in all cases. There were 6 Obstetric Anal Sphincter Injuries (OASI) - 3 in FVD. Although cord gases were obtained in all cases, they were clearly unpaired or were unprocessed by the machine in more than 20% of the cases. Only 18% of the women had documentation of debriefing after FVD.

**Conclusions:** 100% documentation of some aspects of the delivery process was made possible because they are mandatory to complete on the electronic system. Recommendations were made to improve OASI rate, processing of cord gases and debriefing of patients after FVD.

**P0824**

**AN AUDIT OF OPERATIVE VAGINAL DELIVERIES IN A MEDIUM-SIZED OBSTETRIC UNIT IN THE UNITED KINGDOM**

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**Objectives:** To determine our department’s compliance with the Operative Vaginal Delivery (OVD) departmental and the Royal College of Obstetricians and Gynaecologists (RCOG) guidelines.
P0826
THE FREQUENCY OF POLYCYSTIC OVARY SYNDROME IN TEENAGE CHILDREN WITH METABOLIC SYNDROME

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Objectives: Polycystic Ovary Syndrome (POS) often begin to appear during teenage years and thought to be one of the leading causes of female subfertility. The aim of this study was to determine the frequency of POS in adolescence children with metabolic syndrome.

Method: This study conducted on 98 patients with metabolic syndrome. Control group consisted of 40 adolescent without any metabolic changes. The diagnosis of POS was defined using the Rotterdam criteria which includes: oligoovulation, excess androgen activity, and polycystic ovaries by gynecologic ultrasound. The presence of metabolic syndrome was defined on the base of the existing one of the following components (low high-density lipoprotein cholesterol, high triglycerides, high glucose, high blood pressure, or high body mass index).

Results: The frequency of POS in teenage children with metabolic syndrome was significantly higher compared with control group (45.92% (n=45) vs 5% (n=2), p<0.001).

Conclusions: The adolescents with metabolic syndrome are at increased risk of POS, which require correction of metabolic endocrine disorders for improving the risk profiles of the future reproductive diseases.

P0827
LEYDIG CELL TUMOR OF OVARY PRESENTING AS HIRSUTISM IN A 18 YEAR-OLD FEMALE

S. Aggarwal, Pt BD Sharma, PGIMS, Rohtak, India

Objectives: Not all cases of hirsutism are caused by PCOS.

Method: Clinical Examination, Hormonal investigations, Pelvic USG and CT Scan.

Results: Total Testosterone: 2.2 ng/ml. CT Pelvis: Ovarian mass. Histopath: Leydig cell Tumor of ovary.

Conclusions: Androgen producing tumors should be suspected in woman with virilizing clinical symptoms and high testosterone levels.

P0828
MANAGING GYNECOLOGICAL PROBLEMS IN INDIAN ADOLESCENT GIRLS – A CHALLENGE OF THE 21st CENTURY!

A. Bhalerao Gandhi, R. Vaidya, F. Bandi. P D Hinduja Nationa Hospital, Mumbai, India

Objectives: India’s mean age according to the census 2011 is 24 years. Half of India’s population is below 25 years and around 32% are in the 10 to 24 age group. Now a days a significant number of adolescent girls have started visiting health professionals. In view of this, we undertook a study to assess the clinical profile of adolescent girls in the age group of 10 to 19 years attending our Gynecology clinic at P. D. Hinduja Hospital. The objective was to evaluate various presentations and different modalities of management required in this age group.

Method: Adolescence can be divided into early and late adolescence. Early adolescence stretches between the ages of 10 to 14 years. Late adolescence includes the age group of 15 to 19 years. We analyzed 100 consecutive adolescent girls, who visited our Gynecology clinic from March 2014 to February 2015. They were evaluated prospectively at every visit. Specific proforma was filled for each of the patient including personal details and complaints, menstrual history, family history etc. Examination findings, investigations, details of treatment were also recorded. The statistics thus obtained was analyzed and results were as follows.

Results: Out of 100 girls, 27 were in the age group of 10–14 yrs while 73 girls were between 15–19 yrs. Oligomenorrhea was the most common complaint as 50 girls presented with it. The second common complaint was of Menorrhagia as 28 girls had this complaint. Few complained of leucorrhoea, vulvar pruritus, mastalgia, breast lump, pregnancy, primary amenorrhea. 26 were anaemic, 2 had hypothyroidism, 10 had hyperprolactinemia, 9 had elevated fasting insulin & blood sugar levels, whereas 9 had hyperandrogenism. 32 girls had features of PCOS on sonography. Majority i.e 66 required hormonal treatment. 4 cases required major surgical intervention.

Conclusions: The most common complaint was that of oligomenorrhea followed by menorrhagia. Other complaints included leucorrhoea, mastalgia, pruritus vulvae, breast lump, pregnancy etc. Over last few years, “Adolescent Gynecology” has emerged as a subspecialty in developing countries. Health Professionals dealing with adolescent age group should have empathy, friendliness and non-judgmental attitude towards their clients. Confidentiality of young people should be maintained. We need to give special attention to adolescent population as they will be the citizens and parents of tomorrow!

P0829
LAPAROSCOPIC SURGERY FOR BENIGN OVARIAN DISEASE IN CHILDREN AND ADOLESCENTS

H. Kim, H. Cho, S. Park, S. Park. Hallym University, Seoul, Republic of Korea

Objectives: This study investigated the safety and feasibility of laparoscopic surgery for the treatment of benign ovarian disease occurring in children and adolescents.

Method: A retrospective chart review was conducted on 106 patients (age younger than 20 years) who underwent laparoscopic surgery at Kangnam Sacred Heart Hospital, from 2006 through 2012.

Results: The mean age was 17.1 years. Pathologic revealed that 32 patients had dermoid, 30 had simple, and 15 had endometriomas. Conservative procedures, comprised more than half of all cases. Sub-analysis revealed that the surgical outcomes of children (age ≤15), including surgery time, estimated blood loss, postoperative hemoglobin drop, and postoperative length of hospital stay, were comparable to those of adolescents (age > 15) despite significant differences in mean heights between the two groups (156.1±10.71 cm in children vs. 162.1±5.14 cm in adolescents; P<0.0001). No intra- or peri-operative complications were noted.

Conclusions: Among children and adolescents, laparoscopic surgery can be successfully performed using conventional instruments designed for adults.

P0830
WHAT DO ADOLESCENT STUDENTS THINK ABOUT THE CONTRACEPTION?


Objectives: To evaluate the perception and the contraceptive method option of public middle school students in health education program.

Method: Transversal study aimed at assessing the students’ perception of the effectiveness and accessibility of contraceptive meth-
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WHICH ARE THE CLINICAL FEATURES OF MYOMAS IN ADOLESCENTS?

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two groups of overweight adolescent girls were established by the ELISA. The group I included 43 patients with oligomenorrhea and IR, group II – 31 patients with regular menstrual cycle, without IR. The control – 25 healthy girls without obesity. The groups were comparable with respect to age, which at the mean amounted to 14 and had no intergroup differences. The determination of TLR-2 (CD14+CD282+) and TLR-4 (CD14+CD284+) expression on monocytes of the peripheral blood was performed by the method of two-color flow cytometry using diagnostic kits Caltag HyCult biotechnologies.

**Results:** It was established that in two groups of patients the levels of leptin increase and adiponectin decrease as well as changes of immunity factors in the form of increase of IL-1β, TNF-α, MCP-1 production as compared to the control group. The increase of MCP-1 levels maintains the process of adipose tissue inflammation. It was defined that in the group I as compared with the control and group II there were apparent changes in the indices of the innate immunity in the form of statistically significant increase of TLR-2 (CD14+CD282+) and TLR-4 expression on monocytes (CD14+CD284+).

**Conclusions:** Consequently, in case of obesity products of adipocytes increase the secretion of proinflammatory cytokines, which can change the metabolic and secretory activity of adipocytes; it results in the further growth of the inflammatory reaction. The activation of the innate immunity receptors may result in the increase of the cytokine formation and pimeleitis that promote the development of the IR and ovarian dysfunction. The revealed peculiarities of the immune response in adolescent will contribute to the prevention of possible reproductive complications; they can help to broaden the scheme of treatment to restore the reproductive function in adolescent girls with obesity.

**P0835**

**GIANT FIBROADENOMA: DIFFERENTIAL DIAGNOSIS ON PHYLLODES TUMOR AND BREAST SARCOMA. CASE REPORT AND LITERATURE REVIEW**

A. Amora Coelho Araújo, J. Pierobon Gomes, L. Conz, M. Menegueli Miranda, J. Faria Bessa, C. Alberto Ruiz, J. Alcione Almeida, E. Gustavo Pires Arruda, J. Roberto Filassi, E. Baracat. São Paulo University, São Paulo, SP, Brazil

**Objectives:** Report an atypical case of a giant fibroadenoma in adolescent and perform a literature review on differential diagnosis between phyllodes tumor and breast sarcoma.

**Method:** Review from reports of literature on giant fibroadenoma, phyllodes tumor and breast sarcoma.

**Results:** Case report from 10 year old adolescent with a breast node measuring 30cm who got ressection and symmetrisation. Histopathological exam evidenced a giant fibroadenoma without atypia.

**Conclusions:** Although lesions larger than 5 cm and with progressive growth can be malignant, the possibility of a benign node exists and the surgical treatment cannot be aggressive if the lesion is benign. Giant fibroadenoma can simulate a sarcoma, but it is a benign lesion of the breast.

**P0836**

**VULVODYNIA IN PRE-MENARCHAL GIRLS**

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**Objectives:** To review girls who presented to a pediatric and adolescent gynecology clinic with a diagnosis of vulvodynia, whose pain began prior to menarche. To characterize the presentation of vulvodynia in children and to de-scribe associated symptomatology. We will also discuss our examination and diagnostic procedures.

Ultimately, our aim is to bring a greater awareness of this little known condition to the general medical population, so that it may be diagnosed and treated in a timely manner.

**Method:** This is a retrospective case series of 14 girls with vulvodynia whose pain began prior to menarche. They presented to the Royal Children’s Hospital in Melbourne, Australia, between January 2010 and January 2015. Records of all office visits and any email or telephone follow-ups were reviewed.

**Results:** We reviewed 14 patients who ranged from 7 to 15 years. Duration of symptoms until diagnosis ranged from 1 to 11 years, with many presenting to multiple providers. 10 of the 14 patients had associated urinary symptoms, 7 also experienced vulval pruritis. All had specific sensitivity on q-tip examination, and all were treated with a tri-cyclic antidepressants. 9 of 14 had a favourable response to TCA’s, 1 discontinued the medication due to side effects. We are currently contacting the final 4 girls pending their trial of endep. These results will be ready in time for the Figo Congress.

**Conclusions:** Vulvodynia occurs in the pediatric population, and its presentation is similar to adults. As well as vulval pain, pruritis and urinary symptoms are common. Multiple providers are often consulted before a diagnosis is made, and this delay can be very distressing due to extended periods of untreated chronic pain. The diagnosis can be made during one clinic visit with a thorough history and physical exam that often requires visual inspection and q-tip testing only. Vulval swabs, biopsies and colposcopy are rarely needed. There was a favourable response to TCA’s indicating that this is an effective treatment in children.

**P0837**

**ENDOMETRIOSIS IS AN IMPORTANT CAUSE OF PELVIC PAIN IN ADOLESCENCE**

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**Objectives:** Despite endometriosis being a common disease, where early detection is the key to preventing its progression, it is a condition often overlooked in adolescents. The aim of this study was to report the clinical characteristics of adolescent patients with endometriosis monitored in a tertiary hospital.

**Method:** Retrospective study of 394 patients undergoing surgery with a histological diagnosis of endometriosis at the Endometriosis Division of the Gynecology Department at the Hospital das Clínicas of the University of São Paulo Medical School from 2008 to 2013. 21 adolescents were included (aged under 21 years).

**Results:** Ages ranged from 17.95±1.48 years, the average time for diagnostic confirmation was 2.96±2.93 years, and the age at the onset of symptoms was 15.28±3.03 years on average. The sites affected were ovarian (38%), peritoneal (47.6%) and retrocervical (23.8%). Dysmenorrhoea was found in 80.9% of adolescents (severe in 33.3% of cases) and chronic pelvic pain in 66.6%.

**Conclusions:** Endometriosis in adolescents is an important differential diagnosis from pelvic pain and ovarian cysts, mainly among those with no response to conventional treatment. The main forms of involvement are peritoneal and ovarian. Despite the onset of symptoms in adolescence and advances in imaging methods, the diagnosis of this disease is still delayed.
Prenatal Diagnosis

**P0838**

**POSTNATAL OUTCOME OF ISOLATED ANTENATAL HYDRONEPHROSIS**

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**Objectives:** To assess the postnatal outcome of fetuses with renal pelvis dilatation (RPD).

**Method:** A retrospective study was conducted to review 61 fetuses found to have RPD by ultrasound (US) carried out from January 2008 to January 2012. Five ended with intra-uterine fetal death or early neonatal death, and were excluded.

Of the remaining 56 cases, 22 cases were lost to follow up, and we were not able to contact them so were excluded. The remaining 34 cases were followed-up in our hospital, and their outcomes were analyzed.

The outcome includes: incidence of RPD diagnosed in our population, degree of hydronephrosis, postnatal diagnosis, and need for surgical intervention.

**Results:** Out of the 990 cases with sonographic abnormalities detected by antenatal US, the incidence of isolated RPD was 6.1%. Out of 34 cases, 15 patients had severe RPD (44% of cases), 41% of cases (14 patients) had moderate RPD, and 15% of cases (5 patients) had mild RPD, only 7 patients (21%) required surgery after delivery.

**Conclusions:** The routine use of antenatal ultrasonography will lead to early diagnosis of urologic conditions that have postnatal consequences.

**P0839**

**CORRELATION BETWEEN INTER-TWIN BIRTH WEIGHT DISCORDANCE AND PLACENTAL SUPERFICIAL VASCULAR ANASTOMOSIS IN SELECTIVE INTRAUTERINE GROWTH RESTRICTION**

W. Xueju, Z. Yangyu. Peking University Third Hospital, Beijing, China

**Objectives:** To evaluate the relationship between the inter-twin birth weight discordance with selective intrauterine growth restriction (sIUGR) and the number and overall diameter of placental superficial vascular anastomoses.

**Method:** From June 2013 to December 2014, 42 cases of monochorionic twins placentas with sIUGR were analyzed in Peking University Third Hospital. After recording the number and diameter of placental superficial vascular anastomoses and the birth weight, the correlational analyses were conducted. Based on 40% inter-twin birth weight discordance, fetuses with sIUGR were classified into two groups: ≤40% and > 40%.

**Results:** (1) In these 42 cases, the inter-twin birth weight discordance was negatively correlated with the overall diameter of vascular anastomoses (Spearman correlation coefficient, r = -0.386, p=0.015).

(2) In birth weight discordance > 40% group, the overall diameter of arterio-arterial (AA) anastomoses [3.0 (0.0, 7.0) mm vs 1.6 (0.0, 4.2) mm, p=0.041], arteriovenous (AV) anastomoses [3.6 (0.0, 13.7) mm vs 1.6 (0.0, 11.4) mm, p=0.025], or vascular anastomoses [7.1 (0.0, 22.0) mm vs 4.2 (0.0, 14.0) mm, p=0.028] were all significantly shorter than the other group.

**Conclusions:** In the pregnancies with sIUGR, with the increasing of inter-twin birth weight discordance, the placental superficial vascular anastomoses may decrease. As for those sIUGR pregnancies with inter-twin birth weight discordance > 40%, we predict that owing to the significantly decrease of placental superficial vascular anastomoses, if intrauterine fetal death happens to the smaller fetus, the blood transfusion from the alive heavier one to the death one may correspondingly decrease.

**P0840**

**A FLOOD OF FETAL GENETIC TESTING**

N. Malhotra Bora, N. Malhotra, K. Malhotra, R. Bora. Rainbow Hospitals, Agra, Uttar Pradesh, India; 2Agile Labs, Delhi, India

**Objectives:** This study is to compare CMA versus conventional fetal genetic testing in collaboration with AGILE lab, New Delhi and Rainbow Hospitals, Agra.

**Method:**

- The study started in Dec 2013 and 50 cases have been studied in this study.
- This study is still ongoing.
- Long term follow-up of babies born will be kept for five years.
- Advances in invasive prenatal diagnosis: Chromosomal microarray (array-CGH, molecular karyotyping) will replace conventional karyotyping.

**Results:** Arrays have demonstrated the ability to detect submicroscopic copy number variations, providing an approximately 2.1% increase in the detection rate of pathogenic copy number variations regardless of the referral indication, and rising to an approximately 5.3% increase above conventional karyotyping in the presence of sonographic anomalies.

**Conclusions:**

- Prenatal CMA can detect clinically significant genomic aberrations in fetuses with US abnormality.
- Provide accurate diagnosis and prognosis both prenatally and postnatally to parents.
- Because an invasive procedure is required, associated with a procedure-related risk, it seems likely that high-resolution chromosomal microarrays will mainly be offered for the analysis to those fetuses at significant increased risk of a chromosome abnormality.

**P0841**

**FIRST TRIMESTER SERUM BIOCHEMICAL MARKERS FOR DOWN SYNDROME SCREENING IN SOUTHERN THAI WOMEN**

O. Kor-anantakul, T. Suntharasaj, C. Suwanrath, T. Hanprasertpong, S. Prapanus, N. Pruksanusak, A. Geater. Faculty of Medicine, Prince of Songkla University, Songkhla, Thailand

**Objectives:** To establish gestational-age- and maternal-weight-adjusted median levels of first trimester serum PAPP-A and free β-hCG in ethnic southern Thai women, and to compare these reference levels with the Caucasian specific model.

**Method:** This was a prospective cohort study at a university hospital in Southern Thailand. Serum PAPP-A and free β-hCG concentrations were determined for normal singleton pregnant women. Logarithmically transformed median PAPP-A and free β-hCG values were re-pressed against mean-centred gestational age and maternal weight using quantile regression models to obtain predicted median values. The relationships of predicted median PAPP-A and free β-hCG values were compared with the published equations for Caucasian. The multiple of median (MoM) values of both serum markers were calculated, and the relationships between the two estimates from southern Thai women and the Caucasian models were evaluated.

**Results:** A total of 1,160 pregnancies with normal fetal outcome were included in the analysis. Logarithmically transformed median PAPP-A increased and median free β-hCG decreased linearly with increasing gestational age. Both decreased linearly with increasing maternal weight. The best-fitting exponential equations for the expected median levels of free β-hCG (ng/mL) and PAPP-A (mIU/L) according to maternal weight (Wt in kg) and gestational age (GA in days) were established. Compared with the Caucasian population, the median values of PAPP-A were higher and the median values of free β-hCG were lower in southern Thai women.

**Conclusions:** Maternal-weight and gestational-age-adjusted median
P0842  
JOIN HANDBS TO ERADICATE RUBELLA  
B. Rathi, A. Rathi, A. Rathi, Rathi Hospital, Akola, Maharashtra, India; Dr. Ulhas Patil Medical College, Jalgaon, Maharashtra, India  
Objectives: The objective of the present study is to estimate the susceptibility to rubella infection in Indian women of reproductive age group.  
Method: 100 women of reproductive age group attending pre pregnancy counseling clinic or gynaecological OPD were selected for the present study. Rubella specific IgG serological testing was done in these women.  
Results: Out of 100 studied women, 68 were IgG positive and 32 were IgG negative.  
In India, it would be a herculean task for the government officials to reach such an enormous population. We've given more than 1500 Rubella vaccines to the adolescent unimmunised girls with the help of Rotary International.  
Conclusions: Inspite of compulsory immunization programme followed, India have high incidence of unimmunised rubella women so they remain susceptible to the rubella infection. This study indicates that in countries like India, an intervention plan is mandatory so that each and every unimmunized woman can be reached and the complications due to Rubella infection can be reduced as was done in US. But in India, it would be a herculean task for the government officials to reach such an enormous population. Hence, involving FOGSI and NGOs like Rotary International (example: Polio eradication) would be helpful in a big big way!!

P0843  
INSULIN-LIKE GROWTH FACTORS AND CERVICAL LENGTH TO PREDICT PRETERM DELIVERY IN EARLY MID-TRIMESTER  
S.J. Kim, Catholic University Bucheon St. Mary Hospital, Kyungido, Republic of Korea  
Objectives: To evaluate the performance of serum concentration of biomarkers including IGBP, IGF1, IGFBP3, and cervical length in first to early second trimester to predict preterm delivery.  
Method: We performed a single-center, prospective cohort study from August 2011 to November 2012 of asymptomatic pregnant women. From pregnant women attending their antenatal examination at 11–14 weeks, we collected serum samples and stored them at −80°C. All patients also underwent cervical length examination at 19–21 weeks. We retrieved for analysis frozen samples from women who then developed preterm delivery, as well as control samples per women. A receiver-operating characteristics (ROC) curve was used to determine the most useful cut off point. Prediction models were developed using multivariate stepwise logistic regression.  
Results: Of the 100 women recruited, 45 (45%) developed spontaneous preterm delivery. Controls (n=55) were randomly selected from women without preterm delivery and included women who developed other pregnancy complications. Maternal serum concentration of IGBP, IGF1, IGFBP3 were significantly associated with preterm birth. Inclusion of IGFBP improved the predictive ability of cervical length alone.  
Conclusions: Addition of IGFBP at 11–14 weeks of gestation to cervical length assessment improved the identification of women at increased risk of developing preterm, but the performance is no sufficient to warrant introduction as a clinical screening test. Additional markers are needed to achieve clinical utility.

P0844  
VOLVULUS IN UTERO, A CASE REPORT  
Objectives: To discuss the antenatal diagnosis, possible etiology and treatment of a neonate diagnosed in utero with volvulus.  
Method: This is a case report of a 28 year old primigravid on her 30–31 weeks age of gestation diagnosed with fetal volvulus in utero on ultrasound.  
Results: The patient was admitted because of hydramnios, dilated bowels with “whirlpool sign” on the left of fetal abdomen. Assessment was fetal intestinal obstruction probably secondary to volvulus versus jejunoileal atresia. Preterm delivery was beneficial since further prolonging the pregnancy would compromise the bowels even more. Antenatal corticosteroids and amnioinjection was done. Approximately 1500 ml of greenish fluid was drained with elevated bilirubin levels confirming the obstruction is at the jejunum. She delivered vaginally to a preterm boy with distended abdomen, a patent anus and no meconium. The jejunum was twisted thrice and 14 cm was necrotic and resected.  
Conclusions: The underlying cause of volvulus is unclear however in our case, a possible muscle defect as shown in the histopathology could be the etiology. Early diagnosis of fetal volvulus done antenataly on ultrasound with findings of hydramnios, dilated bowels without peristalsis and presence of “whirlpool or snail sign” resulted in a shorter segment of intestine that was resected. Long term morbidity and mortality is not only influenced by the volvulus and its surgery but by the fetal maturity.

P0845  
REGULAR VAGINAL PH SCREENING IN THE DIAGNOSIS OF BACTERIAL VAGINOSIS IN PREGNANCY AND ITS IMPACT ON THE INCIDENCE OF PRETERM DELIVERIES  
Objectives: To determine whether regular vaginal pH screening resulted in more frequent diagnoses and treatment of bacterial vaginosis, thus fewer preterm deliveries and to determine the effectiveness of using vaginal pH levels to diagnose bacterial vaginosis and candidiasis in asymptomatic pregnant women.  
Method: This is a randomized controlled trial involving 222 asymptomatic pregnant women less than 34 weeks randomized to regular vaginal pH screening and wet smear and no vaginal pH screening. The outcomes tested were threatened abortion, threatened preterm labor and preterm delivery. Neonatal outcome were noted. Descriptive statistics were generated for all variables. Analysis of different variables were analyzed using T test, Mann Whitney U test and Fisher exact test.  
Results: In our study the pH value of 4.5 or greater was used to diagnose bacterial vaginosis. The computed sensitivity and specificity was 88.5% and 98.7% respectively. The prevalence rate of bacterial vaginosis in this study 24%. Regular vaginal pH was able to diagnose more participants with bacterial vaginosis (pvalue <0.0001) and candidiasis (p value 0.01) in the experimental than the control group. Consequently antibiotics were given thereby decreasing the incidence of threatened preterm labor and preterm delivery (p Value <0.0001 and 0.004). For the neonatal outcome, there was no significant difference except birthweight, hour of rupture (pvalue 0.03 and 0.01).  
Conclusions: Regular vaginal pH determination can be used as a screening method for bacterial vaginosis in asymptomatic pregnant patients with a sensitivity of 88.5% and specificity of 98.7% respectively. It resulted in a more frequent diagnoses and treatment of bacterial vaginosis and thus fewer preterm deliveries leading to reduced...
hospital bills and, more importantly, decreased neonatal morbidity and mortality.

**P0846**

**THE CURRENT STATUS OF CONVENTIONAL PRENATAL DIAGNOSIS IN JAPAN: A SURVEY OF OBSTETRICS/GYNECOLOGY FACILITIES**

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**Objectives:** Prenatal testing has been provided in Japan over the past several decades. However, approval from academic societies is required for conducting preimplantation genetic testing and fetal cell-free DNA genetic testing in maternal plasma. Moreover, case registration for such tests is compulsory. In contrast, obstetricians can perform other conventional tests, such as amniocentesis (AC) and maternal serum marker tests (MSM), without certification and registration. As a result, it is difficult to assess the use of conventional prenatal diagnosis. This study aims to investigate the current status of AC and MSM in Japan.

**Method:** The subjects included 5,622 obstetrics/gynecology facilities in Japan. A questionnaire survey was selected and distributed among the obstetrics/gynecology departments at each facility between October 2013 and June 2014. Items included in the questionnaire were as follows: type of medical facility, basic information about the facility, status of prenatal diagnosis by AC and/or MSM, involvement of genetic professionals [clinical geneticists (CGs) and/or certified genetic counselors (CGCs)] employed, clinical setting of pretest information, examiner regarding the tests, contents of the explanation, the time required to provide the information (pre- and post-test), and the management of difficult issues.

**Results:** The response rate was 40.8% (2,295/5,622). Of the 2,295 facilities, 864 performed MSM (37.7%), 619 performed AC (27.0%), and 412 performed both (18.0%). With regard to the type of medical facility, the rate of performing both the tests was lowest in the group of medical clinics without beds (MSM: 130/603, AC: 25/603). MSM was performed most often in medical clinics with beds (367/814). Further, the rate of AC was higher in hospitals and perinatal centers (203/485 and 225/393, respectively). Although involvement of genetic professionals influenced the required time and information provided, fewer facilities employed these specialists (MSM: 96/864, AC: 128/619).

**Conclusions:** Although each prenatal test was allocated depending on medical level, the active involvement of CGs and CGCs would be beneficial to provide more appropriate genetic counseling.

**P0847**

**ROLE OF MTHFR C677T, GSTM1, GSTT1 GENE POLYMORPHISM IN NEURAL TUBE DEFECT**

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**Objectives:** To evaluate polymorphism of above mentioned Genes in Neural Tube Defect of various types.

**Method:** 50 pairs of mother and new born child with neural tube defect were included as cases and 50 pairs of women with normal newborn were controls. DNA extraction from maternal plasma and fetal blood were done for genome studies of MTHFT C677T and glutathione S Transferase gene. Real Time PCR specific forward and reverse primer selected. Patients on anti-epileptic drugs, family history of NTD, obesity, diabetes.

**Results:** Folate intake in the cases were significantly less than in control. DNA characterization could be done in 29 cases and 43 controls. CT was found in 27.6% of cases and 16.3% controls. As in NTD babies, mother also showed increased incidence of GSTM1 gene mutation. GSTT1 was not detected in any of the cases while GSTT1 was detected in 6 females out of total 8 cases in whom this polymorphism was detected. Anencephaly cases showed maximum number of gene polymorphisms.

**Conclusions:** (i) Decreased folate level is an independent risk factor for development of NTD, (ii) GSTM1 was detected in 27.5% neural defect babies and 45.4% mothers with NTD babies, (iii) 66% of the cases were females, showing higher preponderance in them (p=0.003).

**P0848**

**METABOLIC OPTIONS FOR REALIZATION OF THE “STRATEGY OF SURVIVAL” BY A FETUS IN CASE OF PRETERM DELIVERY AND HYPOTROPHY**

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**Objectives:** Adverse conditions of intrauterine growth cause the formation of fetal adaptation mechanisms. Optimal alternatives of their realization are characterized by the “strategy of survival” - that is the fastest completion of pregnancy (preterm delivery) or fetal growth retardation. The objective of the research is to study the role of changes in the complex of functionally interrelated cell bioregulators of the uterine contractile activity in case of preterm delivery and of cholesterol in case of fetal hypotrophy.

**Method:** In amniotic fluid of women under observation that was obtained at the first stage of labour after breaking of waters, the content of annexin, cachectin was determined by the immunoenzymel method using kits by Randox (Germany), DNA-binding activity of p53 subunit of NF-κB and the activity of phospholipase A2 (PLA2) were determined using kits by “Cayman Chemical” (USA), levels of free cholesterol, HDL cholesterol, LDL cholesterol and alpha feto protein (AFP) were determined using kits by Randox (Germany) on the biochemical analyzer “Sapphire 400” (Japan).

**Results:** Research results showed that in amniotic fluid was an increase of levels of annexin and cachectin by 2 and 1.5 times, respectively, as well as of the activity of phospholipase A2 by 2 times as compared with control values. In amniotic fluid of pregnant women with fetal hypotrophy there was a sharp decrease of the cholesterol level by 2.24 times and of the alpha feto protein level by 2 times. But LDL cholesterol increased by 1.5 times and HDL cholesterol decreased by 3 times.

**Conclusions:** Fetal hypotrophy is characterized by a disturbance in the cholesterol transport from placenta to fetus by alpha fetoprotein due to the modification of its synthesis. A low level of cholesterol caused by the inhibition of GABA of AFP gene (fetal cholesterol metabolism is controlled by CNS) is a factor that lowers the division of embryocytes and is a causes of hypotrophy as a factor of the “strategy of survival”. Another factor in this “strategy” is realized by means of changing the correlation of cell bioregulators resulting in the increase of PLA2 activity and significant synthesis of prostaglandins, provide preterm delivery.
P0849
WHEN IS AMNIOTIC FLUID MAINLY CONSISTING OF FETAL URINE?
CHANGE OF AMNIOTIC cavity IN THE FETUS WITHOUT NORMAL URINATION

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Objectives: The purpose of this study was to evaluate the time of development at which fetal urine consists primarily of amniotic fluid. In the first half of pregnancy, the majority of amniotic fluid is the result of water moving across the amniotic membrane and fetal skin. In the second half of pregnancy, the majority of amniotic fluid results from fetal micturition. Therefore, even the fetus without renal function has normal amniotic fluid volume in the first half of pregnancy. It is important to know which time fetal urine consists mainly of amniotic fluid for the detection of renal anomalies in the fetus.

Method: Retrospective observational study. The amniotic cavity size was assessed by the fetal ultrasonography in the clinical records. A cavity less than 2x2 centimeters was considered to be of decreased amniotic fluid. Oligohydramnios was diagnosed when the cavity was not detected. Seventeen cases of congenital renal anomalies (eleven cases of urethral tract obstruction, two cases of renal agenesis, two cases of bilateral dysplastic kidney, one case of psoa colon, and one case of autosomal recessive polycystic kidney) were included in this study. None of the cases had premature rupture of membrane.

Results: Pregnancy was terminated in five cases of urethral tract obstruction before progression of oligohydramnios. A normal amniotic cavity was detected in these cases at 12, 14, 15, and 18 weeks of gestation, respectively. In seven cases, the amniotic cavity had disappeared during observation at 15, 16, 16, 16, 16, 16, and 17 weeks of gestation, respectively. In five cases, the amniotic cavity was not detected at the first visit to our hospital at 13, 15, 16, 18, and 19 weeks of gestation, respectively.

Conclusions: In more than 50% of fetuses without normal micturition, the amniotic cavity had decreased or disappeared at approximately 16 weeks of gestation. The amniotic fluid consisted mainly of fetal urine instead of the fluid from the amniotic membrane and fetal skin at this time.

P0850
ATRIOVENTRICULAR SEPTAL DEFECT IN THE FETUS. ULTRASOUND DIAGNOSTIC, STRUCTURAL AND CHROMOSOMAL ASSOCIATIONS, CLINICAL SIGNIFICATION


Objectives: To assess the ultrasound features (both in the first-F1 and in the second trimester-ST of the pregnancy), the rates of invasive maneuvers, the chromosomal associations and the outcome of atrioventricular septal defect (AVSD) in the fetus in our tertiary center.

Method: This was a retrospective single center study of 21 of AVSD seen since 2004. The variables searched for analysis were: personal data of the mother, indications for fetal echography, ultrasound diagnostic features, the gestational age at suspicion/diagnostic, the invasive maneuvers performed, the conventional karyotype (KT) and array comparative genomic hybridization results, associated cardiac/extracardiac and chromosomal anomalies, and the fetal/neonatal outcome.

Results: 7 cases (46.6%) were isolated. Additional structural and chromosomal anomalies were present in 8 respectively 4 cases. 2 cases had increased nuchal translucency at the 12-week scan. One was found to have microdeletion 22q11. One case developed fetal growth restriction. One case had a cardiomegaly syndrome with right atrial isomerism. 6 cases showed an abnormal conventional KT (one trisomy 18 and 6 cases trisomy 21). No case was associated with persistent left superior vena cava. There were 9 terminations, an early fetal demise, one early neonatal death and 2 survivors, both presenting neurodevelopmental delay. Early diagnosed cases requested for termination.

Conclusions: We present our Unit of Prenatal Diagnostic experience in AVSD in the fetus. We confirm the frequent association with trisomy 21 (23% association rate in our case series). In the fetus, AVSD is associated with chromosomal/nonchromosomal syndromic conditions. Couples in Romania show an increasing desire for early diagnostic and for FT terminations in cases of major congenital heart defects, as AVSD. The overall termination rate was 80%. All terminations in this group prompted by the diagnosis of the actual anomaly, all couple decisions being made before the genetic results were available.

P0851
A CASE OF PLACENTAL CHORIOANGIOMA WITH CYSTIC CHANGES CAUSING MUCINOUS CHORIOAMNIOTIC SEPARATION

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Objectives: Placental chorioangioma is benign vascular tumor of the placenta arising from chorionic tissue. Most are small and asymptomatic, whereas the large tumor has unfavourable effects on both mother and fetus, such as polyhydramnios, fetal hydrops, preterm delivery, fetal growth restriction and fetal demise.

We report a case of a large placental chorioangioma with cystic changes and induced separation of the fetal membranes.

Method: A 29-year-old woman with polyhydramnios was referred to our department at 30 weeks of gestation. Ultrasound examination was performed and there was a well-defined 4.84×6.33 cm sized mixed cystic and echogenic mass with high vascularity suggesting that chorioangioma at placenta. At 32 weeks of gestation, she complained sudden abdominal pain and extensive subchorionic hypochogetic fluid collection between fetal membranes was revealed at ultrasound examination. We performed an emergency cesarean section because we could not rule out placental abruption. At operation, there was profuse mucinous fluid below the chorion with a solid placental tumor with yellowish cysts.

Results: Placental mass was confirmed placental chorioangioma with cystic changes at histologic examination. We report the first case of placental chorioangioma with cystic changes producing mucinous fluid below the chorion and developed the chorioamniotic separation.

Conclusions: Cystic changes in placental chorioangioma can produce a large amount of mucinous materials below the chorion and induce separating the fetal membranes which mimicking subchorionic hemorrhage.

P0852
FETAL SCROTAL MASS CAUSED BY MECONIUM PERITONITIS: A RARE CASE OF MECONIUM PERIORCHITIS

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Objectives: Fetal scrotal mass and conditions that lead to scrotal swelling often reflect abnormalities of testicular, epididymal and scrotal development. The main causes of a prenatally detected scrotal mass are hydrocele, testicular torsion, teratoma and inguinoscrotal hernia.
Meconium periorchitis is a rare cause of benign scrotal mass and results from fetal meconium peritonitis with spillage of meconium into the scrotal sac via a patent processus vaginalis. The meconium in the scrotal sac can cause sterile inflammation and calcification of the peritesticular tissues. Here we report a case of fetal scrotal mass with meconium peritonitis suspected as meconium periorchitis prenatally.

**Method:** A 32-year-old woman at 30 weeks' gestation was referred for evaluation of sonographically suspected abnormality of the scrotum. She was thus referred for neonatal laparotomy, the neonate was found to have small bowel obstruction prenatally. On subsequent sonography at 35 weeks' gestation, intra-abdominal calcification with echogenic bowel, mild ascites were noted, suggesting meconium peritonitis. At delivery, neonate was noted to have abdominal distension and swollen scrotum. Postnatal ultrasound of the scrotum revealed normal testicles, numerous calcifications in the edematous scrotum. At emergent neonatal laparotomy, the neonate was found to have small bowel perforation and the scrotal mass was resolved after operation.

**Results:** Meconium peritonitis can present with a scrotal mass, although it is not common. We detected meconium peritonitis with meconium periorchitis prenatally with ultrasound.

**Conclusions:** When a scrotal mass is found on prenatal sonography, meconium periorchitis should also be considered when the scrotal mass is accompanied with meconium peritonitis.

**P0853**

**PRENATAL DIAGNOSIS OF 45,XO/46,XY MOSAICISM IN A MALE INFANT WITH MIXED GONADAL DYSGENESIS: A CASE REPORT**

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**Objectives:** The prenatal diagnosis of 45,XO/46,XY mosaicism poses a counselling dilemma to the obstetrician and geneticist. This mosaicism is rare, with an incidence of 1.5 per 10,000 consecutively born neonates. Phenotypic manifestations of the 45,XO/46,XY mosaicism varies widely ranging from normal males, undervirilised males, to females with Turner’s syndrome. Reviews of prenatally diagnosed 45,XO/46,XY mosaicism found that over 90% of cases were phenotypically normal males. In light of a 10% risk of abnormality, genetic counselling for prenatally diagnosed 45,XO/46,XY mosaicism cases can be problematic. The perinatal course for parents affected by this diagnosis can be very distressing.

**Method:** We present a case report on the prenatal diagnosis of 45,XO/46,XY mosaicism in a male infant with mixed gonadal dysgenesis, the investigations leading up to the diagnosis, and the challenges encountered in its management in the antenatal and postnatal course.

**Results:** Amniocentesis was performed in a 28-year-old woman with a high risk combined first trimester screen for Trisomy 21 and 13. Chromosomal analysis of the amniotic fluid detected fetal 45,XO/46,XY mosaicism and ultrasonic assessment for fetal gender identification. The examination of SSA/Ro and SSB/La might be unavailable due to limited amniotic fluid. The examination of SSA/Ro and SSB/La might be unav‌ailable in many countries. We have to exclude the other causes of congenital heart block or other abnormalities that might be present. The aim of this study is to establish prenatal diagnosis of autoantibody-associated congenital heart block on asymptomatic mother in limited resources.

**Conclusion:** Clinical significance of congenital heart block is persistent fetal bradycardia without any sign of maternal or placental insufficient. Autoantibody-associated congenital heart block could be present on asymptomatic mothers and there was no abnormality of fetal cardiac structure. Further investigations might be required to establish the risk factor earlier. Good prenatal diagnosis made better management.

**P0855**

**SONOGRAPHIC FINDINGS IN CASES OF TRISOMY 18**

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**Objectives:** Describe sonographic findings in cases of Trisomy 18 (T18) during the prenatal period, comparing the found data in our sample with those of the literature.

**Method:** Prenatal sonographic findings were reviewed in 79 consecutive fetuses with trisomy 18 at the Fetal Medicine Institute at Instituto Fernandes Figueira - Fiocruz from 1997 to 2012. We described the most frequent malformations and other sonographic findings of relevance, as well as the method used for genetic diagnosis.

**Results:** In our study karyotypes were obtained by chorionic villus sampling in 2.5% of cases, amniocentesis in 20.2%, and postnatal sample in 34.1% of cases. Abnormalities of the extremities were most common (34.1%), and abnormalities of the position of the feet identified in 24%, followed by changes face (17, 7%) and choroid plexus cyst (15.1%). Single umbilical artery and bilateral cord cysts were detected in 14.8% and 11.3% of cases, respectively. IUGR was diagnosed in 37.9% of patients, 72% presented major malformations. None of the patients accompanied by us the cesarean section was indicated for fetal motivations.

**Conclusions:** The sonographic findings in this study are similar to
those described in the literature. The description of these findings may help in counseling when there is detection of malformations of the second trimester. Identify a pattern of malformations compatible with trisomy 18 may even prevent unjustified procedures, such as a caesarean section, these women and their children in low resource countries.

P0856
PROGNOSTIC FACTORS TO PREDICT ABORTION IN KOREAN WOMEN IN CASES OF THREATENED ABORTION AFTER IDENTIFICATION OF EMBRYONIC/FETAL HEARTBEAT: A PROSPECTIVE OBSERVATIONAL STUDY
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Objectives: We investigated the risk factors to predict abortion in Korean pregnant women with threatened abortion after identification of an embryonic/fetal heartbeat.
Method: In 618 singleton pregnancies with threatened abortion between 6 and 10 weeks, we studied women with ultrasound-proved fetal heartbeat. We compared maternal characteristics and medical records between women who had an abortion at less than 14 weeks (abortion group) and those with live gestation at 14 weeks (control group). We analyzed any associations with pregnancies ending in miscarriage at less than 14 weeks in cases of threatened abortion with an identified heartbeat.

Results: Of the 333 women with threatened abortion with a heart rate of less than 115 bpm may increase the risk of subsequent abortion at less than 14 weeks. Compared to the control group, the abortion group had significantly slower fetal heart rate, and earlier gestational age at the time of diagnosis of threatened abortion. In multivariate analyses, a fetal heart rate (OR, 0.979; CI, 0.961–0.998; p=0.036) independently contributed to miscarriage at less than 14 weeks. According to the Youden index, a heart rate of less than 115 bpm was the optimal cutoff value and corresponded with an increased risk of subsequent miscarriage (OR 3.463; 95% CI, 1.350–8.880; P=0.010).

Conclusions: In Korean women with threatened abortion after identification of the embryonic/fetal heartbeat between 6 and 10 weeks, we studied women with ultrasound-proved fetal heartbeat. We compared maternal characteristics and medical records between women who had an abortion at less than 14 weeks (abortion group) and those with live gestation at 14 weeks (control group). We analyzed any associations with pregnancies ending in miscarriage at less than 14 weeks in cases of threatened abortion with an identified heartbeat.

P0857
ISOLATED BORDERLINE/MILD FETAL VENTRICULOMEGALY DIAGNOSED AT 18–22 WEEK GESTATIONAL AGE – ANTENATAL PROGRESSION, ASSOCIATED INFECTIONS AND ANEUPLOIDY
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Objectives: Isolated borderline/mild fetal ventriculomegaly is an incompletely understood condition. Current literature show that these patients largely regress and show a minor association with antenatal infections and aneuploidy. This is a study looking at antenatally diagnosed isolated borderline/mild fetal ventriculomegaly between 18 to 22 weeks of gestation, the associated infections and aneuploidy as well as its antenatal progression at a single centre in Singapore.
Method: This is a retrospective single centre cohort study, conducted in KK Women’s and Childrens’ Hospital, Singapore. Cases of isolated borderline/mild fetal ventriculomegaly (classified as ventricle width measuring 10–12mm) diagnosed antenatally between 18 to 22 weeks of gestation between January 2010 to December 2012 were collected retrospectively. Case notes were then reviewed and the antenatal progression of each case, associated infections as well as aneuploidy was recorded. Results were subsequently analyzed and the findings reported.

Results: A total of 58 patients were found to have isolated borderline/mild fetal ventriculomegaly using the cut-off as 10–12mm with a mean maternal age of 30 years old. Only 47 continued their follow up at our centre and delivered at a mean gestational age of 37 weeks. Abnormal karyotype was discovered in 7% of patients with available results. There were more male than female fetuses reported with isolated borderline/mild fetal ventriculomegaly. An associated infection rate of 2% was discovered in our study. Majority of our patients showed a regression at follow up scan.

Conclusions: Isolated borderline or mild fetal ventriculomegaly is an antenatal diagnoses that is incompletely understood. According to our study, majority of these cases regress and there is only a minor association with antenatal infection and aneuploidy. These findings are corresponding to the current available literature.

P0858
NEONATAL CONSEQUENCES DUE TO CHANGES IN LIPID PROFILE IN END OF PREGNANCY PATIENTS AT GENERAL HOSPITAL OF CARAPICUIBA
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Objectives: Raise the prevalence of hypercholesterolemia in pregnant women treated at Carapiciba General Hospital and correlate with neonatal parameters such as Apgar score, weight and length.
Method: A comparative study of 113 pregnant women at term, who performed childbirth at the General Hospital of Carapiciba. It was conducted the analysis of total cholesterol (TC) through the maternal blood collection at hospitalization act and this data was correlated with Apgar score, weight and length of newborns. The patients were divided into two groups, hypercholesterolemic (CT >250) and normocholesterolemic (CT <250). Data were analyzed statistically and performed Mann-Whitney test, since it did not assume normality.

Results: Within 113 pregnant women, 50 (44.2%) presented hypercholesterolemic and 63 (55.8%) normocholesterolemic. Among hypercholesterolemic the average CT was 284.42, 90% and 98% had not asphyxia in Apgar results score of first and fifth minute, respectively. Weight results showed that 96% was appropriate for gestational age and 100% were between p10 and p90, that is within the appropriate range for growth gestational age. There were no significant differences between the two groups regarding the weight of the newborn (NB) (p=0.069), NB length (p=0.707), NB first minute Apgar (p=0.816) and NB fifth minute Apgar (p=0.768).

Conclusions: Neonatal repercussion in hypercholesterolemic mothers attended at this service was not statistically significant. Thus arises the need for increased sample with statistic relevance, because of the lack of comparative data in the literature and it’s importance considering the global trend for hypercholesterolemia due to poor eating habits and current lifestyle.

P0859
IS THE INFLAMMATORY RESPONSE RELATED WITH THE PREECLAMPSIA PHYSIOPATHOLOGY GREATER THAN IN LABOR? COMPARISON OF THREE INFLAMMATORY BIOMARKERS IN A GROUP OF MEXICAN PREGNANT WOMEN AT INSTITUTO NACIONAL DE PERINATOLOGIA (INPER)
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Objectives: Preeclampsia (PE) is a multisystemic syndrome which etiology is unknown. About its physiopathology outstands the discovery of immunology, genetics and environmental facts related with
the bad placenta implantation. Actually there are not biomedical markers for its early detection. The heat shock proteins (Hsp) have been detected in pregnancy as long as labor, hypertensive disease and systemic illness. In PE the Hsp have been associated with the increases of the immunology response. The mean objective of this study is to compare the levels of Hsp-60 and two inflammatory cytokines in the preeclampsia developing, labor and healthy pregnant women.

Method: This case-control study was performed at INPer and it was approved by the Ethics and Research Committees. Preeclampsia was defined according to the ACOG criteria. Maternal blood was obtained from 3 groups: women with preeclampsia (n=60), women who developed labor (n=50) and women with healthy pregnancy and without labor (n=28). The blood was centrifuged to obtain the plasma for the total proteins quantification by Bradford method; to quantify Hsp-60, IL-1β and TNF-α ELISA method was used. The results are presented as mean ± deviation and statistical analysis was performed using the Mann-Whitney test with a significant difference of p < 0.05.

Results: The IL-1β, TNF-α and Hsp-60 secretion in PE group increased in 42.2 (p=0.003), 2.7 (p=0.05) and 2.5 (p=0.002) times respectively over the group without labor. The group PE also showed higher secretion of IL-1β and TNF-α in 1.3 (p=0.099), 5.4 (p=0.05) and 1.3 (p=0.071) times than the group with active labor, and a lower secretion in 1.3 times (p=0.65) of Hsp-60.

Conclusions: The findings in this study showed that the Hsp-60 and the inflammatory cytokines IL-1β and TNF-α have higher secretion in women with PE diagnosis than in women with normal pregnancy, and these biomarkers showed a similar pattern in physiological inflammatory scenes like active labor.

Preventive Oncology

P0860

TEACHERS’ ATTITUDE SUPPORTS POSSIBLE ROLE IN PROMOTING THE UPTAKE OF THE HUMAN PAPILLOMA VIRUS VACCINE AMONG ADOLESCENT GIRLS IN ABAKALIKI, SOUTH EAST NIGERIA

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Objectives: Majority of the target population for Human Papilloma Virus (hpv) vaccination for the primary prevention of cervical cancer in Nigeria are found in secondary schools. This study was aimed at describing the knowledge and attitude of secondary school teachers towards HPV vaccination, and determine if the attitude of these teachers supports a possible role for teachers in promoting the uptake of the vaccine.

Method: A cross-sectional questionnaire-based study involving secondary school teachers in Abakaliki was carried out. Data analysis involved both descriptive and inferential statistics at 95% confidence level using the SPSS software version 16. P-value ≤ 0.05 was considered statistically significant.

Results: A total of 412 teachers participated in the study. Approximately 78% were aware of cervical cancer and 75% of these were aware of at least one method of cervical cancer prevention. Eighty-six percent of those aware of cervical cancer knew that HPV infection was the cause of cervical cancer; although only 40.3% of these knew that HPV vaccine that protected against cervical cancer was available in the city. Approximately 70% of teachers who were aware of cervical cancer were willing to recommend HPV vaccination to children under their care.

Conclusions: Majority of secondary school teachers in Abakaliki were aware of the HPV vaccine for preventing cervical cancer and over two-thirds of these were favourably disposed to recommending its use. Public health practitioners could therefore enlist teachers in programmes for influencing adolescent girls and their parents towards increased uptake of the vaccine in our environment.

P0861

ANALYSIS OF ABNORMAL PAP TEST RESULTS IN NORTHERN NAMIBIA OBTAINED DURING A MEDIPOP ORGANISED CAMPAIGN TO PROMOTE CERVICAL CANCER AWARENESS IN THE GENERAL PUBLIC

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Objectives: The objective was to raise cervical cancer awareness in the rural Namibian living in the northern part of the country where quality health care is inaccessible to the rural community who live in abject poverty.

Method: Relevant demographic and other related information regarding risk factors for cervical cancer was obtained with a well structured questionnaire using a local as an interpreter to ensure that people understood the answers to the questions.

Results: During the camp, 391 women, aged 19–75 years were offered PAP test. Three hundred and thirty one women (87.0%) had no PAP test done in the previous 3 years. Ten (2.6%) of the PAP test were inadequate for evaluation (absence of endocervical component). Three and eighty (97.4%) were examined for cytological abnormalities using the conventional method. Two hundred and fifty three (66%) were normal. Human papilloma virus (HPV) infections co-existed in 128 (33%) women.abnormalities noted were: atypical squamous cell of undetermined significance (ASC-US), cervical intraepithelial neoplasia (CIN) I/II/III, HPV, Candida and bacterial vaginosis.

Conclusions: The vast majority of the population aged between (30–59) had CIN II/III and HPV positive (19.7%). This was closely followed by ASC-US and HPV positive (17.7%) in the group aged (18–29). ASC-US and HPV co-existed in people aged 60 years (6.4%) and above. The results clearly showed that age is a significant co-factor in the development of abnormal PAP Test. Cervical cancer has been recognised as an embarrassing public health problem in Namibia. The high prevalence of cervical cancer in Namibia, as in most resource limited countries is largely due to non availability of a robust screening programme, consequently late detection, presentation, poor access to treatment resulting in a high mortality rate.

P0862

KNOWLEDGE AND ATTITUDE ON CERVICAL CANCER SCREENING BEFORE AND AFTER EDUCATIONAL TRAINING AMONG NURSING STAFF IN A TERTIARY CARE INSTITUTE

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Objectives: To assess the knowledge and attitude on cervical cancer screening before and after educational training among nursing staff.

Method: A descriptive cross-sectional questionnaire based study was conducted among 50 nursing staff at All India institute of medical sciences (AIIMS) Rishikesh. Nurses were given questionnaire (Validated by two experts) in order to determine their sociodemographic characteristics, level of knowledge and attitude on cervical cancer screening. After period of one week the nurses were given a thirty minutes training about cervical cancer risk factors, symptoms, methods of screening and prevention. Thereafter a post test was performed after the training. The data was assessed using descriptive analysis.

Results: All the nurses showed an increase in the post-test score particularly about different methods of screening, screening guidelines and its prevention. They had a positive attitude both pre and post training.

Conclusions: It is recommended that routine training should be given in the form of lectures or demonstrations on regular basis to
all the healthcare providers. Nurses may be able to apply this knowledge into practice & assume responsibility this will eventually help in detecting cervical cancer at the earliest.

**P0863**

**EVALUATION AND CORRELATION BETWEEN CLINICAL BREAST EXAMINATION (CBE) AND BREAST ULTRASONOGRAPHY AMONG PREGNANT WOMEN IN ABAKALIKI, NIGERIA**

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**Objectives:** Breast cancer in pregnancy accounts for 2–3% of all breast cancers. The increased vascularity and lymphatic drainage from the pregnant breast potentiates the metastatic spread of the cancer to the regional lymph nodes. CBE is routinely done on booking Antenatal Clinic Attendees in our centre. However, the increased breast density in pregnancy makes it difficult to detect breast lesions early. It is based on this that Clinical Breast Examination (CBE) and breast ultrasonography were evaluated.

**Method:** A cross-sectional comparative study involving antenatal clinic attendees at the Federal Teaching Hospital, Abakaliki (FETHA) was conducted between March 3, 2014 and December 31, 2014. CBE and breast ultrasonography were done for the participants at booking and repeated at 6 weeks postpartum. Fine Needle Aspiration Cytology (FNAC) and histology were done for women with suspicious breast lesions on CBE or breast ultrasonography or both. Data analysis was both descriptive and inferential at the 95% confidence level using SPSS version 17. Test of significance was done with Chi-square analysis.

**Results:** A total of 320 booking women who made the inclusion criteria, participated in the study. A total of 267 (83.4%) of the participants were aware of breast cancer. Even though, there were more lesions detected with breast ultrasonography than CBE, there was no statistically significant difference between them (25 versus 17; P value = 0.26). The histology of the lesions revealed 21 benign lesions and 4 normal breast tissues. The sensitivity of breast ultrasonography was 95.2% while that of CBE was 66.7%. More so, the specificity, positive predictive value (PPV) and Negative Predictive value (NPV) were similar between CBE and Breast ultrasonography.

**Conclusions:** The detection rate of breast lesions by both CBE and breast ultrasonography were equivalent during pregnancy and 6 weeks postpartum, making CBE a convenient and very cost-effective method of detecting breast lesions. However, both CBE and breast ultrasonography should be applied for women with high risk for breast malignancy.

**P0864**

**RENAAL TRANSPLANTATION-RELATED RISK FACTORS FOR THE DEVELOPMENT OF UTERINE ADENOMATOID TUMORS**

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**Objectives:** To report a large case series of adenomatoid tumors of the uterus in immunosuppressed renal transplant recipients and to examine the causes, associations, and risk factors.

**Method:** We conducted a retrospective study of all patients who underwent hysterectomy in our hospital from April 2003 to March 2011. We analyzed the epidemiological factors for clinical manifestations of uterine adenomatoid tumors occurring in renal transplant recipients.

**Results:** Uterine adenomatoid tumors were found in 17 patients among the 1094 hysterectomy patients who were reviewed. There were 14 renal transplant recipients who underwent hysterectomy; of these, ten (10/14, 71.4%) patients were affected with adenomatoid tumors. Of the 1,080 hysterectomy patients who were not renal transplant recipients, only seven (7/1080, 0.65%) had adenomatoid tumors (P < 0.01). Among the renal transplant recipients, a significant difference was observed between occurrence and non-occurrence of adenomatoid tumors with respect to the length of time on dialysis before transplantation (P < 0.04).

**Conclusions:** Renal transplantation with immunosuppression therapy and the length of time on dialysis before transplantation are risk factors for the development of uterine adenomatoid tumors.

**P0865**

**OFFICE HYSTEROSCOPY IN THE DIAGNOSIS OF CERVICAL INTRA-EPITHELIAL NEOPLASIA**

A. Sanad, H.E.-D. Shawki, A. Mahran. Minia University, Minia, Egypt

**Objectives:** To suggest and substantiate office hysteroscopy as a diagnostic tool for cervical glandular intraepithelial neoplasia in patients with cervical intraepithelial neoplasia.

**Method:** Prospective study.

**Setting:** The early cancer detection unit (ECDU), Minia Maternity University Hospital, Minia University.

**Results:** The present study included 124 patients with an abnormal Pap smear results or positive results with visual inspection of the cervix with acetic acid.

**Conclusions:** Hysteroscopic evaluation of the endocervical mucosa, performed with an office continuous-flow hysteroscopy after application of acetic acid 5% through operative channel. Patients with abnormal cervical findings underwent guided biopsies of the visualized abnormalities. Negative patients at hysteroscopic evaluation underwent blind endocervical curettage.

**Results:** Cervical hysteroscopy diagnosed 9 cases of positive endocervical abnormalities. Guided biopsies agreed with hysteroscopy in 6 cases and 3 cases were negative. On the other hand, hysteroscopy failed to prove lesion present in blind endocervical curettage. The test performance showed a sensitivity of 86%, a specificity of 98%, a PPV of 67%, a NPV of 95% and diagnostic accuracy of 97.1%.

**Conclusions:** Hysteroscopy appears to be a reliable office technique, improving the detection of cervical intraepithelial lesions. The accurate localization of the lesions may facilitate the depth of cone excision to be designed, thus leading to a more preservative treatment for the future fertility.

**P0866**

**A SURVEY OF THE KNOWLEDGE AND UTILIZATION OF CERVICAL CANCER SCREENING (PAP SMEAR) AMONG FEMALE NURSES IN AWKA**


Department of Obstetrics and Gynaecology, Anambra State University, Awka, Anambra State, Nigeria

**Objectives:** To determine the awareness and utilization of Pap smear among nurses.

**Method:** This is a cross sectional survey of female nurses and midwives in Awka, South-eastern Nigeria. One hundred and sixty five female nurses were interviewed using structured and pre tested self administered questionnaire. Analysis was performed using the Statistical package for Social Sciences (IBM “SPSS” statistics 21). P value less than 0.05 was considered statistically significant.

**Results:** The mean age of the respondents was 37.1 + 9.8 years with a mean parity of 2.2 + 2.1. 150 nurses (90.1%) knew of Pap smear their patients on Pap smear previously. Only 36.4% had counseled their patients on Pap smear previously.
**Conclusions:** Expectedly, knowledge of Pap smear was high among this group of nurses. However, this has not translated into practice. Further research will be necessary to identify the barriers to the acceptability of cervical cancer screening tests.

**P0867**

**HIGH RISK HUMAN PAPILLOMA VIRUS DNA TESTING PREDICTS RESIDUAL/RECURRENT CERVICAL INTRAEPITHELIAL NEOPLASIA AFTER TREATMENT WITH LEEP**

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**Objectives:** This study was undertaken to evaluate the value of high risk HPV testing in the follow up period of high grade cervical intraepithelial neoplasia (CIN2/3) treated by Loop Electrosurgical Excision Procedure (LEEP) as a predictor of recurrent/residual cervical intraepithelial neoplasia.

**Method:** Retrospectively 46 participants were analyzed in a single tertiary hospital. Colposcopic and punch biopsy proven CIN-2/3 were treated by LEEP. Post LEEP follow up was performed by colposcopy and HPV DNA by Hybrid Capture II test. Demographic variants were also analyzed. The definition of persistent/recurrent disease was biopsy proven CIN.

**Results:** Among 46 participants, mean age 32.43±4.45 from 25 to 40 years, CIN-2 were 42 (91.3%) & C/N-3 were 4 (8.7%). During follow up at 6 month HPV DNA test by Hybrid capture II was done in 46 patients and Colposcopic punch biopsy was taken. 5 patient (10.87%) had residual/recurrent cervical intraepithelial neoplasia with HPV DNA +ve (patient RLU/known positive RLU ratio>1.2). Early HPV DNA testing at 6 month after LEEP predict all case of residual/recurrent disease. Sensitivity and negative prediction value of HPV HC II test for residual/recurrent disease were 100% at 6 month.

**Conclusions:** Persistence or clearance of high risk Human Papilloma Virus is an early valid prognostic marker of failure or cure after treatment for CIN 2/3 and is more accurate than cytology and section margin. This early HPV testing implies an important role to reduce amount of post treatment follow up.

**P0868**

**KNOWLEDGE AND AWARENESS ABOUT CERVICAL CANCER AND HPV VACCINATION AMONG WOMEN ATTENDING AT OUT PATIENT DEPARTMENT IN A TERTIARY HOSPITAL**

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**Objectives:** The purpose of this study was to assess the knowledge and awareness regarding cervical cancer, cervical cancer screening, HPV vaccination and source of knowledge among women attending outpatient department in a tertiary hospital.

**Method:** A qualitative study was undertaken using face to face in depth interviews to investigate knowledge, and awareness regarding cervical cancer, screening, HPV vaccination, acceptance of vaccination. 229 participants were interviewed age (18–60) years attending outpatient department of a tertiary hospital.

**Results:** Among 229 women mean age 34.07±7.92, from 18 to 60 years were observed. Awareness and knowledge about cervical cancer and its screening was very poor. Only 25.3% & 22.7% participants were aware of cervical cancer and HPV vaccination respectively. Knowledge was high among women coming from high socioeconomic condition which was 68.5% (p=0.03). Participants who were highly educated had more knowledge about cervical cancer about 83.3% (p<0.001) and vaccination about 66.7% (p=0.001). There was a high acceptance (83.8%) of HPV vaccination among participants. Most of the participants (72.22%) had got the information from doctor.

**Conclusions:** The findings highlights the importance of awareness creation about cervical cancer and its risk factors, screening and importance of vaccination through television, cable line advertisement, poster, billboard and most importantly through health education to prevent cervical carcinoma.

**P0869**

**EVALUATION OF PERFORMANCE BY DOCTOR VERSUS PARAMEDICAL STAFF FOR CIN SCREENING BY VISUAL INSPECTION IN LOW RESOURCE SETTINGS**

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**Objectives:** 1. To evaluate the sensitivity, specificity, positive predictive value and negative predictive value of visual inspection with acetic acid (VIA) and Lugol’s iodine (VILI) by trained medicos and paramedical staff in detecting cervical intraepithelial lesions. 2. To assess the inter-observer agreement between medical and paramedical staff in detection of cervical intraepithelial lesions.

**Method:** A prospective cross sectional study was done. Women above 25 years with vaginal discharge, intermenstrual or post coital bleeding or unhealthy cervix were included. VIA/VILI by doctor and paramedical staff f/bColposcopy by trained senior doctor/f/b. Biopsy from all abnormal lesions (CIN 2 or 3 on colposcopy) and Treatment. VIA was carried out by applying3%-5% freshly prepared acetic acid on the cervix and read after 1 minute. VILI was done after VIA by applying Lugol’s iodine. IARC Criteria used for interpretation of VIA and VILI.

**Results:** One hundred women were enrolled. The median age of women was 32.5 years. 38% were CIN 2 or 3 by colposcopy. VIA and VILI was positive in 26 and 37 cases by the doctor and in 14 and 28 cases by the nurse respectively. The sensitivity of VIA by doctor and nurse was 68.4% and 36.8% while for VILI it was 97.4% and 73.7% respectively. There was moderate agreement between their VIA findings (% Agreement = 83%; k=0.545). VILI findings were comparable in both the groups and there was strong agreement between their VILI findings (% Agreement = 81%; k=0.620).

**Conclusions:** Visual inspection can be performed reliably by trained paramedical workers and doctor. The colour changes produced by VILI are more dramatic and may be easier to interpret for a paramedical worker. Medical and paramedical workers can be easily trained to perform these tests with acceptable accuracy and is an effective screening option in low resource settings.

**P0870**

**CLIENT SATISFACTION WITH THE SINGLE-VISIT APPROACH SERVICE FOR CERVICAL CANCER PREVENTION IN ETHIOPIA**


**Objectives:** Cervical cancer (CC) causes hundreds of thousands of premature deaths in resource-limited settings, where lack of effective CC prevention (CVP) programs is a key reason for higher incidence. To combat CC in Ethiopia, in 2009 Pathfinder International introduced the single-visit approach (SVA), using visual inspection of the cervix with acetic acid (VIA) and same-day precancerous lesion treatment with cryotherapy, for HIV-positive women. This study assesses HIV-positive women’s satisfaction with the newly initiated SVA.

**Method:** A descriptive cross-sectional study was conducted in five SVA service implementation regions. From August to September 2012, 399 HIV-positive women (aged 30–45) who received the ser-
vice were interviewed about their experience. All women treated with cryotherapy were re-interviewed after one month. Data were analyzed using SPSS.

Results: A high level of satisfaction was observed: 94% were satisfied with providers' competence to deliver the service and 91.5% were satisfied with the counseling received. Nearly all (98.8%) received services after their expected waiting time and 84% reported no procedure-related discomfort. All women who returned for the follow-up interview after cryotherapy reported less discomfort than anticipated. All women were satisfied with their decision to receive the SVA service and agreed to continue to use the service. High service acceptance (95.2% for VIA, 100% for cryotherapy) may also reflect women's satisfaction.

Conclusions: The results showed a high level of satisfaction with the SVA service. Women are more likely to seek services if they know the service is high quality, which is essential to increasing acceptance of CCP services and curbing rates of CC.

P0871
PERCEPTION AND BEHAVIOR OF THE TUNISIAN WOMAN WITH REGARD TO BREAST CANCER
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Objectives: Our aim was to have a global approach of the situation of the Tunisian woman in Breast cancer (BC) knowledge, attitudes and practices of screening.

Method: We led an investigation on a sample of 2037 women distributed in 7 governorates. The survey was made by means of a questionnaire.

Results: Overall, awareness among the participants that cancer could be located in the breasts was 69.1%. Only 26.3% knew about screening methods. The best known screening method was self-breast examination (40.0%). Mammography was the least known (18.2%). In the present study, only 22.4% (n=971) of women declared that they had received at least one clinical breast examination. There was a significant difference according to area. Almost 50% of women did not practice self-breast examination. Only 8.6% of women declared that they had received at least one mammography screening.

Conclusions: The review of the literature and our results allowed us to release the importance of the good information of the women to the advantage of the breast cancer screening; so, we can draw the guidelines of strategy of information, education and communication which can favor the generalized breast cancer screening by the systematic and regular mammography in Tunisia.

P0872
A RETROSPECTIVE AUDIT ON THE COLPOSCOPY SERVICES IN CVW HOSPITAL FROM FEBRUARY 2011 TO SEPTEMBER 2011
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Objectives: The objectives were to assess the strength of correlation between the cytology, colposcopy and histology results in high grade and micro invasive lesions, to assess the duration between the time of the referral and colposcopy clinic, the time between colposcopy clinic and 1st follow up clinic, and the time of onset of treatment, assess the rate of default patients and assess the management of historically confirmed high grade intraepithelial and micro invasive lesions.

Method: Patients' folders were collected from the Gynaecology clinic. Patients that did not turn up for colposcopy were documented next to the patients name in the Colposcopy book. They were de-identified by using the hospital numbers and number coding as identification. A colposcopy audit form was downloaded from the (HKSCCP) website. This audit form was then formulated onto the Epi Info database, in which all the required patient information was entered. The standard used for this audit was from the National Health Screening (NHS) cervical screening programme guidelines, 2nd edition. It was published in May 2010, and is titled “Colposcopy and Programme Management”.

Results: PPV for cytology was 41%. PPV for colposcopy was 53%. 77% of women were seen in Colposcopy clinic within 4 weeks. 40% of women with biopsy proven HGSIL were seen within 8 weeks. 83% of women with proven HGSIL were treated within 4 weeks of diagnosis. Default rate for colposcopy was 18%. 27% of the women had biopsy proven HGSIL. 10% of all biopsies were microinvasive. Examination of the LLETZ specimens showed that 6 were microinvasive SCC 1 patient had a radical hysterectomy and 5 had hysterecomies and 2 as HSIL in which 1 was followed up with Paps smear.

Conclusions: The PPV for cytology in HGSIL was 41% which was low. The PPV for colposcopy was 53% which was low. 77% of women were seen in colposcopy clinic within 4 weeks which was standard. 83% of women with HGSIL were treated within 4 weeks. The default rate in 1st follow up clinic was 12% which is standard but for colposcopy clinic, it was 18%. HGSIL lesions were treated with LLETZ which was suitable. Subsequent course of management was suitable. Incomplete excision rates of 32% were high. Women with microinvasive lesions were treated adequately. Subsequent treatment was inadequate for women planned for hysterectomies.

P0873
KNOWLEDGE OF CERVICAL CANCER AND SCREENING BARRIERS AMONG MID-LIFE WOMEN IN BANGLADESH
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Objectives: Cervical cancer (CCa), a highly preventable disease, is the second most common cancer amongst women in Bangladesh. However, the uptake of screening for CCa in Bangladesh has been less than 10% in screened areas where it is offered. We have investigated the knowledge of CCa and CCa screening, and factors associated with women’s preparedness to undergo screening in Bangladesh.

Method: A nationally representative cross-sectional survey of 1590 women aged 30 to 59 years was conducted in 7 districts of the 7 divisions in Bangladesh utilizing a multistage cluster sampling technique. The factors associated with the knowledge of CCa and screening uptake were investigated separately, using simple and multivariable logistic regression.

Results: 81.3% and 48.6% of participants had ever heard of CCa and screening respectively. Of those who had heard of screening, 8.3% had been screened, 86% had no screening as they were asymptomatic and 37% did not know screening was needed. CCa knowledge was positively associated with age 40–49 years (adjusted OR 1.59, 95% CI: 1.15–2.0) and obesity (2.04, 1.23–3.36) and negatively associated with rural dwelling (0.42, 0.26–0.67) and no education (0.25, 0.16–0.38). Having been screened was positively associated with age 40–49 years (2.17, 1.19–3.94) and employment (3.83, 1.65–8.9), and negatively associated with rural dwelling (0.54; 0.30–0.98), and no education (0.29, 0.10–0.85).

Conclusions: Knowledge was the main barrier for screening uptake. Therefore, targeted educational health programs are needed to increase the knowledge of CCa and screening in Bangladesh. This is likely to increase CCa screening uptake and reduce CCa incidence and mortality.
**P0874**

**ACCEPTABILITY OF INTEGRATION OF CERVICAL CANCER SCREENING INTO ROUTINE ANTENATAL AND POSTNATAL CARE SERVICES**

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**Objectives:** This study aimed to assess the acceptability of integrating cervical cancer screening into routine antenatal and postnatal care services at the University College Hospital, Ibadan.

**Method:** It was a questionnaire-based cross-sectional study conducted among 395 consenting antenatal and postnatal clinic attendees at the University College Hospital, Ibadan.

The outcome was measured by knowledge of cervical cancer risk factors, Pap smear as a screening method and its utilization; and if utilization in pregnancy and postnatal period is acceptable.

**Results:** The knowledge of risk factors for cervical cancer was poor 77.1%; 10.6% and 12.4% had good and fair knowledge respectively. Forty-two percent were aware of cervical cancer prevention; 61.3% knew about Pap smear. Respondents either liked Pap smear in pregnancy (39.7%), unsure (43.0%), did not want it in pregnancy (17.3%); and 45.1% would like it in postnatal period. Only 11.6% had Pap smears, 88.4% never had it. Reasons for non-use were never heard of, lack or unaware of screening centers and perceived as unnecessary procedure. Pain, embarrassment and perceived need for repeat were reasons for lack of follow-up.

**Conclusions:** The knowledge of Pap smear was poor and so was utilization of the services and acceptability of screening in pregnancy and postnatal period. More health education is required to create awareness and enable patients informed decision to have cervical cancer screening. The antenatal and post-natal period may be an opportunity to introduce a woman to Pap smear screening by counselling and possibly initiation of the first screen. This may foster the use of the service in the pregnancy, postpartum period and beyond; and set the stage for routine Pap smear screening in our environment.

**P0875**

**HPV16 E6 MUTATIONS AND P53 CODON72 POLYMORPHISM AMONG WOMEN WITH CERVICAL INTRAEPITHELIAL NEOPLASIA 2 AND 3 IN BEIJING IN CHINA**

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**Objectives:** To investigate HPV16 E6 gene mutations and P53 codon72 polymorphism in women diagnosed as cervical intraepithelial neoplasia (CIN) 2 and 3.

**Method:** A total of 112 exfoliated cervical cell specimens which were HPV16 positive from women in Beijing in China were included. These cases were divided into group 1 (normal and CIN1, 55 cases) and group 2 (CIN2 and CIN3, 57 cases) according to pathological diagnosis. Full-length HPV E6 gene was successfully amplified from 85 specimens by PCR with specific primers, and the PCR products were sequenced directly and compared with a German standard strain. P53 codon72 region was also amplified from the 112 specimens with specifically-designed primers, and the PCR products were sequenced directly and compared with the standard sequence.

**Results:** Seventy out of 85 cases had HPV16 E6 point mutation. T178G was the most common mutation of HPV16 E6. The rate of T178G in CIN 2 and CIN 3 cases was significantly higher than that in normal and CIN1 cases. The 112 cases of P53 codon72 sequences showed that there were more cases with Pro/Pro genotype in group of CIN2 and 3 than that in group of normal and CIN1. According to the calculated OR value, the risk of CIN2 and 3 in cases with either Arg/Arg or Arg/Pro was 10-times lower than that with Pro/Pro.

**Conclusions:** HPV16 E6 T178G mutation significantly related to CIN2 and 3 and may be a risk factor for CIN2 and 3. The risk for CIN2 and 3 of Pro/Pro genotype was much higher than that of Arg/Arg and Arg/Pro genotypes.

**P0876**

**THE EFFECT OF BREASTFEEDING ON RISK OF BREAST CANCER IN SAUDI WOMEN**

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**Objectives:** To investigate whether breast feeding is related to the risk of breast cancer.

**Method:** A cross sectional study was undertaken to investigate the relation between breastfeeding and risk of breast cancer on 91 patients diagnosed to have breast cancer. Data was obtained from questionnaires administered to the patients including Their demographic data and detailed history of breastfeeding practice.

**Results:** The results showed 65.5% of women with breast cancer breastfeed their children for the duration of 6/12 with 61.4% developed the breast cancer during the perimenopausal period. The results clearly indicated that breastfeeding does not have a protective effect against breast cancer. The data obtained was analyzed by SPSS software.

**Conclusions:** These results suggest that breastfeeding do not protect against development of breast cancer in Saudi women.

**P0877**

**HPV HIGH RISK/VACCINATION**

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**Objectives:** Assess the impact of vaccination in our patients after give them proper information of the quadrivalent vaccine.

**Method:** Observacional retrospective descriptive study. Target population: Patients who come to our unit of cervical pathology from January 2011 to May 2014 and are carriers of high risk HPV independently of the grade of injury.

We inform all the patients who fulfill the criteria for vaccination. Following the protocols we perform subsequent controls. We value the progression of injury and the surgery received in the 18 months after the start of vaccination.

We made a comparison between the three groups: No vaccine-preventable, vaccine-preventable who choose not to access the vaccine and vaccinated.

We compare vaccinated and non vaccinated.

**Results:** All information is introduced in databases and we obtain the following results:

Total number of cases: 708.

Can not vaccinate: 160.


- Vaccinated 159.

Can not vaccinate-injury disappears 90 (56.3%).

Can vaccinated-not vaccinated 389 injury disappears 202 (51.9%).

Can vaccinate-vaccinated 159 injury disappears 100 (62.9%).

Conization or hysterectomy:

- Can not vaccinate 160 – 33 (20.6%).

- Can vaccinate-not vaccinated 389 – 65 (16.7%).

- Can vaccinate-vaccinated 159 – 27 (17.0%).

Positive HPV with normal cytology: 208 cases.

Vaccinated patients: in our anual check 60% of them remove the virus (125 cases).

- Not vaccinated patients: in our anual check 40% of them remove the virus (83 cases).

**Conclusions:** In our group of patients and in a short-term vaccination, an increased remission of the lesion (21.2%) is associated.
This increase in the percentage rises to 40.9% when the patient is high risk HPV positive with normal cytology. After give to the patients a successful vaccination information only one of four patients decide to vaccinate. Is observed not to be significant differences between the three groups regarding surgery (conization or hysterectomy). We will have to pursue long-term studies but for now it seems that positive HPV high-risk patients may benefit from vaccination with the quadrivalent vaccine.

**P0878**  
ATYPICAL SQUAMOUS CELLS, CANNOT EXCLUDE HIGH-GRADe SQUAMOUS INTRAEPITHELIAL LESION: CLINICAL SIGNIFICANCE AND IMPACT OF AGE  
A. Repše Fokter, N. Irgel, S. Šramek Zatler. Celje General Hospital, Celje, Slovenia  
**Objectives:** To evaluate the outcome of Pap smears diagnosed as atypical squamous cells, cannot exclude high-grade squamous intraepithelial lesion (ASC-H) obtained from the women attending the organized cervical cancer screening program.  
**Method:** We reviewed cervical smears interpreted as ASC-H in our laboratory between October 2011 and June 2013. The cytologic diagnoses were compared with biopsy results and/or cytologic follow-up for at least one year. The outcome was defined as clinically significant at the threshold of CIN2+. The prevalence of CIN2+ was estimated according to age (threshold 50 years).  
**Results:** Among 70,533 consecutive Pap smears 204 (0.28%) were interpreted as ASC-H during the study period. 35 patients had no follow-up data, leaving 169 cases in the study group. The rate of histologically proven high grade cervical lesions was 53% (90/169), among them there were 37 cases of CIN2, 52 cases of CIN3 and one invasive carcinoma. Clinically significant interpretations (CIN 2+) were found in 78 out of 133 patients under 50 years of age and in 12 out of 36 patients older than 50 years.  
**Conclusions:** A substantial subset (53%) of patients with ASC-H interpretations had biopsy-proven CIN2+. In our study, age didn’t have a statistically significant effect on the severity of lesions.

**P0879**  
KNOWLEDGE OF CERVICAL CANCER SCREENING AND TREATMENT AMONG A SAMPLE OF CLIENTS IN ETHIOPIA  
**Objectives:** Cancer of the cervix is the second most common cancer among women worldwide. The condition is particularly common in sub-Saharan Africa. In Ethiopia cervical cancer is one of the most prevalent cancers and the leading cause of cancer mortality among women. We conducted a baseline survey to assess knowledge of cervical cancer screening and treatment among them.  
**Method:** We conducted a cross-sectional survey, using quantitative methods, on 18–29 September 2014 in 10 purposively selected health facilities (7 Marie Stopes and 3 BlueStar clinics) across 9 towns in 2 regional states and in 2 city administrative areas. In total, 316 women were being seen at these clinics participated. To analyse the data, we used SPSS version 17 and Microsoft Excel.  
**Results:** Many respondents (65%) had heard of cervical cancer, but the majority (77%) did not know its causes. The majority of respondents (93%) had never heard about human papilloma virus (HPV). When asked if they knew about screening for pre-cancerous cervical conditions, more than half (58%) reported that they knew about screening, but most (81%) did not know any specific screening method. The majority of women (75%) reported that they had never had a pelvic exam or a speculum examination for cervical cancer screening, but most (93%) were willing to be screened.  
**Conclusions:** Knowledge on the causes, symptoms and prevention of cervical cancer was somewhat limited. Encouragingly, there was a high level of willingness to be screened. These findings highlight the need for a robust health education and promotion programme to educate women in Ethiopia about cervical cancer. Cervical cancer screening and treatment programmes should be scaled up to address the high rate of cervical cancer in Ethiopia.

**P0880**  
FEASIBILITY OF MOBILE COLPOSCOPY CAMP AS A MASS SCREENING METHOD IN DOWNGRADING INCIDENCE OF CERVICAL CANCER FOR WOMEN IN DISADVANTAGE COMMUNITY  
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**Objectives:** 1. Presenting colposcopy as a feasible alternative for a mass screening than is presently used. 2. To appreciate the percentage difference in incidence and severity of grades of cervical neoplasia, in rural and urban women population in critical age group.  
**Method:** 1. Grass root workers were involved for motivation talks in high risk age group. In one village, house to house visits were done, but in another area. 2000 brochures in Hindi were distributed. 2. In urban areas publicity was done by distributing brochure, erecting banners in nearby areas and putting advertisement in the local newspapers.  
Methodology planned were same for both free camps. On arrival women’s name, age addresses and basic gynecological histories were recorded and a serial no: was given. Menstruating and Pregnant women were excluded.  
**Results:** The results were surprising but in keeping with associated risk factors involved for initiation of dysplasia, i.e. hygienic condition, genital infection, young age sexual commencement, inadequate family planning awareness and facilities, resulting in multiparity.  
**Conclusions:** I conclude that single screening visit approach is a public health approach to cervical cancer downgrading that considers a social limitation in lives of women at disadvantage and, gives them advantage of prevention by early detection. This empowers the gynecologist with benefit of single visit decision making approach. Ultimately if we successfully target screening of the high risk population of women (30 to 50 years age group) even once or twice in their life time then it could yield a reduction of 25 to 30% in incidence of cervical cancer (Shankarnarayan).
that need only few months for developing of an invasive cancer. The process starts with the so-called dysplasia, which arise in the outer layer, directly turns into invasive cancer, skipping the phase of the carcinoma in situ. Its general knowledge that regular Pap smear and colposcopy tests reduce incidence and mortality of the invasive cervical cancer.

**Method:** Intra-epithelium and early invasive cancers belong to the group of pre-clinical cancers that may be detected by regular exams. There are two methods for their detection: seeking and verification methods. The seeking method includes cyto-diagnosis (Papanicolaou) and colposcopy. In the last four months of 2014, a total of 2,264 exams were carried out at the gynecological dispensary, i.e. 1,054 obstetric and 1,210 exams. A total of 330 smears were taken. Smear of the other woman was not examined because: a) They already have had negative results for the last three years, and b) because doctors failed to carry out the smear test.

**Results:**
1. Negative result: 313 – 94.8%.
2. Slight to moderate dysplasia CIN I: 8 – 2.4%; CIN II: 5 – 1.5%.
3. Severe dysplasia CIN III: 1 – 0.3%.
4. Cells indicating carcinoma in situ: 1 – 0.3%.
5. Very suspicious cells for invasive cancer: 2 – 0.6%

**Conclusions:** Expectations are that application of these tests in asymptomatic women, as natural course of the disease will be interrupted by efficient therapy of detected pre-clinical and pre-invasive conditions.

**P0882**

**HPV+ PATIENTS, AGE AS PROGNOSTIC FACTOR IN THE EVOLUTION OF HSIL**

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**Objectives:** The objective was to study the rate of progression to HSIL by age group of the HPV-positive patients, and to assess whether there is an age group with the largest increase in progression to HSIL.

**Method:** Retrospective study of 438 patients HPV+, a total of 6045 HPV determinations made in the period from January 2009 to December 2013. We studied:
- the rate of progression to HSIL by age ( <25 years, 25–45 years, 46–60 years, >60 years).
- interval time evolution of HSIL.

**Results:**
1. Negative result: 313 – 94.8%.
2. Slight to moderate dysplasia CIN I: 8 – 2.4%; CIN II: 5 – 1.5%.
3. Severe dysplasia CIN III: 1 – 0.3%.
4. Cells indicating carcinoma in situ: 1 – 0.3%.
5. Very suspicious cells for invasive cancer: 2 – 0.6%

**Conclusions:** Expectations are that application of these tests in asymptomatic women, as natural course of the disease will be interrupted by efficient therapy of detected pre-clinical and pre-invasive conditions.

**P0883**

**THE IMPLICATION OF ASYMPTOMATIC SEXUALLY TRANSMITTED INFECTIONS IN GYNECOLOGY OUTPATIENTS WITH HUMAN PAPILLOMAVIRUS INFECTIONS**

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**Objectives:** To determine the role of asymptomatic sexual transmitted infections (STIs) such as Chlamydia trachomatis (Ct), Mycoplasma genitalium (Mg), Mycoplasma hominis (Mh) and Ureaplasma urealyticum (Uu) in gynecology outpatient with human papillomavirus (HPV) infections.

**Method:** 102 asymptomatic outpatients aged between 22 and 75 (48.9±11.04) were enrolled during routine gynecological screening test. Specimen collected by cervix brush (Rovers Medical Devices B.V., The Netherlands) was routinely analyzed by Hybrid Capture 2 assay (Digene Corp., Gaitherburg, MD) for detecting HPV. Simultaneously, specimen obtained by endocervical swab was used to detect Ct and Mg by singleplex real-time PCR (Seqenee, Seoul, Korea) and utilized to prove Mh and Uu by Mycoplasma IST 2 kit (bioMérieux, Marcy-l’Etoile, France).

**Results:** Detection rate (%) of HPV, Ct, Mg, and Uu were 63/102 (61.8), 7/102 (6.9), 2/102 (2.0) and 47/102 (46.1), respectively. Of 47 Uu infections, 16 (34%) showed high density colonization (HDC, ≥10^4 CFU/ml). All Ct infections (7/7) were found in HPV infected group (p=0.042, Fisher’s exact test). And Uu infection was significantly related to HPV infection (p=0.021, Chi-square test). However, Mg (only 2 cases) and Mh infection were not associated with HPV infection (p=0.523, p=0.769, Fisher’s exact test).

**Conclusions:** Our data suggested that asymptomatic bacterial STIs such as Ct and Uu were closely related with HPV infection. We insist that Ct or Uu infection could be risk factors of HPV infection. Therefore, simultaneous evaluation of Ct and Uu should be performed with HPV detection on gynecology outpatients.

**P0884**

**TRIAGE OF ATYPICAL GLANDULAR CELL BY SOX1 AND POU4F3 METHYLATION: A TAIWANESE GYNECOLOGIC ONCOLOGY GROUP (TGOG) STUDY**

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**Objectives:** Invasive procedures including loop electrosurgical exci-
sion, cervical conization, and endometrial sampling are often rec-
commended when atypical glandular cells (AGC) are detected on Pap
smear with unsatisfactory colposcopy. These invasive procedures
may result in patient anxiety, increased medical expense, and in-
creasing the risk of preterm delivery in subsequent pregnancies. This
study was performed to assess methylation biomarkers in the triage
of AGC on Pap smear for invasive procedures.
Method: We conducted a multicenter study in 13 medical centers
in Taiwan from May 2012 to May 2014. A total of 55 samples di-
agnosed “AGC not otherwise specified” (AGC-NOS) were included.
All patients with AGC underwent colposcopy, cervical biopsy, en-
dometrial sampling, and conization if indicated. Multiplex quantita-

tive methylation-specific polymerase chain reaction (QMSPCR)
was performed. Sensitivity, specificity, and accuracy were calculated for
detecting CIN3+ and endometrial complex hyperplasia.
Results: In 55 patients with AGC, the sensitivity for methylated (m)
SOX1m, PAX1m, ZNF582m, PITRGMm, AJAP1m, HS3ST2m, and
POU4F3m for detecting CIN3+ and endometrial complex hyperplasia lesions
was 100, 86, 71, 86, 86, 57, and 100%; specificity was 67, 79, 85, 50, 52,
96, and 52%, respectively. Testing for high-risk HPV had a sensitiv-
ity of 57% and specificity of 75% for CIN3+ and endometrial complex
hyperplasia lesions.
Conclusions: Methylated (m) SOX1m and POU4F3m could be new
methylation biomarkers for detection of CIN3+ and endometrial complex
hyperplasia in AGC. Women with AGC and positive SOX1m/POU4F3m,
colposcopy, cervical conization or endometrial sampling should be consid-
ered.

P0885
EFFECTIVENESS OF CERVICOVAGINAL SELF-COLLECTION IN THE
SCREENING OF CERVICAL CANCER
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Objectives: To evaluate the results of vaginal self-collection in the
screening of cervical cancer and the quality of the material ob-

tained by the self-collection; Compare acceptability and result of self-
collection with one by a health provider; To evaluate the result of
self-collection cytology with HPV research and colposcopy; Compare
results of cytology with histopathological findings in positive cases;
Correlate findings of uterine cervical disease with clinical and epi-
demiological data.
Method: Prospective cross-sectional study involving 200 partici-
ants with abnormal cytology, randomly divided into two groups:
conventional Collection and Self-collection, evaluated at the Depart-
ment of Gynecology, Hospital das Clínicas, University of São Paulo.
Self-collection group harvested cytology with sterile brush named
Evalyn (Rovers). Both participants underwent colposcopy and HPV
research (PCR). Data were grouped in average and standard deviation
and analyzed using “t” test, when distribution was homogeneous.
Otherwise, we applied the Mann-Whitney test. The proportions were
compared by chi-square test. Spearmann test was used for clinical,
epidemiological data and results of cytology, colposcopy and biopsy.
Results: Self sampling had a high recovery of HR HPV, comparable
with provider-sampling. The agreement between sampling meth-
ods for the detection of HPV-DNA was good. As a confirmation, al-
most all HSIL at cytology were HR HPV positive at self sampled test.
Pooled specificit was highest for liquid-based cytology (LBC) for HSIL.
Physician-collected specimen had a discreet high sensitivity for HSIL
comparably to self-sampled specimen.
Conclusions: We can conclude that self-sampling could be an alter-
native screening for cervical cancer in women.

P0886
DEDICATED PROVIDERS INCREASE CERVICAL CANCER POSITIVITY
RATES USING VIA VILLI TECHNIQUE: A CASE STUDY FROM MARIE
STOPES KENYA
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Objectives: Marie Stopes Kenya (MSK) is an implementing partner
of the Cervical Cancer Screening & Preventative Therapy partner-
ship, which aims to integrate and scale up cervical cancer screening
into existing reproductive health networks in four African countries
[RC1] (Nigeria, Tanzania, Kenya and Uganda). Since project inception
in 2012, MSK has observed cervical cancer positivity rates among
clients of 2% to 4%, much lower than the WHO’s suggested positivity
rate of around 10%. MSK implemented a dedicated provider model of
cervical cancer screening and collected data enabling determination
of the model’s effect on positivity rates.
Method: In July 2014, MSK identified two mid-level cadre service
providers to become dedicated providers of cervical cancer screen-
ing in the four target countries. The providers had been trained in
the VIA/VILLI technique of cervical cancer screening in Febru-
ary 2014, but underwent further competency-based training in July
2014. Health facilities with known high client flow were utilised on
a routine basis as screening sites to reach more women. The results of
cervical cancer screening performed by these providers between July
2014 and January 2015 were compared with those of other mid-level
providers.
Results: Between July 2014 and January 2015, the two dedicated
providers screened 3,445 women in both public and private facilities.
Of the women screened, 229 tested positive for pre-cancerous lesions
of the cervix - a 7% positivity rate. Of the 229 positive women, 192
(83%) were eligible for treatment with cryotherapy, and 187 (97%)
received treatment on the same day. The remaining eligible women
were referred to more advanced facilities for higher-level treatment.
MSK’s other mid-level providers who screened during the same time
period observed positivity rates averaging 3%.
Conclusions: The positivity rate was higher in clients screened by
the dedicated providers than in those screened by non-dedicated
providers of the same cadre. These results add to a body of evidence
demonstrating that provider competency on the VIA/VILLI screening
technique improves accurate identification of precancerous lesions.
A model in which service providers’ screen on a routine basis could im-
prove the quality of services provided to women and deliver higher
health impact. For example, a provider initiated screening approach
could improve providers screening practices and help improve on
their skills on the VIA VILLI technique.

P0887
CONCORDANCE ANALYSIS OF METHYLATION BIOMARKERS
BETWEEN SELF-COLLECTED AND PHYSICIAN-COLLECTED
SAMPLES IN CERVICAL NEOPLASM
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Objectives: Non-attendance is a major limitation of cervical cancer
screening, while self-sampling is an alternative method for this. Al-
though HPV-testing on self-collected vaginal samples is acceptable,
the specificity is insufficient. The current trend is focused on minimising patient visits to a physician and increasing the use of self-collected vaginal samples. We verified the concordance and clinical performance between self-collected vaginal samples and physician-collected cervical samples for DNA methylation biomarkers (PAX1, SOX1, and ZNF582) in cervical neoplasm.

**Method:** We enrolled 136 cases with paired methylation data identified from abnormal Pap smear (n=126) and normal control (n=10). Study group included 37 CIN1, 23 CIN2, 16 CIN3, 30 CIS, 13 squamous cell carcinomas (SCCs) and 7 adenocarcinomas (ACs)/adenosquamous carcinomas (ASCs).

Real-time quantitative methylation-specific polymerase chain reaction was done to assess the methylation status of PAX1, SOX1 and ZNF582 in study samples. We generated cutoff values of methylation index for detection of CIN3. The concordance between physician-collected and self-collected group were evaluated by Cohen's Kappa. Sensitivity, specificity and area under curve (AUC) were calculated for detection of CIN3+ lesions.

**Results:** Sensitivity, specificity and AUC of PAX1, SOX1 and ZNF582 showed no significant difference between self-collected and physician-collected groups. Methylation status of all the three genes in normal control cervices, CIN 1, CIN2, CIN3, CIS, ACs/ASCs and SCC of cervix were concordant between these two groups. ZNF582 carries the highest specificity of 0.87 in self-collected groups. To obtain the best cutoff values from the self-collected group, we find that ZNF582 had the highest sensitivity (0.77; 95% CI: 0.65 to 0.87) using a cut-off of 0.0204.

**Conclusions:** Methylation biomarker analysis of the three genes shows good concordance between self-collected and physician-collected samples. This might help improve cervical screening by decreasing the rate of non-attendance.

**P0888**

**FEASIBILITY AND OUTCOMES OF INTEGRATED CERVICAL CANCER SCREENING AND TREATMENT IN MAPUTO, MOZAMBIQUE**

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**Objectives:** Cervical cancer (CC) is the most common cancer among women of reproductive age in Mozambique. In 2009, Ministry of health initiated National Program of prevention and control of cervical and breast cancer, which includes CC screening using visual inspection with acetic acid (VIA). Since August 2013, MSF is supporting CC screening and treatment integrated into sexual and reproductive health (SRH) activities in three health facilities in Maputo. Here we present the first results of this program.

**Method:** Cervical Cancer screening and treatment in Alto Mae, Xipamane, and Chambanculo primary health clinics started in August 2013. Women are offered CC screening during their post-natal visits or are referred from HIV clinics. VIA screening and cryotherapy are performed by a trained nurse. Women with positive VIA (VIA+) are invited for cryotherapy during the same consultation, and those with larger lesions are referred to the hospital.

**Results:** In total, 5290 women were screened with VIA since mid-2013. 17% (984) of those screened were identified as VIA+. The proportion of HIV+ women screened increased from 9% in 2013 to 22% in 2014, after organizing referral system from HIV clinics. Proportion of VIA+ was much higher among HIV+ women (29%) compared to HIV- women (14%). Among the women with identified lesions, 68% received cryotherapy during the same consultation, and additional 12% at their next visit. 14% of women had VIA lesions larger than 75% and were referred for advanced treatment.

**Conclusions:** We show that integration of CC screening into SRH service was feasible and intervention accepted by women. As described previously, our results confirm the higher proportion of VIA+ in HIV+ women. We also show that it is possible to establish links between HIV and SRH services to provide screening for this high risk group. 80% of women with precancerous lesions could receive treatment within 2 visits to SRH service; however the feedback of cases referred remains to be improved.

**P0889**

**SCREENING AND MANAGEMENT OF WOMEN ATTENDING COMMUNITY BASED HEALTH CAMPS IN BANGLADESH**

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**Objectives:** To find out the number of cervical pre-cancer and cancer among women attending health camps arranged at upazila health complexes with existing services of cervical cancer screening. To follow their management and observe constrains for availing the screening services.

**Method:** A cross sectional study was carried out at 96 health camps at upazila health complexes in 40 districts of Bangladesh from June 2012 to June 2014. A total of 52651 women attended the 4 days long health camps for screening cervical pre-cancer and cancer by Visual Inspection of cervix with Acetic Acid (VIA). VIA positive women were referred to the colposcopy clinic of Bangabandhu Sheikh Mujib Medical University (BSMMU) and nearer medical college hospitals for further management. VIA positive women had colposcopy and suspected pre-cancers were offered LEEP (Loop Electrosurgical Excision Procedure) or cold coagulation following “colposcopy and treat” protocol.

**Results:** On an average 548 women attended the health camp. The mean age of women was 37.2 (SD: 9.5) years. Among 52651 screened women, 2478 (4.7%) were VIA positive and among them 890 (35.9%) attended the colposcopy clinics. On colposcopy examination 36.5% had low grade lesions, 15.3% had high grade lesions and 1.1% had cervical cancers. 214 (24.0%) women with cervical pre-cancers were managed by LEEP and 114 (12.8%) were managed by cold coagulation. A significant number (64.1%) of screen positive women did not attend in colposcopy clinics and of which, about half could not be communicated over telephone.

**Conclusions:** The participation of women in the health camps was satisfactory. Women attending colposcopy clinics showed high acceptability to avail the “colposcopy and treat” protocol. The non-attendance to colposcopy clinics might be too much distance to the colposcopy clinics, financial crisis, lack of family support and social stigma. We believe that existing screening services and organizing the community based health camps at upazila health complexes with regular interval will improve the population coverage. Colposcopy and treatment services as “one stop service” along with the referral of difficult cases to colposcopy clinics may be effective for reduction of cervical pre-cancer and cancer.

**P0890**

**CERVICAL CYTOLOGICAL FINDINGS AT THE NATIONAL OBSTETRIC FISTULA CENTRE, ABAKALIKI, NIGERIA**


**Objectives:** Cervical cancer is the commonest gynaecological malignancy in the developing world. Screening with the aid of visual inspection with acetic acid (VIA) and Pap smear constitute the mainstay of prevention in our environment. The study was carried out to review Pap smear findings among women screened for cervical cancer screening.

**Method:** A retrospective study of 316 women who underwent cer-
vical cancer screening using the Pap smear at the National Obstetric Fistula Centre, Abakaliki, South-East Nigeria between October 2012 and March 2013. Sociodemographic details, medical history, physical examination findings, VIA results and Pap smear results were extracted from the database. Analysis of data was done using SPSS version 21.

Results: The mean age of the clients was 40.7 ± 10.7 years and majority of the women (33.5%) were aged 30 - 39 years. Majority of the women were married (75.3%) and grandmultiparous (63%). Over half of them were farmers (57.6%). Vaginal examination was normal in 87.7% of the women. Majority (66.5%) of the women had a negative test with VIA. Pap smear revealed normal result in 50%, inflammatory cells in 26.6% and dysplastic cells in 0.6% (2) of the women. The two women with dysplastic changes were married, of high parity with normal vaginal examination findings and negative VIA test.

Conclusions: The study showed a high awareness and uptake of cervical screening and a low prevalence of abnormal cervical smears among women in this environment.

P0891
FIRST PRECANCEROUS MASS SCREENING BY VIA/VILI IN COUNTRYSIDE OF 4 REGIONS OF NIGER
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Objectives: The aim was to determine precancerous lesion in countryside population.

Method: We report the results of mass cervical cancer screening by visual inspection method. It was a 6 months prospective study from October 2012 to March 2013 in countryside of four regions of Niger Republic. We visited every region during 2 consecutive days. When test abnormal test biopsy was made to be examined in the anatomical pathological unity of FSS.

Results: A total of 1,922 women were screened aged 15–67 years old, mean 32.52 years old. Precancerous lesions were relatively to patients 20–39 years old in 66.33% of cases, 15.13 years old at menarch, first married at 15–19 years old, and 57.95%. The patients had a very majority of the women (33.5%) were aged 30 - 39 years. Majority of the women were married (75.3%) and grandmultiparous (63%). Over half of them were farmers (57.6%). Vaginal examination was normal in 87.7% of the women. Majority (66.5%) of the women had a negative test with VIA. Pap smear revealed normal result in 50%, inflammatory cells in 26.6% and dysplastic cells in 0.6% (2) of the women. The two women with dysplastic changes were married, of high parity with normal vaginal examination findings and negative VIA test.

Conclusions: The study showed a high awareness and uptake of cervical screening and a low prevalence of abnormal cervical smears among women in this environment.

P0892
THE LANDSCAPE OF CERVICAL PRECANCER TREATMENT IN LOW-RESOURCE SETTINGS: NOT A PRETTY PICTURE
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Objectives: While organized screening programs have dramatically reduced cervical cancer rates in wealthy countries, they have largely failed to take hold in low and middle income countries (LMICs). As a result, more than 265,000 women die each year from cervical cancer, with 85% of those in LMICs. As part of an effort to understand the market dynamics of cryotherapy equipment, we undertook a landscape analysis of selected countries in Africa, Asia and Latin America to identify the supply, availability, price, procurement mechanisms, and distribution of treatment equipment and gas.

Method: This qualitative, descriptive study was carried out in two stages. In the first stage, we did a general review to identify key attributes to include in the topic guides and critical stakeholders to interview. For the second stage, interviews using the topic guides were conducted in nine focus countries with 6–12 key informants in each;
smear and HPV DNA (HPV-P) testing. Colposcopy was performed on all positive cases, with directed biopsy, if indicated. HPV testing was done by the method of Hybrid Capture 2 (HC2, Qiagen Inc.) and genotyping was done by Linear Array PCR (Roche). Test characteristics of various screening methods were determined. Concordance between results of self- and provider-collected samples was determined using a Kappa statistic ($\kappa$).

**Results:** Of 989 women, 83 (8.3%) were positive by HC2-S or HC2-P; 72 (7.2%) women on PCR; 18 high-risk and 8 low-risk HPV types were identified. Complete concordance was seen in 972 pairs (23 positive for same HPV type(s), 949 negative); partial concordance (both positive, different types) in 5 pairs; complete discordance in 10 pairs (provider-positive, self-negative – 4; provider-negative, self-positive – 6). There was 94.6% (95 CI: 93.2, 96.0) agreement (936/989 pairs) between self- and provider-collected samples [$\kappa$ = 50.4% (95% CI: 44.3, 56.5)]. The sensitivity, specificity of HC2-S and HC2-P were 62.5%, 95.8% and 75%, 93.8% respectively; of cytology 50% and 99.3% respectively.

**Conclusions:** Self-sampling for HPV testing compared favourably with provider-sampling and conventional cytology. With the availability of an affordable test it can be a possible alternative for cervical screening in developing countries.

**P0895**

**CERVICAL CANCER SCREENING WITH VIA IN EASTERN NEPAL – 3 YEARS ANALYSIS**

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**Objectives:** Objective was to analyse VIA as a screening tool for cervical cancer screening and efficacy of the treatment done for VIA positive lesions after one year follow up.

**Method:** All women of age 30–60 years are included in the study. step and the VIA testing in next step and the possible results and treatment options, cryotherapy/LEEP and its side effects if +ve VIA test result and the follow Patients were counseled about the importance of cervical cancer screening in first up. At the end of one year repeat VIA was tested and repeat treatment was done if found to be positive.

**Results:** Till date 12321 women have been already screened and 721 VIA +ve have been found and in 601 cryotherapy and rest 120 -LEEP has been performed. Apart from this 22 invasive cancers of cervix were detected and referred for radiotherapy. After 1 year of cryotherapy during follow up 130 have been found to be VIA negative and rest is yet to complete the one year after treatment.

**Conclusions:** VIA is a acceptable method of cervical cancer screening at our setup of low resource country. We should increase our screening plan more to the community.

**P0896**

**RISK SCORING MODEL FOR VENOUS THROMBOEMBOLISM IN GYNAECOLOGICAL CANCER PATIENTS; DERIVATION COHORT**

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**Objectives:** Venous thromboembolism (VTE) is a common post-operative complication in cancer patients associated with high mortality rates. Formalised risk assessment models (RAMs) for venous thromboembolism (VTE) using weighted and scored variables have only recently been widely incorporated into international antithrombotic guidelines. So the aim of the study was to develop a risk scoring model for predicting venous thromboembolism in gynaecological cancer patients.

**Method:** All patients attending St. James’s Hospital with confirmed gynaecological malignancies between 2006 to 2010 were included. 702 patients were enrolled.

**Results:** Logistic regression model was used to determine predictors of VTE. Initially each factor was examined individually, and then predictors were entered into a full adjusted model. Tumour stage, chemotherapy, WCC, neutrophils, and lymphocytes, in addition to age and BMI emerged as a potential predictors on individual analysis. Only BMI (OR=4.5), chemotherapy (OR=6.6) and high white cell counts (OR=2.2) showed statistically significant positive associations at p < 0.05. High neutrophils (OR=0.42) and lymphocytes (OR=0.36) showed a protective effect.

**Conclusions:** After the full adjusted analysis, the only risks of VTE remained significant (p <0.05), were BMI > 30, chemotherapy and high white cell counts.
Objectives: Cervical cancer is the second most common cancer among women in developing countries. According to WHO, 80% of cervical cancer deaths are from developing countries. It is the single largest killer of middle-aged women in India. An organized screening programme can reduce incidence of cervical cancer and mortality by 80% as shown in European countries. The major problem is low participation in the screening programme in India, where less than five percent eligible women turn up for screening. Objectives of this study were to assess women’s awareness on cancer cervix, their screening practices and perceived barriers for non-participation in screening.

Method: A face to face semi-structured questionnaire based interview was conducted between January, 2014 to June 2014, among the participant women (18–65 years) with a fixed list of questions in a standard sequence. The interview was conducted in a private atmosphere in their preferred language which lasted for about 10–15 minutes. The questionnaire included questions regarding the participants’ socio-demographic characteristics, knowledge regarding cancer cervix, Pap smear and practice of Papsmear. Barriers to non-participation in screening were also assessed. The data were analyzed by computer software Instat Graph Pad version-3 and significance was decided at p-value 0.05.

Results: Over all, only 59.1% of the participants had ever heard of cervical cancer. Seventy percent women were not aware of any risk factors or symptoms of cervical cancer. Only 27.8% of the participants ever had heard of Pap smear. Seventy three percent participants were not aware of correct age of commencing Pap smear. Of the 252 participants only 7.1% (n=18) had ever undergone Pap smear test. Majority (92.9%) of the women had never undergone a Pap smear. The most common reasons offered were ignorance about Pap smear (77.4%), did not considering themselves at a risk (20.1%), fear of the procedure/bad result.

Conclusions: Knowledge of cancer cervix, screening and practice of Papsmear is poor among women from the Indian state of Sikkim. There is an urgent need for information on the airwaves and in print media and education at health centers and local health posts on cervical cancer and its screening. Targeted government programmes in India and other low-income countries would increase the level of awareness and practice of screening.
among women worldwide. India contributes one-third of total cervical cancer mortality because few women have access to high quality preventive services. Screening methods using visual inspection with acetic acid (VIA) and cryotherapy for treatment are widely recognized and recommended by WHO as effective approaches to reduce cervical cancer incidence and mortality. Cervical cancer screening programs should strive to design and implement competency-based clinical training programs and ensure high-quality service delivery to achieve maximum health impact. We report on the implementation of a supportive supervision program in connection with cervical cancer prevention services.

**Method:** In June 2014, Population Services International (PSI), India launched a VIA-based cervical cancer prevention program in three districts of Uttar Pradesh, using a total of 76 private gynecologists. A three-day training curriculum was developed based on current internationally accepted guidelines and in line with Indian national guidelines. Training consisted of clinical skill building and patient education/counseling, including informed consent. A team of medical specialists conducted supportive supervision visits (SSV) to offer physicians on-the-job support for their initial screening visits. Checklists with critical steps outlined were developed to ensure quality service provision.

**Results:** A total of 76 physicians have been trained and received SSVs across the three districts in four training cohorts. A total of 8,018 clients have been screened between June 2014-February 2015, and a total of sixty-nine physicians (93%) have met PSI’s minimum quality standards with 74 supportive supervision visits. To data, three physicians have not met on technical competency, one for infection prevention practices and one for counseling. Action plans were initiated to improve clinical competency and service quality. Two providers are moving outside of the program catchment area and will not continue.

**Conclusions:** Focused attention to early capacity building among private providers can lead to provision of high quality services for women vulnerable to cervical cancer. Supportive supervision shortly after the initial training offers providers the chance to enhance and improve their clinical skills, including screening results and treatment, as well as their client interactions that include pre- and post-procedure counseling and education.

**P0902 ENGAGING THE PRIVATE SECTOR TO SUPPORT SCALE-UP OF CERVICAL CANCER SCREENING AND PREVENTATIVE TREATMENT SERVICES IN UTTAR PRADESH, INDIA**

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**Objectives:** Cervical cancer is a significant public health problem in India where it ranks second only to breast cancer in terms of mortality amongst female cancers. To date, there have been sporadic efforts to offer cervical cancer screening, but existing programs have not yet reached wide scale coverage among women. India lacks the necessary dedicated infrastructure and human resources required to effectively sustain cytology-based screening programs. While visual inspection with acetic acid (VIA) coupled with cryotherapy are now recognized as recommended screening approaches, they have yet not been implemented at scale in India.

**Method:** In 2014, Population Services International (PSI) launched a VIA-based "screen and treat" pilot program among women 30–59 years in three districts of Uttar Pradesh. A total of 76 private providers underwent an initial three-day competency-based course on VIA and cryotherapy. PSI also trained gynecologists at tertiary care district hospitals to manage advanced cases. Trained community health workers mobilized eligible women from the surrounding communities to access services in three models – in-clinic patients and women attendees, weekly fixed days and community screening camps. Women undergo an informed consent process where they are counselled before and after the screening procedure.

**Results:** Between July 2014-February 2015, 8,018 women were screened, of which 8% were VIA-positive. Among them, 399 (62%) underwent cryotherapy. Treatment rates were 48% in Kanpur, 56% in Lucknow, and 84% in Varanasi, respectively. Eleven cases were referred for advanced treatment. Challenges encountered include lack of obvious clinical indications, lack of services for co-morbidities and lack of finances. Factors responsible for the gap in treatment of VIA-positive cases include financial barriers for women, lack of decision making power to undergo treatment without consent from family members, lack of facilities for cryotherapy and difficulty in tracking women from distant places.

**Conclusions:** Initial data from the indicate that VIA positivity rates are comparable with published studies from India and other settings. A question that emerges from the preliminary data is how to scale-up the screen-and-treat program while ensuring treatment of VIA-positive cases. From a business perspective, private providers may see little potential for revenue in the current model of the screen and treat approach. An integrated service delivery model including comprehensive screening, treatment and referral services for several comorbidities such as anemia, undernutrition, diabetes, hypertension including breast and cervical cancer is being considered for implementation under a public-private partnership model.

**P0903 PREVALENCE OF ABNORMAL PAP SMEARS IN ANTENATAL WOMEN IN INDIA & EFFECT OF SAMPLING DEVICE ON SMEAR ADEQUACY RATE**

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**Objectives:** To determine the prevalence of abnormal PAP smears in our antenatal women and to know the ideal sampling device for taking a PAP Smear.

**Method:** Women attending the antenatal clinic with gestation of <28 weeks were recruited after an informed consent and randomly allocated into 4 groups: group 1, Ayre spatula alone, group 2 both spatula & cytobrush were used, group 3 a broom type of cytobrush was used & in group 4 cytobrush was used alone. The comfort level during smear taking & any problems noted were recorded using a pain score. The smears were stained using the PAP stain, were categorized as adequate or inadequate & classified as per Bethesda classification.

**Results:** We had 150 women participating, the mean age was 24.2 yrs, the mean period of gestation was 17 weeks; 43.9% were nulliparous. Smear adequacy rate was 84.3% with spatula, 61.5% with combined spatula & cytobrush, 60.5% with the broom sampler and 80% with cytobrush alone. Pain during procedure was reported in 2.9% of women, 18.3% had minor discomfort; 78.6% were comfortable. Minor bleeding during smear taking was noted in 15%; this was more with the cytobrush & broom than the Ayre spatula alone. Abnormal smears were seen in three women; 2 had AGC & one had LSIL.

**Conclusions:** Opportunistic cervical screening during pregnancy is safe and well tolerated. Abnormal Cervical smears were seen in 2% of our pregnant women. The standard Ayre spatula should be the preferred sampling device.
P0904
STUDY OF VULVOVAGINAL LESIONS BY CYTOLOGY COLPOSCOPY AND HISTOPATHOLOGY AND THEIR CORRELATION WITH CERVICAL PATHOLOGY AND ROLE OF DETECTION OF SUBCLINICAL PAPILLOMA INFECTION BY HPV DNA ANALYSIS

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Objectives: 1) To detect the presence of vulvovaginal & cervical lesions in symptomatic & asymptomatic women by Cytology, Colposcopy & Histopathology. 2) To establish if any association exists between vulvovaginal & cervical pathology. 3) To determine the presence of subclinical papilloma infection by HPV DNA analysis in symptomatic & asymptomatic group.

Method: Colposcopy & HPV PCR both have high sensitivity & specificity in all three sites vulva vagina cervix as compared to cytology which is least beneficial test HPV PCR detects subclinical cases often missed indicating towards its future role as a primary screening modality for detection of premalignant and malignant lesions of vulva vagina & cervix. There is an association between vulvovaginal abnormalities with cervical pathology & vice-a-versa. Entire lower genital tract of women with persistent vulvovaginal complaints should be screened and keep in scrutiny for follow up as they are the potential candidates for vulvovaginal malignancies.

Results: In vulva abnormality detected in 9 on inspection, 8 on cytology, 18 on colposcopy. In vagina abnormality detected in 2 on inspection, 7 on cytology, 7 on colposcopy In cervix abnormality detected in 24 on inspection, 10 on cytology, 26 on colposcopy. Total 22 vulval 7 vaginal & 28 cervical biopsy taken and 18 vulval, 7 vaginal & 15 were confirmed. Asymptomatic group also had underlying lesions. Sensitivity, specificity of cytology 33.3%, 97.5% in vulva, 75.14%, 96.8% in vagina 60%, 98.79% in cervix, of colposcopy 88.9%, 97.56% in vulva, 85.7%, 97.8% in vagina 93.3%, 85.4% in cervix & of HPV test 50%, 96.4% in vulva, 100%, 93.5% in vagina 80%, 89.5% in cervix respectively.

Conclusions: Colposcopy & HPV PCR both have high sensitivity & specificity in all three sites vulva vagina cervix as compared to cytology which is least beneficial test HPV PCR detects subclinical cases often missed indicating towards its future role as a primary screening modality for detection of premalignant and malignant lesions of vulva vagina & cervix. There is an association between vulvovaginal abnormalities with cervical pathology & vice-a-versa. Entire lower genital tract of women with persistent vulvovaginal complaints should be screened and keep in scrutiny for follow up as they are the potential candidates for vulvovaginal malignancies.

P0905
HUMAN PAPILLOMA VIRUS SEROPREVALENCE AND CERVICAL CYTOLOGY CORRELATES OF WOMEN PRESENTING TO THE REPRODUCTIVE HEALTH CLINIC

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Objectives: To determine some socio-demographic variables and risk factors of the participants. To determine any correlation between the HPV seroprevalence and cervical cytology of the participants.

Method: Ethical approval for the study was obtained and 150 consecutive consenting women presenting at the Reproductive Health Clinic of the Ahmadu Bello University Teaching Hospital, Zaria, Nigeria had Pap smear and blood samples taken for HPV ELISA test. A questionnaire was also completed by each of the participants. Data was analyzed using SPSS version 20.

Results: Only 10 (15%) were less than 30 years old. Majority 121 (80.4%) had some form of western education. The mean age at coitarche was 20.98±4.23. Most of the women 83 (55.3%) had parity above 4. None of the women had ever smoked. The HPV prevalence was 43.3%. Only 22 (42.3%) of the 52 women with abnormal cytology, were HPV positive (P=0.427).

Conclusions: The health seeking behavior of younger women <30 years where screening would have been most helpful to pick premalignant disease was low as only 10 (15%) were available for screening. The Pap smear picked up more abnormal cytology compared to the HPV screening.

P0906
DIAGNOSTIC ACCURACY OF A PORTABLE FIELD COLPOSCOPE IN A VIA AND HPV DETECTION BASED CERVICAL CANcer SCREENING PROGRAM

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Objectives: Increasing number of low and middle income countries (LMIC) are using Visual Inspection after Acetic Acid (VIA) or Human Papillomavirus (HPV) detection test for cervical cancer screening. Though “screen and treat” strategy is being strongly recommended in such settings, the low positive predictive values of both the tests will lead to lot of unnecessary treatment. A simple diagnostic device to triage the screen-positive women, as alternative to colposcopy, can potentially reduce over-treatment and improve program efficiency. GynocularTM is a battery-operated, portable, device with three-step magnification and green-filter. Present study was conducted in a community setting to evaluate accuracy of GynocularTM.

Method: Women between 30–60 years were screened in the rural clinics in India using VIA and HPV test performed by trained health workers. Hybrid Capture 2 (HC2) was used to detect 13 high-risk types of HPV. Women positive on either test had evaluation by GynocularTM in the rural clinics by trained clinicians using IFCPC 2011 colposcopy classification. Punch biopsy was obtained from any lesion detected by GynocularTM. Women without any lesion also had at least one punch biopsy from the anterior lip of cervix close to squamo-columnar junction. The sensitivity and specificity and agreement between histology and gynocular diagnosis were estimated.

Results: Total 6596 women were screened using both VIA and HC2 test from April, 2014 to January, 2015. Total 531 women were positive on either VIA or HC2 test and were examined by GynocularTM. A total of 21 cases of CIN2/CIN3 and 3 cases of cancer were detected. The sensitivity and specificity of Gynocular (at threshold of IFCPC Grade 2 findings) to detect CIN 2+ were 83.3% (95% CI: 62.6–95.1%) and 97.6% (95% CI: 95.8–98.8%) respectively. Positive predictive value was 64.5%. Agreement between GynocularTM findings and histology was fair with weighted kappa 0.34 (95% CI: 0.28–0.40).

Conclusions: There is a great need for a technically less demanding and inexpensive colposcope to be used for programs in LMICs. GynocularTM was found to have good correlation with colposcopy in earlier studies. Our study confirmed high accuracy of the device with histologic endpoint in a large screening population. The agreement of GynocularTM with histology was same as that of colposcopy reported in our earlier study conducted in the same setting. The portability of the device, long battery back-up and ability to capture images using mobile phone are the advantages that make Gynocular suitable for cervical cancer screening programs in LMICs.
P0907
GYNECOLOGIC CANCER SCREENING ASSESSMENT: A QUALITATIVE RESEARCH ON ECUADORIAN WOMEN
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Objectives: The purpose of this work was to explore the knowledge, attitudes, and beliefs regarding the gynecologic cancer screening on Ecuadorian women users of primary care facilities. To analyze how their perceptions are related with their demand and participation on those programs.

Method: The research design was exploratory and qualitative. Nine focus groups and four in depth interviews were conducted for data collection. The total number of participants was 81 women between ages of 18 to 65 years old. All interviews were tape recorded and transcribed for analysis. Data was extracted and classified by categories. A narrative content analysis of the results was conducted.

Results: All women related knowing about gynecological cancer screening, however most women’s knowledge was confused. The most frequent misconceptions related to the pap smear were: the belief that it could be useful for detecting pregnancy, ovarian cysts or infections. Most of the participants stated that the pap smear procedure is traumatic and painful experience. In relation to the routine breast examination many women think that self-examination consist in a preventive massage. According to them mammography is not for screening but for confirming or ruling out breast cancer diagnosis and this procedure by itself may cause cancer.

Conclusions: Primary health care programs need to emphasize on the importance of the gynecological cancer screening; greater efforts are needed to inform and educate women; it is important to encourage health practitioners target aspects of perceived susceptibility among their patients and to avoid an authoritarian behavior that often results in abandonment or passive behavior of their patients.

P0908
CONTRIBUTION OF THE BURKINABE SOCIETY OF OBSTetrics AND GYNECOLOGY (SOGOB) TO CERVICAL CANCER PREVENTION IN BURKINA FASO
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Objectives: To establish cervical cancer prevention services in Burkina Faso through the involvement of the local affiliate of FIGO.

Method: This was a desk review of all activities undertaken by SOGOB for the prevention of cervical cancer in Burkina Faso between January 1st 2012 and December 31, 2014. The main interventions were advocacy, training of healthcare workers using the single visit approach with visual inspection of the cervix after applying acetic acid (VIA), facilitative supervision following the training, equipping service delivery sites and a collaboration with all stakeholders involved in the fight against cervical cancer in the country.

Results: Cervical cancer screening was introduced into 12 sites, 2 teaching hospitals, 9 regional hospitals and 1 district hospital. Eighty six providers and 16 trainers were trained. Every hospital was equipped with a cryotherapy machine, a CO2 tank and some supplies. Once services were in place 4 campaigns of sensitization and 4 facilitative supervisions were carried out. During the 3 years period, 3461 women were screened with 4.7% of VIA positive. The main challenges were the breakdown of the cryotherapy machines, the stock out of CO2 and supplies and the lack of ownership of the program by the different hospitals.

Conclusions: SOGOB has played an important role in establishing cervical cancer prevention services in Burkina Faso. Keys to the sustainability of the program will be preservice training in cervical cancer screening using the single visit approach and more engagement from the ministry of health and donors.

P0909
GYNECOLOGIC PRECANCEROUS AND CANCER RATES ALONG WITH GYNECOLOGIC PREVENTIVE SCREENING ACCEPTANCE RATES IN A POPULATION OF WOMEN WITH DISABILITIES: 10 YEAR DATA REVIEW FROM A SPECIALTY GYNECOLOGIC CARE CLINIC AT THE CHRISTIANA CARE HEALTH SYSTEM IN DELAWARE
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Objectives: Gynecologic preventive care services are important reproductive healthcare services for the detection of a range of gynecologic problems, including pre-malignant and malignant cancers including breast, cervical, endometrial and vulvar cancers in women over their lifespan. As women with disabilities are living longer lives, they are at risk for gynecologic malignancies due to medical comorbidities such as diabetes and obesity along with gynecology risk factors including nulliparity, menstrual irregularity and prolonged estrogen exposure. Compounding these risks are the issues of limited access to outpatient gynecology care and limited compliance with routine gyn screening visit guidelines as recommended by American College of Obstetrics and Gynecology and other supervisory health care agencies.

Method: A review of 10 year outcome data from a population of women with disabilities who access gynecologic care services at a specialty gynecology clinic at Christiana Care Health System will be presented.

A review of the premalignant and malignant gynecologic cancers documented in this patient population will be discussed along with their medical and associated health risks along with other identified factors, including frequency of gyn exams and acceptance of gyn screening procedures (pap smear collection, bimanual exams, endometrial sampling and breast screening procedures).

A review of the most common medical diagnosis seen in association with the diagnosis of a gynecologic malignancy in the population of women with disabilities will be identified.

Results: Gynecology malignancies in women with disabilities will be diagnosed with increasing frequency as the population of women with disabilities live longer lives but continue to have high rates of medical co-morbidities such as obesity and diabetes. Due to limited access to outpatient gynecology services, women with disabilities are at risk for late diagnosis of pre-malignant and/or malignant gynecology health issues. A review of the gyn pre-malignant and gyn malignancies encountered in the population of women with disabilities who received gynecology care at the Christiana Care Health System from 2004–2014 will be reviewed along with a discussion of their preceding gyn care history.

Conclusions: Women with disabilities may have increased risks for certain gynecologic premalignancies and malignancy due to medical co-morbidities and limited access to gynecologic preventive health services. The rates of these hormone mediated gynecologic malignancies including endometrial cancer and/or breast cancer will be reviewed over a 10 year time period in a population of women with disabilities who access gynecologic services via a community outpatient care site, Christiana Care Health System in Delaware. A retrospective review of the patient identified gynecology and medical co-morbidities along with a review of the patient’s compliance with ACOG recommended preventive health visit guidelines will be undertaken.
**P0910**

TENDENCY TO BREAST RECONSTRUCTION AFTER BREAST MASTECTOMY AMONG IRANIAN WOMEN WITH BREAST CANCER

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**Objectives:** The aim of our study is to evaluate the rate of tendency to breast reconstruction surgery among women with breast cancer who had mastectomy but did not reconstruction surgery and assess associated factors that effect on their decision.

**Method:** This cross sectional study was conducted in Mashhad, north east of Iran during 2013. 108 consecutive patients with breast cancer after mastectomy were completed the valid and reliable questionnaire about their attitude towards breast reconstruction surgery and associated factors. Demographic data and 21 items of questionnaire were compared between patients with tendency to breast reconstruction and who did not.

**Results:** 62 patients had a tendency to breast reconstruction and 46 (42.6%) of them had not. The most of the participants (45%) belong to age group of 35–45 year old. The mean age of patients in first group (43.3±8.03) was 6.3 year lesser than the second group (49.6±9.9) (P<0.001). The frequency of agreement about impact of the following items on their decision was significantly different between two groups. Impact of breast reconstruction on appearance and beauty (P<0.001), mood (P=0.001), Family living conditions (P<0.001) and their opinion (P<0.001). Lack of sufficient information (p=0.01), Physician's opinion (p<0.001) and Priority of Cancer Breast Treatment (p=0.02).

**Conclusions:** More than half of the patients have a tendency to breast reconstruction surgery although they did not it yet. Identify the factors that can increase the tendency and factors that help to change the intention to action are important and should be investigate in future research.

**P0911**

A LITERATURE REVIEW ON EXERCISE AS A PREVENTION OF FATIGUE IN CANCER PATIENTS

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**Objectives:** Cancer-related fatigue is a disabling and distressing symptom present throughout the cancer trajectory from the time of diagnosis is until the end of life. In recent years, an increasing number of evidences show that both exercise and physical activity could be safe and beneficial to the people with cancer. Exercise not only prevents and controls cancer but also it helps in improving physical function, cardio respiratory fitness, quality of life and reduces cancer-related fatigue. This study aimed to identify evidence in the scientific literature related to the use of exercise to prevent fatigue in patients diagnosed with cancer.

**Method:** We performed a search of publications indexed in electronic databases: Cochrane Library, PubMed/Medline, Cinahl, EBSCO Host. Selected literatures were randomized controlled trials published from 2010 to 2015 and contained all the following key words: cancer, fatigue, exercise, and cancer related fatigue. After completion of database searches, a final total of 44 studies published in English were identified that fitted the inclusion criteria.

**Results:** Studies have shown that majority of patients go on a walk as exercise. The large number of studies suggested that exercise had a moderate effect in reducing some symptoms such as fatigue, depression, and sleep disturbance. The effect of exercise on fatigue seemed to differ by the type of cancer, and patients with solid tumors benefit the most from exercise.

**Conclusions:** Cancer-related fatigue along with the burden of the side effects can lead to a reduction in functional ability. According to the results, the exercise is effective in the management of cancer-related fatigue. However, further studies on the subject, with strong research designs, are extremely important to evaluate the effect of new interventions and strengthen the role of oncology nursing based on scientific evidence.

**Reproductive Endocrinology**

**P0912**

CONGENITAL ADRENAL HYPERPLASIA AND INFERTILITY: A CASE REPORT

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**Objectives:** Analyze the most important points in the diagnosis, treatment and involvement of HSC in fertility.

**Method:** Couple with 3.5 years primary sterility. Female 34 years, mild hirsutism, BMI 30. Hormonal determinations, ultrasound and HSG were normal. Severe male factor due to Leydig tumor cells. After two ICSI cycles without response and progesterone unusually high levels, we studied adrenal axis that shows high 17-OH progesterone basal levels and after short ACTH stimulation. Gene mutation study: Non classical 21-hydroxylase deficiency and classical carrier. Negative male. After corticosteroid therapy progesterone was normalized and after two ICSI cycles BHCG was positive.

**Results:** Ultrasound control showed Dichorionic-diamaionic twin pregnancy with abortion of a fetus in 9 weeks of pregnancy. Endocrinology corticosteroid therapy continued throughout gestation despite male phenotype. At 41+3 weeks of pregnancy we obtained a stillbirth after cesarean delivery without complications.

**Conclusions:** 21-hydroxylase deficiency courses with hormonal alterations that can diminish fertility. In severe forms, produces virilization hyperandrogenism and menstrual disorders. A correct diagnosis is important for the stimulation cycle management. The study of carriers and their partners avoids extreme forms in the offspring.

**P0913**

EFFECT OF LEPTINE ON ESTRADIOL SECRETION BY HUMAN GRANULOSA CELLS IN CULTURE

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**Objectives:** The objective of our study is to investigate the effect of leptin on estradiol (E2) production by Granulosa cells (GC) in culture. Part of cumulus surrounding cumulus-oocyte complex was aspirated with a Pasteur pipette and then centrifuged at 400g for 10 min. Patients were allocated into two groups according to the body mass index. GC was cultured in serum free conditions for 48 hours in the absence or presence of different concentration of leptin (1, 10 and 100 ng/mL). At 48 hours of the culture, estradiol concentration was measured in culture supernatant by radio immunoassay.

**Results:** At the dose of 1 and 10 ng/ml, leptin stimulated, whereas at the dose of 100 ng/ml significantly suppressed E2 production with respectively (16775, 15265 and 5315 pg/ml) compared to the control.
P0914
BLEPHAROPHIMOSIS PTOSIS EPICANTHUS-INVERSUS SYNDROME (BPES) – A RARE CAUSE OF PRIMARY OVARIAN INSUFFICIENCY, STUDY OF TWO CASES
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Objectives: To study Blepharophimosis ptosis epicantus-inversus syndrome (BPES) as a cause of primary infertility and secondary amenorrhea.

Method: Study of two cases presented in Gynaecology OPD of AIIMS Rishikesh was done.

Case reports: Case 1: 35 years old lady. Case 2: 28 years old lady. Both presented with primary infertility and secondary amenorrhea.

On examination both patients had bilaterally shortened horizontal palpebral fissure (blepharophimosis), severe impairment of the superior palpebral levator function (ptosis), vertical skin fold arising from the lower eyelid, which inserts medially in the upper lid (epicanthus inversus), increased inner canthal distance with a normal outer canthal distance (telecanthus) which formed Blepharophimosis ptosis epicantus-inversus syndrome (BPES).

Serum FSH was more than 40 mIU/ml on two occasions in both patients suggesting primary ovarian insufficiency.

Both patients were diagnosed as BPES type I.

Conclusions: Amenorrhea can be a presenting symptom of various rare syndromes. BPES is a condition that mainly affects development of eyelids. Because of these eyelid abnormalities eyelids cannot be opened fully. There are two types of BPES. Both types I II include the eyelid malformations and other facial features. Type I is also associated with an early primary ovarian insufficiency in women, which causes oligomenorrhea and eventually amenorrhea before age 40. Primary ovarian insufficiency can lead to subfertility or infertility. Cases can be detected at an early age because of the obvious visible features and oocyte preservation can be offered at the earliest.

P0915
REVERSING THE REDUCED LEVEL OF ENDOMETRIAL GLUT4 EXPRESSION IN POLYCYSTIC OVARY SYNDROME: A MECHANISTIC STUDY OF METFORMIN ACTION
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Objectives: Conflicting results have been reported regarding whether or not insulin-regulated glucose transporter 4 (GLUT4) is expressed in human and rodent endometria. There is an inverse relationship between androgen levels and insulin-dependent glucose metabolism in women. Hyperandrogenemia, hyperinsulinemia, and insulin resistance are believed to contribute to endometrial abnormalities in women with polycystic ovary syndrome (PCOS). However, it has been unclear in previous studies if endometrial GLUT4 expression is regulated by androgen-dependent androgen receptors (ARs) and/or the insulin receptor/Akt/mTOR signaling network.

Method: We have used endometrial tissue from PCOS patients and the 5α-dihydrotestosterone (DHT)-induced PCOS-like rat model in vivo and in vitro. Western blot and immunofluorescence assays were used.

Results: We demonstrate that GLUT4 is expressed in normal endometrial cells and is down-regulated under conditions of hyperandrogenemia in tissues from PCOS patients and in a 5α-dihydrotestosterone-induced PCOS-like rat model. Reduced endometrial GLUT4 expression and increased AR expression in PCOS patients. Using a human tissue culture system, we investigated the molecular basis by which GLUT4 regulation in endometrial hyperplasia tissues is affected by metformin in PCOS patients. We show that specific endogenous organic cation transporter isoforms are regulated by metformin, and metformin induces GLUT4 expression and inhibits AR expression and blocks insulin receptor/Akt/mTOR signaling in the same hyperplasia human tissues.

Conclusions: Our findings indicate that changes in endometrial GLUT4 expression in PCOS patients involve the androgen-dependent alteration of AR expression and changes in the insulin receptor/Akt/mTOR signaling network.

P0916
MICRONUCLEUS TEST EVALUATION IN WOMEN WITH POLYCYSTIC OVARY SYNDROME (PCOS)
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Objectives: PCOS is a complex multigenic disorder related to insulin resistance and others metabolic disorders. It’s known that over expression of genes SRD1A1 (5p15.32) and SRD1A2 (2p23.2) related do androgen biosynthesis, are involved in PCOS. The correlation between PCOS and metabolic changes could be explained by genetic modifications at 19p13.2. Metabolic changes demand oxidative stress, providing high genotoxicity potential. Micronuclei (MN) test can detect fragments of acenric chromosome separated from the whole nucleus. We aimed to determine the frequency of MN and other nuclear abnormalities in PCOS women.

Method: Buccal cells of 19 PCOS patients diagnosed by NIH criteria (classic phenotype) and 19 women (control group) were collected and prepared according to Thomas et al. (2009) protocol. The analysis of nuclear alteration followed Bolognesi et al. (2013) recommendations. Statistical analysis were performed using G Cochran, chi-square, fisher exact and Mann-Whitney tests (p < 0.005). The relationship between increased genotoxicity and repair index were measured according to Ramirez & Saldanha (2002).

Results: We observed the frequency of basal and differentiated cells (cell proliferation markers), micronuclei, and other cytological aspects as binucleated cells (both are genotoxicity markers). We also observed karyorrhexis and karyolysis (wich are cell death markers) in both groups. The frequency of MN was found statistically significant higher in the PCOS group (18/19) than control group (10/19). Rates of DNA repair and proliferation was lower in PCOS group compared to control.

Conclusions: The MN test has a rapid, inexpensive and easily performing in cytogenetics laboratories. Our PCOS group had more nuclear changes and statistical analysis showed lower proliferation and repair indexes, an evidence of genotoxicity and citotoxicity. Our results suggest that in PCOS the elevated oxidative stress have clastogenic and aneugenic effects caused by excessive oxygen reactive species formation.
P0917

EFFECTS OF MYOINOSITOL ON CLINICAL, HORMONAL & METABOLIC PARAMETERS OF PCOS IN COMPARISON TO METFORMIN

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Objectives: To assess the efficacy of myoinositol in improving clinical, hormonal and metabolic parameters in Polycystic Ovary Syndrome (PCOS) compared to metformin.

Method: This randomized controlled trial was conducted after approval from Institute’s ethics committee. Total 50 women of PCOS as diagnosed by Rotterdam’s 2003 criteria after excluding other endocrinological disorders; were randomized into 2 groups, Group I (n=25) received myoinositol 1gm twice daily orally and group II (n=25) received oral sustained release metformin 850mg twice daily for 6 months. Patients were followed up at 3, 6 months during therapy & at 9 months i.e. 3 months post-therapy, clinical parameters (cyclic, hirsutism, acne), hormonal profile (LH, FSH, LH/FSH, testosterone, SHBG) and metabolic parameters (Blood sugar, insulin, HOMA-IR, lipid profile) were assessed at baseline & follow ups.

Results: Cycle length was 64±12 & 68±11 days with 5.8 & 5.6 menses/year; improved to 48±6 & 56±10, 34±7 & 45±8 and 30±3 & 38±7 (p<0.001) at 3, 6 & 9 months; Cyclicity improved to 4.7 & 4.2 per 6 months. At 9 months, 23 (92%) and 7 (28%) patients had regular cycles (p=0.04); Acne and hirsutism reduced by 32.2% & 25% and by 31.9% & 26.5% in group-I & II respectively. LH/FSH improved by 12% (p=0.05) and 1.5% (p=0.2); SHBG improved by 43.9% and 45.5% (p=0.00); HOMA-IR improved by 27.3% & 26.3% (0.002), in group-I & II respectively. Lipid parameters improved in both groups. Minor gastrointestinal side-effects persisted in 36% upto 6 months in group-II.

Conclusions: Myoinositol is as effective as metformin in improving the symptoms of PCOS but better persistence of menstrual cyclicity after stopping therapy is seen with myoinositol. Better improvement in LH/FSH ratio is also seen with myoinositol as it has lesser gastrointestinal side-effects. It can be a good option for PCOS patients.

P0919

SMALL LEUCINE-RICH PROTEOGLYCANS CHANGES IN THE ENDOMETRIUM OF POLYCYSTIC OVARY SYNDROME

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Objectives: To compare the small leucine-rich proteoglycan amount in the endometrium of polycystic ovary syndrome patients to women with regular cycle.

Method: A total of 20 endometrial samples from 10 patients with PCOS and 10 women with regular menstrual cycles during the proliferative phase. The range age was between 20 and 35 years and all volunteers were evaluated at Divisão da Clínica Ginecológica do Departamento de Obstetricia e Ginecologia do Hospital das Clínicas da FMUSP (HC-USP). Profile determination and concentration of small leucine-rich proteoglycans (decorin, lumican, fibromodulin and biglycan) were performed by biochemical method of fluorimetric assay (ELISA-like) and western blotting. Student t test was used (p<0.05).

Results: Decorin and lumican showed higher immunoreactivity in PCOS endometrium when compared to one of women with regular menstrual cycle.

Conclusions: Our data suggest that PCOS patients have a large amount of small leucine-rich proteoglycan, specially the decorin and lumican concentration in the endometrium during proliferative phase.

P0920

DOES MELATONIN IMPROVE THE ANGIOGENESIS OF LUTEAL-GRANULOSA CELLS OF WOMEN UNDERGOING IN VITRO FERTILIZATION TREATMENT?

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Objectives: To analyze the melatonin effect on the angiogenesis process on the luteal granulosa cells of women undergoing in vitro fertilization treatment.

Method: We included 68 patients undergoing in vitro fertilization treatment. After the retrieval procedures, the luteal granulose cells were removed and prepared to cell cultures. The cells were divided into four groups: a) vehicle; b) 0.1 uM melatonin; c) 1 uM melatonin; d) 10 uM melatonin. After three days the cells were scratched and prepared to RNA analysis. The 96 gene microarray were performed to analyze the angiogenesis.

Results: The overexpressed genes were AKT1, ANGPT2, ANGPT4, EGF, MDK, PGK1, TIMP2 and VEGFA (> 3 fold) after 1 uM and 10 melatonin treatment. The results were confirmed by PCR-RT.

Conclusions: Our data suggested that melatonin may improve the angiogenesis of luteal granulose cells.
P0921
DIFFERENCES IN THE EXPRESSION OF STEM CELL-RELATED GENES BETWEEN THE ENDOMETRIUM AND ENDOMETRIOTIC LESIONS

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Objectives: To compare the expression of stem cell-related genes in the endometrium (END), superficial endometriosis (SE), and deep infiltrating endometriosis (DIE).

Method: We performed a prospective pilot study of six women suffering from SE and DIE who gave consent for laparoscopy surgery, endometrial biopsies, and participation in this study. Quantitative RT-PCR analysis of 84 stem cell-related genes was performed in 18 biopsy samples.

Results: A total of 40 of 84 genes were expressed in SE and DIE, but were different from END as follows. Seven genes were overexpressed in SE and 33 genes were underexpressed in DIE compared with END. Two genes were only overexpressed in SE and three genes were only underexpressed in DIE. Six underexpressed genes were exclusively located in SE and one was only located in DIE. The remaining 31 genes were not different among the groups. There was no significant difference in gene expression between SE and DIE samples.

Conclusions: Tissue of deep and superficial endometriosis appears to have similar stem cell-related genes. Nevertheless, there are some differences in gene expression between SE and DIE that require further validation regarding development of endometriosis.

P0922
SYSTEMATIC REVIEW OF FINASTERIDE EFFECT ON WOMEN WITH HIRSUTISM


Objectives: To evaluate the efficacy and safety of finasteride treatment on the cutaneous hyperandrogenism of women through systematic review.

Method: A systematic review of the MEDLINE and Cochrane databases, covering the 1990 to January 2015 period of time. Selection criteria: Inclusion: randomized clinical trials of efficacy and safety of finasteride women with Polycystic Ovarian Syndrome (PCOS) or Idiopathic Hirsutism through clinical evaluation using the Ferriman–Gallwey score. Exclusion criteria: other causes of hirsutism, such as congenital adrenal hyperplasia; Ovarian or Adrenal tumor, Cushing Syndrome, Hyperprolactinemia, Thyroid dysfunction and use of anabolizant, herbal or GnRH analogues. Data Collection and Analayis: The keywords used: “hirsutism” AND “finasteride”.

Results: The results showed that finasteride is effective and safe agent after six months of the treatment compared to placebo (n=5) and other drugs (n=6). Also, the finasteride associated to other drugs presented more benefits than alone. Adverse effects associated with the use of finasteride are more common dry skin, decreased libido, headache, gastrointestinal changes, feeling of swelling and allergic symptoms. These effects are mild or absent in 43% of studies (n=7). Nine other studies have reported that these are moderate and one study reported had lost follow-up due to adverse reactions finasteride.

Conclusions: Our data suggest that finasteride is beneficial and safety for hirsutism treatment of patients with PCOS or idiopathic hirsutism.

P0923
HOW DOES OVERWEIGHT INFLUENCE THE CLINICAL, HORMONAL AND METABOLIC PARAMETERS AND CARDIOVASCULAR RISK OF BRAZILIAN WOMEN WITH POLYCYSTIC OVARY SYNDROME?

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Objectives: To evaluate the impact of the overweight on the clinical, hormonal and metabolic features of Brazilian PCOS.

Method: This is a retrospective study from 1993 through 2007. We included 242 patients with polycystic ovary syndrome (PCOS). Patients were classified according to their body mass index (BMI) into normal (<25), overweight (25–29.9), obese (>30). The following features were compared among the groups: a) clinical – menstrual pattern, hirsutism, acne and blood pressure (BP); b) hormonal – FSH, LH, estradiol (E2), testosterone (T), androstenedione (A), 17 OH-progesterone, SDHEA and LH/FSH ratio; c) metabolic – fasting plasma glucose (OG), glucose tolerance (G120), fasting plasma insulin (OI), HDL-C, triglycerides (TG) and SHBG; d) insulin sensitivity tests.

Results: The total and free testosterone of obese group was superior to one of lean group, but the LH and SHBG of obese group was inferior to lean group (LG). The values of total and free testosterone of overweight group were higher than ones of LG. The fasting insulin and HOMA of overweight group was similar to LG. The values of waist circumference and systemic blood pressure of lean and obese groups were the lowest and the highest, respectively. The overweight had an intermediate behavior of those parameters.

Conclusions: Our data suggest that the androgen profile of overweight women were higher than one of lean women. The glucose metabolism of overweight is similar to lean women and lower than one of obese patients.

P0924
CHANGE IN MYELOPEROXIDASE INDEX IN POLYMORPHONUCLEAR NEUTROPHILS DURING THE NORMAL MENSTRUAL CYCLE

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Objectives: The physiology of reproduction is influenced by inflammatory reactions. Myeloperoxidase is present in high concentrations in neutrophils and can be measured using the myeloperoxidase index (MPXI). The purpose of this study is to investigate whether MPXI changes during the normal menstrual cycle.

Method: The present study investigated MPXI-changes in 81 menstrual cycles between Jan. 2012 and Dec. 2014 at Kanazawa Medical University, Japan. Eligible women were below 40 years old with non-inflammatory conditions. 1) We analyzed the difference in the amount of MPXI between normal menstrual cycles and amenorrheic women. 2) Normal menstrual cycles were divided into early follicular, late follicular, ovulatory, and luteal phase based on serum hormonal levels and day of menstrual cycle. MPXI-changes of the normal menstrual cycles versus the amenorrheic women were examined. A t-test and one-way ANOVA, followed by a Games-Howell test, were used for statistical analysis.

Results: 1) There was a significant difference in the amount of MPXI between the normal menstrual cycles and the amenorrheic women.
increased versus the amenorrheic women (6.429±1.115, 7 cycles, P=0.025, 95% CI of the difference [lower–upper]: 1.267–18.819). In the luteal phase, MPXI also significantly increased versus the amenorrheic women (5.160±0.708, 10 cycles, P=0.048, 95% CI of the difference: 0.096–17.453).

Conclusions: This study revealed changes in MPXI during the normal menstrual cycles. Changes in MPXI suggest that neutrophil function may be essential for the healthy cycle and that neutrophils play an important role in female reproductive events.

**P0925**

**SCAFFOLD-BASED DELIVERY OF ADIPOSE TISSUE-DERIVED STEM CELLS IN RAT CRYOPRESERVED OVARIAN GRAFTS**


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Objectives: To evaluate rat cryopreserved ovarian graft treated with scaffold-based delivery of adipose tissue-derived stem cells (ASCs).

Method: Fifteen 12-week-old adult female Wistar rats were use. Two sets of study were performed. The in vitro-set evaluated cell viability in the acellular matrix Gelfoam at different times of co-culture (after 24, 48, 72, 96 and 120 h). In vivo-set, the frozen-thawed ovarian grafts were treated with ASCs delivery in Gelfoam scaffolds, immediately after an autologous retroperitoneal transplant (ASC-GF, n=9). Controls received Gelfoam with culture medium (GF, n=6). Assessment of graft quality was conducted by vaginal smears, follicular density and viability, immunohistochemical stainings for vascular network, apoptosis, cell proliferation and VEGF-A expression.

Results: Cells remained viable in Gelfoam for up to 120 hours of co-culture, although there was a significant reduction in 24h and 48h (p<0.05). Grafts morphology was similar among groups. ASC therapy promoted earlier resumption of the estrous phase (GF 16.6±3 vs. ASC-GF 12.8±1.3 days, p<0.05). No differences were found with respect to estrous cycle resumption and follicle viability (P>0.05). However, compared with the vehicle-treated grafts, the morphology of the ASCs-treated grafts was impaired, with diffuse atrophy and increased apoptosis (P<0.05).

Conclusions: ASCs direct injected in the stroma of rat cryopreserved ovarian grafts impaired its morphology although may not interfere with the functional resumption on short-term.

**P0926**

**DOES ADIPOSE TISSUE-DERIVED STEM CELL THERAPY IMPROVE GRAFT QUALITY IN FRESHLY GRAFTED OVARIES?**


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Objectives: To evaluate safety and efficacy of Adipose Tissue-derived Stem Cells (ASC) therapy in the freshly grafted ovary.

Method: Twenty four adult female Wistar rats were use. Rat ASC (rASC) obtained from transgenic rats for Green Fluorescent Protein (GFP) were injected in topic (intact ovary) or freshly grafted ovaries immediately after an autologous retroperitoneal transplant (ASC-GF, 12.8±1.3 days). Controls received Gelfoam with culture medium (GF, n=6). Assessment of graft quality was conducted by vaginal smears, follicular density and viability, immunohistochemical stainings for vascular network, apoptosis, cell proliferation (Ki-67). Quantitative gene expression (qPCR) for VEGF-A, Bcl2, EGF and TGF-β1 was evaluated through RT-PCR and double labeling immunofluorescence assay for GFP and Von Willebrand Factor (VWF) were done.

Results: Grafts ovaries treated with rASC-GFP+ exhibited earlier resumption of the estrous phase (p<0.05), increased VEGF-A expression (11-fold in grafted ovaries and 5-fold in topic ovaries vs. control) and the number of blood vessels (p<0.05) in ovarian tissue without leading to apoptosis or cellular proliferation (p>0.05). rASC-GFP+ were observed in similar quantities in the topic and grafted ovaries (p>0.05), and double-labeling for GFP and vWF was expressed in both injected groups.

Conclusions: rASC therapy in autologous ovarian transplantation is feasible, safe, induced earlier resumption of the estrous phase and enhanced blood vessels in rats.

**P0927**

**ADIPOSE TISSUE-DERIVED STEM CELL THERAPY IN RAT CRYOPRESERVED OVARIAN GRAFTS**


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Objectives: To evaluate the effect of directly injection of adipose tissue-derived stem cell (ASCs) in rat cryopreserved ovarian grafts.

Method: A single dose of rat ASC (rASCs) or vehicle was injected into the bilateral cryopreserved ovaries of twelve adult female rats immediately after an autologous transplant. Daily vaginal smears were performed for estrous cycle evaluation until euthanasia on postoperative day 30. Follicle viability, graft morphology and apoptosis were assessed.

Results: No differences were found with respect to estrous cycle resumption and follicle viability (p>0.05). However, compared with the vehicle-treated grafts, the morphology of the ASCs-treated grafts was impaired, with diffuse atrophy and increased apoptosis (P<0.05).

Conclusions: ASCs direct injected in the stroma of rat cryopreserved ovarian grafts impaired its morphology although may not interfere with the functional resumption on short-term.

**P0928**

**GENE EXPRESSION OF SMALL LEUCINE-RICH PROTEOGLYCANS (SLRPs) ON THE MURINE UTERUS NON PREGNANT AND PREGNANT WITH HYPERPROLACTINEMIA INDUCED METOCLOPRAMIDE**

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Objectives: This report aims to assess gene expression and immunolocalization of small leucine-rich proteoglycans, SLRPs, (class I: biglycan and decorin) and (class II: lumican and fibromodulin).

Method: 20 female/groups: control group (non pregnant Ctr): 0.2 mL of saline (vehicle) and the experimental group (non pregnant HPrl): 200 μg/day of metoclopramide, dissolved in vehicle. After 50 days 10 females of each group were placed for mating with males and continued to receive treatment. The females non pregnant were euthanized on 50th day (experimental I) and the females pregnant were euthanized on 5.5th to 6.5th post-coital day (experimental II). The blood analyses were conducted to identify and quantify rASC-GFP+, VEGF tissue expression, apoptosis (cleaved caspase-3 and TUNEL), and cell proliferation (Ki-67). Quantitative gene expression (qPCR) for VEGF-A, Bcl2, EGF and TGF-β1 was evaluated through RT-PCR and double labeling immunofluorescence assay for GFP and Von Willebrand Factor (VWF) were done.

Results: Grafted ovaries treated with rASC-GFP+ exhibited earlier resumption of the estrous phase (p<0.05), increased VEGF-A expression (11-fold in grafted ovaries and 5-fold in topic ovaries vs. control) and the number of blood vessels (p<0.05) in ovarian tissue without leading to apoptosis or cellular proliferation (p>0.05). rASC-GFP+ were observed in similar quantities in the topic and grafted ovaries (p>0.05), and double-labeling for GFP and VWF was expressed in both injected groups.

Conclusions: rASC therapy in autologous ovarian transplantation is feasible, safe, induced earlier resumption of the estrous phase and enhanced blood vessels in rats.
samples were collected for hormone measurements. The uterus was processed for immunohistochemistry and gene expression by RT-qPCR. The results were subjected to statistical test (p<0.05).

Results: Gene expression and immunolocalization showed increase of the biglycan in non pregnant HPrl compared to non pregnant Ctrl, p<0.05, and decrease pregnant HPrl compared to pregnant Ctr, p<0.05. Gene expression of the decorin, lumican and fibromodulin showed decrease in non pregnant/pregnant HPrl compared to non pregnant/pregnant Ctr, p<0.05. Serum prolactin levels were higher in all the groups, while the levels of estradiol and progesterone were lower only in non pregnant group compared to non pregnant group.

Conclusions: Our data suggest that the state of hyperprolactinemia changed differently the gene expression and the immunolocalization of the small leucine-rich proteoglycans (SLRPs) in the extracellular matrix of the endometrium of pregnant and non pregnant. That fact could lead to a failure in embryo implantation.

P0929
MAY POLYMORPHISMS OF THE MTNR1B MELATONIN GENE RECEPTOR INTERFERE WITH CARBOHYDRATE METABOLISM IN YOUNG WOMEN WITH POLYCYSTIC OVARY SYNDROME?

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Objectives: Our aim was to identify four polymorphisms of the MTNR1B gene – rs10830963C/G; rs12804291C/T; rs3781638A/C; rs1387153C/T – in young women with PCOS, correlating them with carbohydrate metabolism.

Method: Cross-sectional study with 106 ambulatory patients under 24 years of age who had PCOS by the Rotterdam criteria. Assessments were made of body mass index, fasting and after 2 hours of oral charge of 75g of glucose glycemia and insulinemia. Genetic sequencing was performed.

Results: The presence of rs10830963C/G was associated with higher levels of fasting glucose and 2 hours after oral charge insulin and that of rs3781638A/C, with higher levels of insulin 2 hours after oral charge. No differences were found in the other parameters for rs12804291C/T and rs1387153C/T.

Conclusions: Young women with PCOS and the rs10830963C/G or rs3781638A/C polymorphism may have greater disturbances of carbohydrate metabolism, thus putting them at a higher risk of developing insulin resistance and even type 2 diabetes.

P0930
INCREASED RISK OF PSYCHIATRIC PROBLEM IN PCOS WOMEN OF SOUTHWEST CHINA

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Objectives: Polycystic Ovary Syndrome (PCOS) and its characteristic symptoms have been bothering reproductive aged women. PCOS women usually suffer from acne, hirsutism, obesity, abnormal menstruation, and infertility that affect negatively on their mental health, even as depression and anxiety psychological problems. In this study, we survey the psychological state and HRQoL in PCOS women.

Method: We collected outpatients PCOS women (diagnosed according to Rotterdam criteria) of our hospital during Oct 2013 to Oct 2014; and age matched health women as controls were recruited to complete the following items. A total of 120 PCOS patients and 100 controls completed this survey. The general mental health (General Health Questionnaire-12-item version, GHQ-12), anxiety (State-Trait Anxiety Inventory STAI), depression (Beck-Depression Inventory, BDI), both depression and anxiety (Hospital Anxiety and Depression Scale and General Health Questionnaire, HADS), and Health-Related Quality of Life (HRQoL) by 36-item Short-Form health survey (SF-36) were used in this survey. All the data were analyzed by SPSS 17.0.

Results: The prevalence of anxiety (17% vs 2%) and depression (27.5% vs 3%) in PCOS women were higher than controls (P<0.001). PCOS women had poorer health related quality of life than controls (mean score of 496.7±135.1 vs 572.4±157.7, P<0.001). In PCOS patients with fertile demand, they have more likely anxious and depressed than those no child demand.

Conclusions: PCOS patients are more likely to be depression and anxiety than healthy women, especially in those with fertile demand. We should pay more psychological concern during treatment of PCOS.

P0931
FEATURES OF THE CLIMACTERIC SYNDROME IN WOMEN LIVING IN THE REGION OF ENDEMIC GOITER

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Objectives: Study peculiarities of climacteric syndrome in women with thyroid disease living in the region of endemic goiter.

Method: Questionnaires 913 women older than 40 years, the inhabitants of Almaty, with 3 groups: the main group – woman CS and thyroidopathy (n=60), comparison – with CS without thyroid pathology (n=36). Control – with physiological menopause (n=28). Hormonal methods of investigation FSH, LH, TSH, PRL, E2, P, free fractions of T3, T4); lipid peroxidation products (GPL, DC, MDA), antioxidant deficiency (CAT, SOD, GR, SE) immunoassay method.

Results: In the region of endemic goiter Almaty age of menopause with thyroid disease – 46.2 years. The frequency of CS in the region of endemic goiter 48.5%. CS in women with thyroid disease characterized severe form in 84.9%, stress urinary incontinence in 28%, low level testosterone 0.2 nM/L, in women CS hypothyroidism leads to oxidative stress and imbalance POL-AOD.

Conclusions: Clinical manifestations of CS in patients with decreased thyroid function occur more severe form with the development of urogenital disorders, decreased libido, which are found in 2 times more often. Hypothyroidism promotes more pronounced disruption of processes peroxidation in patients with KS, which confirms the significant increase in the rate of oxidative status in patients of this group.

P0932
SYSTEMATIC REVIEW OF INSULIN RECEPTOR SIGNALING IN THE ENDOMETRIUM OF WOMEN WITH POLYCYSTIC OVARY SYNDROME


Objectives: To systematic review the insulin receptor signaling in endometrium of patients with polycystic ovary syndrome (PCOS) during proliferative phase.

Method: The keywords used were: polycystic ovary syndrome or Stein Leventhal syndrome or anovulation and endometrium or endometriosis. The criteria of inclusion were: human studies and studies that evaluated insulin receptor in endometrium of patients with PCOS. The criteria of exclusion were: review studies and animal models. We used the Prisma criteria.
Results: Using the aforementioned keywords, we found 467 articles. After carefully reading titles and summaries and applying the inclusion and exclusion criteria, we excluded 460 manuscripts (incomplete revisions, experimental studies, secondary outcome of studies, letters to the editor). We included seven manuscripts. The manuscripts showed that there is a insulin resistance on the endometrium of PCOS through a low expression of GLUTs and SHBG, mainly in obese patients.

Conclusions: Our data suggest that PCOS patients may have insulin receptor signaling disturbance in the endometrium.

P0933

STEM CELLS FROM MENSTRUAL FLUID

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Objectives: The aim of this study was to standardize techniques of characterization by immunophenotyping and cryopreservation of stem cells obtained from menstrual fluid.

Method: Twenty volunteers were selected with regular menstrual cycle without gynecological diseases. They collected menstrual fluid on the most intense flux day to analysis by immunophenotyping and cellular culture. Cellular culture was performed in two stages up to the cells reached semi-confluence then they were cryopreserved. After that, stem cells were differentiated.

Results: Cell viability was 76.05±24.57%. After culture, mesenchymal stem cells increased from 0.14±0.26% to 96.19±2.14%. Cell colonies formed clusters and reached confluence after 15 to 21 days and 3 days of culture in first and second passages, respectively. Stem cells were cryopreserve and, after that, they have differentiated into adipocytes, osteocytes and chondrocytes.

Conclusions: Stem cells of menstrual fluid may be obtained from menstrual fluid. The menstrual fluid is a viable source of mesenchymal stem cells for collection and culture.

P0934

ANTI-MUELLERIAN HORMONE LEVELS, NUMBERS AND SIZES OF ANTRAL FOLLICLES IN REGULARLY MENSTRUATING WOMEN REFERENCED TO TRUE OVULATION DAY

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Objectives: Anti-Müllerian hormone (AMH) may vary throughout the menstrual cycle, though evidence is conflicting, probably due to differences in assay performance and methodologies used to assign the phase of the menstrual cycle. In experimental settings, AMH appears to be produced substantially by small antral follicles only, but this has not been confirmed in a normal, healthy population. This study sought to establish whether AMH levels vary throughout the menstrual cycle in women of reproductive age and which follicles substantially produce AMH.

Method: Volunteers were participants of the MeMo (menstrual monitoring) study (NCT01802060): a prospective study of 40 regularly menstruating women with no known subfertility (aged 18–37, mean age 28.9) who collected daily urine samples. Volunteers visited the study centre for blood sampling and transvaginal ultrasound within one complete menstrual cycle. Study visits were every 2 days, or daily from follicle size >16mm until, post-ovulation. AMH was measured using the Beckman Coulter Gen II assay. Poisson mixed effects models were used to analyze AMH variability and correlation of follicle counts and size-classes to AMH levels.

Results: AMH is only produced by small antral follicles (2–7 mm). Mean AMH concentrations vary across ovulatory menstrual cycles and show a statistically significant decrease from day ~5 to 2 days after objective ovulation and significantly lower mean levels of luteal AMH (~7.64% to mean follicular AMH). The number of antral follicles can be estimated from the level of follicular phase AMH using Poisson mixed effects models. The significant decrease of AMH towards ovulation (~10.52%) is not relevant for antral follicle count. Models were created using days 4–7 and days 4-ovulation, with narrower prediction intervals seen for the 4–7 day model.

Conclusions: AMH varies across the menstrual cycle according to its physiological role in follicular maturation. The number of antral follicles may be estimated from AMH levels measured on each day pre-ovulatory. This might have an impact on dosage in ovarian stimulation, on prediction of ovarian response, on facilitation of diagnosis in cases of ovulation disorders associated with difficult or impossible vaginal ultrasound and, in the future, facilitate comparison different AMH assays as a step to standardisation in future.

P0935

AGREEMENT BETWEEN URINARY LH, RESULTS FROM CLEARBLUE ADVANCED DIGITAL OVULATION TEST AND ULTRASOUND OBSERVED OVULATION

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Objectives: Home ovulation tests are a convenient method for women to time intercourse in order to maximise their chances of conception. Clearblue Advanced Digital ovulation test (CBAO); the latest development in home ovulation tests not only detects the surge in luteinising hormone (LH), but also the pre-ovulatory rise in urinary estrone-3-glucuronide (E3G) that marks the onset of a woman’s fertile period. Results are digitally displayed to the user as LOW (basal LH/E3G), HIGH (E3G rise detected) and PEAK (LH surge detected). This study sought to examine the performance of this test when compared to ultrasound observed ovulation.

Method: Complete menstrual cycles (n=40; all with documented ovulation) of daily urine samples from volunteers in the MeMo (menstrual monitoring) study (NCT01802060) were tested using 3 batches of CBAO. Cycles were obtained from regularly menstruating women with no known subfertility (aged 18–37, mean age 28.9) who visited the study centre for blood sampling and transvaginal ultrasound within one complete menstrual cycle. Study visits were every 2 days, or daily from follicle size >16mm until, post-ovulation. The concentration of urinary LH was measured by AutoDELFIa, and serum LH by AVIDA-Centaur. Testing of CBAO was conducted in a randomised and blinded fashion.

Results: Median day of ovulation was 14.5 [range 8.5–26.5]. Urinary LH surge preceded ovulation by a mean of 0.81 days. Median urinary LH on the day prior to ovulation was 44.6mIU/ml (10–90th centiles 6.5–101.0) and in serum was 38.3mIU/ml (10–90th centiles 26.9–75.0). CBAO detected the LH surge in 92.5% of cycle testing (1 cycle with peak urinary LH of 15.7mIU/ml accounted for 3% no surge observations). Agreement between CBAO and ultrasound estimates of ovulation was 68.5% to the exact day and 96.4% to ~1 day. The test identified a median of 4 days of high fertility prior to LH surge.

Conclusions: This study found the surge in urinary LH predicts ovulation, supporting the premise of home ovulation tests to provide women a means appropriately timing of intercourse. The study also found that the novel home ovulation test, CBAO accurately predicted ovulation, and identified days of high fertility prior to ovulation via detection of E3G rise. Identifying more days for timing of intercourse is of benefit because multiple acts of intercourse across the fertile phase have been predicted to increase chances of pregnancy, and
the additional information could also assist with planning of conception.

**P0936**

ASSOCIATION BETWEEN OSTEOCALCIN AND METABOLIC SYNDROME OF POSTMENOPAUSAL WOMEN IN SOUTH KOREA

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**Objectives:** Undercarboxylated osteocalcin (ucOC) has been proved as a regulator of glucose and fat mass in an animal model. This study examined the association between osteocalcin and MetS in postmenopausal women.

**Method:** We selected 135 postmenopausal women and determined anthropometric values (waist-hip ratio [WHR], visceral fat area [VFA], body fat mass [BFM], and skeletal muscle mass [SMM]), the lipid profile, fasting plasma glucose (FPG), insulin, high-sensitivity C-reactive protein (hs-CRP), homeostasis model assessment of insulin resistance (HOMA-IR), serum leptin and adiponectin level, and serum tOC and ucOC level.

**Results:** Both serum tOC and ucOC were higher in the non-metabolic syndrome group and the differences between the two groups were significant after adjusting for age and menopause years. After adjustment, ucOC was negatively correlated with WHR, VFA, BFM, triglyceride, fasting insulin, HOMA-IR, serum leptin, and the leptin/adiponectin ratio, and was positively correlated with serum adiponectin. The odd-ratio for MetS was significantly lower in the highest quartile than the lowest quartile after adjusting for age, years since menopause, and BMI. In multiple regression analysis, serum leptin and HOMA-IR were the most important predictors of the independent variables that affect serum ucOC.

**Conclusions:** UcOC showed an inverse correlation with markers of insulin resistance, central obesity, and the presence of MetS in postmenopausal women, and appears to protect against MetS. Further large-scale clinical and experimental studies are needed to clarify the potential of ucOC as a predictor of MetS in postmenopausal women.

**P0937**

SINGLE NUCLEOTIDE POLYMORPHISM 538 T/C OF THE BMP4 GENE IS ASSOCIATED WITH BETTER METABOLIC PROFILE IN POLYCYSTIC OVARY SYNDROME WOMEN

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**Objectives:** 1) To assess the allelic frequencies of rs4898820 and 538T/C polymorphisms in PCOS women and in a control group; 2) To investigate whether there is an association of the polymorphisms with clinical and laboratorial parameters in PCOS women with and without hirsutism.

**Method:** This is a prospective study, in which, a total of 245 women (142 with PCOS and 103 control women) were investigated. DNA was extracted from peripheral blood and polymerase chain reaction (PCR) followed by restriction fragment length polymorphisms were used to identify single nucleotide polymorphisms rs4898820 and 538 T/C. Allelic frequency in PCOS women and controls were assessed. In PCOS group, clinical and laboratorial parameters were analyzed.

**Results:** There was no association between the genotypes and the presence of hirsutism in PCOS women. In the PCOS group, homozygous genotype CC for 538 T/C was associated to better insulin sensitivity (p=0.015), lower levels of glucose (p=0.038) and higher levels of SHBG (p=0.002). Mutated allele (CC or TC), were associated with lower levels of free testosterone (p=0.034). Mutated genotype (TT) for the polymorphism rs4898820 had higher levels of FSH (p<0.001).

**Conclusions:** The presence of the polymorphism 538T/C in PCOS women is associated with better hormonal and metabolic profile. It seems that 538 T/C has a protective role in PCOS women and this effect might be linked to BMP4 role in adipocyte metabolism. There was no association between the genotypes and the presence of PCOS or hirsutism.

**P0938**

SIGNIFICANCE OF DETERMINATION OF THE HORMONAL PROFILE OF PATIENTS WITH ENDOCRINE FORMS OF INFERTILITY IN ORDER TO OPTIMIZE THE CHOICE OF TREATMENT

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**Objectives:** Endocrine infertility is one of the most common and complex forms of female infertility, having a diverse clinical, morphological and biochemical manifestations, which are based on a disturbance of the process of folliculogenesis, ovulation and ovarian steroid-producing function. In addition, it is known that the structure of reproductive disorders and the end result of treatment depends on the age of the woman.

Determination of the complete hormonal profile in patients of different reproductive age to identify the form and type of reproductive disorders and subsequent conduct adequate pathogenesis-based therapy, leading to the recovery of menstrual function and onset of pregnancy.

**Method:** We examined 173 patients with endocrine forms of female infertility: group I – 75 patients the average reproductive age from 25 to 34 years old, group II – 78 patients late reproductive period from 35 to 44 years old. Control group – 20 relatively reproductive and physically healthy women of reproductive age from 20 to 40 years. All patients performed a complete clinical and laboratory examination with assessment of hormonal steroid profile and ultrasonography in the dynamics of the menstrual cycle. Statistical processing of the results.

**Results:** In women of average reproductive age the main forms of endocrine infertility are reproductive dysfunction due to anovulation (53.3%) and hyperandrogenism (84%). Normoestrogen form of anovulation was in polycystic ovarian transformation, hypoproges- teron type of luteal phase deficiency was in multifollicular ovary. In patients older than 35 years the leading cause of infertility are the consequences of age restructuring of the reproductive system, manifested like desynchronization of ovulation and subsequent development of luteal phase deficiency. Hormonal profile indicates marked reduction in steroid ovarian activity (increase in FSH levels, a decrease of ovarian volume, decline in inhibin B and AMG).

**Conclusions:** Determination of the hormonal profile of steroid hormones, evaluation forms (luteal phase deficiency and anovulation) and the type of reproductive disorders (hyperestrogen, normoestrogen, hypoestrogen) in patients suffering from endocrine infertility, is crucial in determining treatment strategies depending on age. The results of this algorithm allows to analyze the main type of damage of the reproductive system, to give a prognosis for the restoration of menstrual and generative functions, as well as a make choice of pathogenic-based correction of that disorders, leading to the recovery of menstrual function and onset of pregnancy.
**P0929**

**METABOLIC PROFILE OF THE LIVER OF POLYCYSTIC OVARY SYNDROME RAT MODEL EXPOSED TO NEONATAL ANDROGEN OR ESTROGEN**

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**Objectives:** To determine the hepatic metabolomic profile of female rats submitted to neonatal exposure to testosterone or estrogen.

**Method:** Twenty nine female rats with 0–3 d of age and these animals were sorted in three experimental groups according to the subcutaneous administration of the following compounds: testosterone propionate (1.25 mg) (testosterone group, TG; n=9), estradiol benzoate (0.5 mg) (estradiol group, EG; n=10) and vehicle (0.1 mL) (control group, CG; n=10). The animals were sacrificed at day 90th, and the liver was removed to evaluate the metabolomic profile.

A targeted metabolic profiling scheme was used (p180 kitTM, Biocrates, Innsbruck, Austria). Metabolite panel is composed by 183 different metabolites. Statistical analysis was performed using the web-based analytical pipeline MetaboAnalyst 2.0.

**Results:** Global analysis of all the metabolites showed different profiles among CG, EG and TG. Component analysis identified twenty five compounds that better discriminate the three groups. Among than, long chain acylcarnitines (C14:1, p<0.0001; C16:2, p=0.006) and ACSL1, p=0.002. In TG group, GCKR was significantly lower (p=0.05) and Val/CS ratio, which is used a proxy of SLC22A4 enzyme activity, was significantly higher (p=0.004). Those metabolites are linked to type 2 diabetes. In the estrogen group (EG), it was noted a remarkable increase of hydroxylated metabolites.

**Conclusions:** Targeted metabolomic showed that different exposure during neonatal live leads to different alterations in the metabolism in adulthood in rat model. Testosterone seems to impair metabolites linked to type 2 diabetes and hepatic disease. On the other hand, estrogen, induces to hydroxylation of several metabolites.

**P0940**

**OVARIAN HYPERSTIMULATION SYNDROME (OHSS) IN SPONTANEOUS PREGNANCY**

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**Objectives:** To discuss the occurrence of OHHS during spontaneous pregnancy, and its impact on pregnancy.

**Method:** Web based data collected and analysed.

**Results:** sOHSS is associated with morbidity & mortality, need to be carefully management.

**Conclusions:** Though rare, the Gynecologist and chest physicians should be more aware of this syndrome. sOHSS Should be managed with multidisciplinary approach along with obstetricians help in order to ensure timely diagnosis and better management of these pregnant patients. If left untreated, it can result in serious health complications and even death.

**P0941**

**POLYCYSTIC OVARIAN SYNDROME: CLINICAL AND BIOCHEMICAL CORRELATION WITH VITAMIN D LEVELS**

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**Objectives:** To determine the correlation of Vitamin D levels with various clinical and biochemical parameters in Polycystic Ovarian Syndrome.

**Method:** Population: 50 women with PCOS diagnosed on the basis of Rotterdam criteria from outpatient department, Safdarjung hospital, N.Delhi. Design: Observational study.

PCOS women were subjected to anthropometric measurements and clinical assessment. Hirsutism scored using modified Ferriman Gallwey score with >7 as cut off. Biochemical parameters evaluated were vitamin D, fasting insulin, fasting glucose, DHEAS and testosterone. HOMA-IR was calculated. The study population was classified into 3 groups according to the level of vitamin D: group A = <10 ng/ml, group B = 10–20ng/ml and group C ≥ 20 ng/ml. Correlation of Vitamin D with clinical and biochemical parameters was done. Using multiple linear regression analysis.

**Results:** High BMI was observed in 51.5% PCOS women only in group A. Menstrual cycle irregularity observed in 24/33, 6/9, 6/8 in Group A, B and C respectively. Hirsutism was observed in 84.8%, and 44.4% in group A and B. Mean Testosterone was 0.49 ng/ml, 0.35 ng/ml, and 0.2 ng/ml whereas DHEAS levels were 4.6 ng/ml, 4.45 ng/ml and 2.9 ng/ml in Group A, B and C. Insulin resistance was higher in group A than group C (4.9 vs 2.6). Multiple regression analysis established a negative correlation of vitamin D levels with BMI (r=−0.8; p<0.05), hirsutism (r=−0.715), insulin resistance (r=−0.484; p<0.05), testosterone (r=−384; p<0.05) and DHEAS (r=−0.371; p<0.05).

**Conclusions:** Clinical symptoms and biochemical parameters showed an inverse relationship with Vitamin D levels. Lower vitamin D levels were related to increased severity of clinical and biochemical features of hyperandrogenism. Obesity and Insulin Resistance also correlated inversely with vitamin D levels. Vitamin D can be used as a predictor of obesity, hyperandrogenism and insulin resistance in PCOS.

**P0942**

**DIENOGEST AND BAZEDOXIFENE COMBINATION THERAPY FOR ENDOMETRIOSIS IS USEFUL FOR PREVENTION OF BREAKTHROUGH BLEEDING**

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**Objectives:** Dienogest is an orally-active semisynthetic, steroidal progestogen. It is well known that dienogest is effective for the treatment of endometriosis, and widely used in Japan and European countries. Dienogest has clinical excellent effect, however, it has a disadvantage point that it can cause unpredictable uterine breakthrough bleeding. On the other hand, bazedoxifene (SERM) has an inhibiting action for the endometrial growth during it acting as the predicting bone loss. The present study was performed to elucidate the effect of the combination of these two drugs for the prevention of the unexpected uterine breakthrough bleeding.

**Method:** Sixteen endometriosis patients who had been diagnosed by the previous laparoscopic operations were subjected under the enough informed consent. All of the subjected patients had no lesion of adenomyosis. Then, dienogest (2 mg/day) and bazedoxifene (20 mg/day) were administered from the first day of the menstrual cycles (group A), and the duration of no breakthrough bleeding (days), the plasma estradiol levels and the endometrial thickness measured by the transvaginal ultrasonic scanner in the beginning day of the uterine bleeding were compared to the control (group B, administered dienogest only, 20 cases).

**Results:** The duration of no breakthrough uterine bleeding in the group A and B was 90.2±30.4 vs. 63.3±31.2 days, respectively (p<0.05). There was no significant change in the plasma levels of estradiol (30.5±8.7 vs. 32.4±11.5 pg/ml). The thickness of the endometrium was 3.9±0.7 vs. 5.1±1.9 mm, respectively (p<0.05).
Conclusions: The combination therapy of dienogest and bazedoxifene is effective for the extension of the unexpected uterine breakthrough bleeding. This new therapy may be useful for the improvement of the QOL of the endometriosis patients during dienogest administration.

P0943
ADENOMYOSIS IN A LATERALLY DISPLACED RUDIMENTARY UNICORNATE UTERUS
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Objectives: The objective of my presentation is to present a rare case of adenomyosis that was found in a laterally displaced rudimentary horn in which there is an extreme right lateral displacement of a unicornate rudimentary uterus. This was misdiagnosed by pelvic ultrasound and MRI as a solid ovarian tumor (fibroma) and the patient was referred to our center for fibroma excision. This shall raise the demand for thorough investigations in any teen presenting with primary amenorrhea, where a high suspicion of rare Mullerian anomalies is to be considered.

Method: 28-year-old woman presented with primary amenorrhea & abdominal pain. She was diagnosed as MRKH (Mayer-Rokitansky-Kuster-Hauser) Syndrome and ovarian fibroma. No other medical or surgical illness, no family history of congenital anomalies. On examination Height 156 cm and weight 67.3 kg, secondary sexual characteristics appeared normal, pelvic examination revealed normal vulva and hymen, vagina was not examined since she was a virgin. Hormonal investigations and tumor markers were all normal, karyotype 46, XX female.

Results: Ultrasound revealed absent uterine body and cervix, a well-defined hypoechoic rounded inhomogeneous solid mass seen lateral to the right ovary measuring 42×31 mm. MRI & CT scan concurred with the pelvic ultrasound findings, MRI further revealed absent vagina, with normal other abdominal structures. Laparoscopy was performed, no identifiable uterine body or cervix was found. 4 cm rounded mass was seen in the right gutter attached the right fallopian tube, concluding it to be the rudimentary horn and thus was resected along with the right tube. Histopathology confirmed the resection of the QOL of the endometriosis patients during dienogest administration.

P0944
PREDICTING MENSTRUAL TRANSITION – A COMPARATIVE STUDY
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Objectives: Menopause transition gives a narrow window period for therapeutic intervention. Currently used predictors are age menstrual irregularity FSH and E2. We have compared new parameters AMH and AFC with the existing parameters – age menstrual irregularity and FSH considering the reproductve potential and the consequential therapeutic intervention. The aim of the present study was to establish the predictivity of Menstrual Transition of the various parameters and see the available window period for therapeutic interventions of these parameters.

Method: Data from 603 Patients going for IVF at IVF centre at Delhi was analysed retrospectively in collaboration with a medical college hospital at Indore. Patient were grouped in 4 groups in different age groups 1 (<30); 2 (30–35); 3 (35–40) and 4 (>40). Chronological age, menstrual irregularity, FSH, AMH and AFC were compared as predictors of MT. Reproductive potential was analysed by comparing the availability of eggs for ART or the need to resort to egg donation.

Results: Abnormal parameters in 12, 23, 50, 51 patients in different age group. Premature ovarian insufficiency seen in 2, 8, 16 and 23 patients respectively. AMH was low in 2, 12, 32 and 23 patients respectively. FSH was raised in 2, 6, 26, 30 patients respectively. AMH in egg donation in 1 [30–35 yrs], 8 [35–40 yrs], 11 [> 40 yrs] whereas eggs were recoverable in 0, 14, 16, 16 respectively. High FSH resulted in egg donation in 2, 5, 20 and 22 patients whereas eggs were recoverable in 0, 4, 6 and 2 patients in respective age groups.

Conclusions: AMH was the earliest and reliable predictor of menopause transition closely followed by AFC. FSH is reliable but late predictor. Menstrual irregularity and chronological age are of low predictive value. study shows reproductive potential was best used when menopause transition was predicted by AMH and AFC. Some patients with lower AMH but borderline AFC had recoverable eggs. Majority of patients with low AMH and low AFC had to undergo egg donation. It was seen that in patients with high FSH, AMH was always low and significantly increased the number of these patients for egg donation programme.

P0945
COMPLEMENTARY MEDICINE AND OHSS
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Objectives: We aimed to assess the association between herbal medication and OHSS.

Method: This retrospective cohort study was conducted with 101 polycystic ovary syndrome patients. Thirty-five patients took conventional pharmacological medications and 66 took herbal medications. Patients underwent vaginal ultrasonography and physical examination to diagnose OHSS. After comparing the prevalence of OHSS in both groups, data were analyzed by statistical test including Fisher’s Exact and Binominal logistic regression. P < 0.05 was considered significant.

Results: Of the 101 female patients that participated in this study, There was a significant difference between the two groups in OHSS prevalence (P < 0.001). After adding the dependent (OHSS prevalence) and independent (marriage and group) variables into the model, the Hosmer–Lemeshow test showed suitability with P=0.401. Variances analyzed with this model ranged between 29.4% and 40.7%. Conclusions: The indiscriminate use of herbs is correlated with OHSS. Because patients increasingly consume herbs, they should be aware of potential side effects. However, appropriate dosages of herbs could be obtained to use instead of conventional treatments, which often have side effects.


E579
Objective: Thyroid autoimmunity (TAI) is the most common female autoimmune disorder of reproductive ages, with the prevalence reported between 5–15%. TAI is related to increased serum level of anti-thyroid peroxidase immunoglobulin (anti-TPO) and often coincidences with hypothyrosis, which negatively influences the reproductive function. TAI has been reported to increase the risk of miscarriage and adverse pregnancy outcome, and relation is suspected to wide spectrum of gynecologic reproductive diseases such as endometriosis, premature ovarian failure (POF), anovulatory infertility and repeated pregnancy loss (RPL). We aimed to investigate the relation between the TAI incidence and the above listed infertility sub-populations.

Method: 285 patients referred to reproductive endocrinology and infertility workup were screened for TAI by measuring the serum anti-TPO level. Relation between serum anti-TPO level and age was investigated using correlation test and linear regression analysis. Case control analysis was used to calculate the relative risk of subclinical and overt hypothyrosis, endometriosis, POF, anovulatory infertility and RPL.

Results: 91 patients had elevated serum anti-TPO level (32%). There was a positive correlation between age and serum anti-TPO level (r=0.38, p<0.5), and according to the linear regression each year over 20 a mean increase of 36.9 mU/L in the anti-TPO level. With case control analysis there was a 7 times increased risk for hypothyrosis in the presence of TAI (OR: 6.69). The risk was doubled for endometriosis and POF in TAI positive patients (OR: 2.2 and 1.5), while slightly increased risk was found for anovulatory infertility and endometriosis (OR: 1.3 and 1.6).

Conclusions: TAI is common in patients visiting reproductive endocrinology and infertility units, and its prevalence increases with age. The strength of TAI and infertility relation is due to the fact that patients are naturally screened for these disorders. However, an increased risk of endometriosis, POF, anovulatory infertility and RPL also can be detected in the presence of elevated anti-TPO level, thus screening for TAI is recommended in the diagnostic workup.

Objective: To audit the diagnosis and management of XY karyotype from a tertiary referral centre.

Method: A retrospective analysis of adolescents and young women with primary amenorrhea attending the gynecology and endocrine clinics over two years (January 2011–December 2013) was done. All subjects underwent a defined set of investigations after a thorough history and clinical examination. These investigations included an ultrasound pelvis, baseline hormone assays including serum FSH, LH, prolactin, estradiol and testosterone where indicated, and karyotype. Subjects were categorized based on levels of gonadotropins as hypo, hyper or eu-gonadotropic amenorrhea. Further anatomical defects attributing to amenorrhea were defined after clinical evaluation and ultrasound. Karyotype identified a subset of XY females.

Results: Of the 73 subjects with primary amenorrhea, karyotype diagnosted 10 (13.6%) cases of 46XY females. Of the 10 further investigations confirmed 46 XY gonadal dysgenesis (Swyer’s syndrome) (n=6), androgen insensitivity syndrome (n=3) and 5 alpha reductase deficiency (n=1). Of the 6 cases with Swyer’s syndrome 2 had familial Swyer’s affecting siblings. Four cases had streak gonads, two had germ cell tumor including Dysgerminoma. Laparoscopic gonadectomy was done early in Swyer’s and streak gonads, and was delayed until 18 years in androgen insensitivity syndrome. Staging laparotomy and debulking surger was done for tumors. All XY females are on hormone replacement therapy.

Conclusions: XY females are not uncommon cause with primary amenorrhea. A high incidence of XY females in our series reflects data from a referral tertiary hospital.

Objective: Obstetric fistula is a morbid condition that usually results from prolonged obstructed labor. In addition to causing continuous leaking of urine and/or feces from the vagina, it has also been associated with secondary infertility and amenorrhea. Therefore, we sought to evaluate for the potential causes of amenorrhea in women with obstetric fistula.

Method: This cross-sectional study enrolled Malawian women who were having obstetric fistula surgery at the Fistula Care Centre in Lilongwe, Malawi. Eligibility criteria included: age 18–45 years, history of prior pregnancy, and the presence of a uterus on ultrasound. Eligible women underwent transvaginal sonography, including measurement of the antral follicle count (AFC). Serum was obtained for measurement of anti-mullerian hormone (AMH), follicle-stimulating hormone (FSH), and estradiol levels. After appropriate transformations,
Student’s t-test, Fisher’s exact test, and linear regression were used to determine the association between amenorrhea and both hormone levels and ultrasound findings.

Results: We enrolled 98 women, of which 33 (33.7%) reported amenorrhea. Of these 33 women, 4 (12.1%) had hypergonadotrophic hypogonadism (low FSH, low estradiol), 4 (12.1%) had hypergonadotropic hypogonadism (high FSH, low estradiol), 4 (12.1%) had an AFC > 12 (suggestive of PCOS), and 3 (9.0%) were using depot medroxyprogesterone. Of the remaining 18 women, 15 (45.5%) were within 1 year of delivery and likely to be breastfeeding, leaving 3 women (9.0%) with unexplained amenorrhea. Women with amenorrhea had significantly lower AMH levels (1.4; IQR 0.2, 2.6) than women with without (2.7; IQR 0.6, 5.0; p=0.029), even after adjusting for age (p=0.003).

Conclusions: One third of our obstetric fistula population had amenorrhea. The most common finding among these women was that they were post-delivery. The most concerning finding was that 4 women had hypergonadotrophic hypogonadism (primary ovarian insufficiency), which is irreversible and associated with other health consequences. In addition, women in our study with amenorrhea had significantly lower ovarian reserve than those with menses, which was not due to age. Further studies could include hysteroscopy (to evaluate for Asherman’s) and long-term follow-up to evaluate if these women resume menses after surgery and if their hormonal and ultrasound findings are predictive of future fertility.

P0950
BENZYL BUTYL PHthalate MEDIATED THE DIFFERENTIATION PROGRESS OF ENDOMETRIAL MESENCHYMAL STEM- LIKE CELLS THROUGH miR137/P 1 T 2 SIGNALING PATHWAY

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Objectives: To investigate the effect of BBP on differentiation progress and find the novel mediate factor in endometrial mesenchymal stem-like cells (EN-MSCs).

Method: EN-MSCs were isolated from the eutopic endometrium and identified the ability to differentiate into osteogenic and myogenic lineages. Using whole-genome screening with a high-density microarray assay, we clarify the global impact of BBP on differentiation in EN-MSCs. Further, we used miRNA target-prediction software (miRanda) to predict for potential targets. To evaluate the level of miRNA targets with RT-PCR in by overexpression or knockdown of miRNA. We further used the immunocytochemistry to assess the differentiation ability of EN-MSCs. Finally, we used immunofluorescence stain and immunohistochemistry in the tissue sample obtained from the animal model to confirm the in vitro results.

Results: EN-MSCs were isolated from the eutopic endometrium and identified the ability to differentiate into osteogenic and myogenic lineages. Using whole-genome screening with a high-density microarray assay, we clarify the global impact of BBP on differentiation in EN-MSCs. Further, we used miRNA target-prediction software (miRanda) to predict for potential targets. We confirmed the significant targets with real-time qPCR by overexpression or knockdown of miRNA. We further used the immunocytochemistry to assess the differentiation ability of EN-MSCs. Finally, we used immunofluorescence stain and immunohistochemistry in the tissue sample obtained from the animal model to confirm the in vitro results.

Conclusions: Our study shows that BBP decreases the differentiation ability of EN-MSCs through activation of miR-137 expression. Subsequently, mir-137 targets PITX2 to affect myogenesis. These findings contribute to our understanding of the differentiation ability of EN-MSCs in human, and the hazard potential of environmental hormone.

P0951
ORAL GLUCOSE TOLERANCE TEST SHOULD BE RECOMMENDED AS THE SCREENING METHOD FOR DYSGLYCAEMIA IN ALL SOUTHERN CHINESE WOMEN WITH POLYCYSTIC OVARY SYNDROME

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Objectives: Polycystic ovary syndrome (PCOS) is commonly associated with abnormal glucose metabolism. There have been debates on whether fasting glucose (FG) or an oral glucose tolerance test (OGTT) should be used as a screening method for dysglycaemia in this group of women. There has been little evidence on the screening strategy for dysglycaemia in women with PCOS in the Southern Chinese population. This study reviewed the performance of FG and OGTT in diagnosing dysglycaemia in a cohort of Hong Kong Chinese women with PCOS, with or without additional consideration of BMI and family history of DM.

Method: We prospectively recruited 467 Hong Kong Chinese women diagnosed with PCOS by the Rotterdam criteria during April 2011 to March 2013. All subjects attended the clinic within the first 5 days of spontaneous or induced menstruation after overnight fasting for a 75g 2-hour OGTT. Impaired fasting glucose (IFG), impaired glucose tolerance (IGT) and diabetes mellitus (DM) were defined according to the American Diabetes Association (2010) criteria; these categories were collectively referred to as dysglycaemia (i.e. FG≥5.6 mmol/l or 2h glucose ≥7.8 mmol/l) in the current study. Individuals with IFG and/or IGT were referred to as having pre-diabetes.

Results: Among the recruited subjects, 58 (12.4%) had dysglycaemia (46 pre-diabetes and 12 DM, including 4 having pre-existing DM). Out of the 46 subjects with pre-diabetes, 25 (54.3%) had normal FG, and of the 8 subjects with screened DM in this study, 1 (12.5%) had normal FG. The sensitivity of FG alone in screening for pre-diabetes, DM and overall dysglycaemia were 45.7%, 87.5% and 48.1% respectively. Among the 58 subjects with screened dysglycaemia, 20 (34.5%) had BMI <25 kg/m² and 35 (60.3%) had no family history of DM.

Conclusions: The use of FG alone could miss 54.3% of pre-diabetes and 12.5% of DM cases among Chinese women with PCOS. A full OGTT should be recommended as the screening method for dysglycaemia in women with PCOS regardless of the BMI or family history of DM.

P0952
PERINATAL EXPOSURE OF DEHP INDUCED PCOS LIKE GENETIC AND PATHOLOGIC CHANGES IN F1 OFFSPRING MOUSE

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Objectives: In our previous results, We analyzed the effect of DEHP to gene expression of endometrial cancer cell line, and speculated that DEHP would affect the degree of the expression of genes involved in the cell cycle, oocyte meiosis and progesterone mediated oocyte maturation. We hypothesized exposure of DEHP during perinatal period altered gene expressions of siblings and made some pathophysiologic changes related with PCOS. We also expected this results could help to make hypothesis of development of human PCOS.

Method: Adult female mice were mated, and Pregnant mice were injected sc with corn oil (control) or DEHP 9 through 16 of gestation and on days 7 through 21 after birth. The daily dose of DEHP was 30 μg/kg/day (low dose group) and 400 μg/kg/day (high dose group). F1 female mice were euthanized at 16–18 weeks of age and weighted.
Ovaries were removed, stained with hematoxylin and eosin and evaluated by light microscopy. We checked micro CT to analysis of fat tissue. Microarray was performed with resected ovary.

**Results:** In KEGG pathway analysis, PPAR pathway, ovarian steroid hormone synthesis, type II DM and arachidonic acid metabolism are common up-regulated.

**Conclusion:** Differences in hormone synthesis, type II DM and arachidonic acid metabolism are important factors in the pathogenesis of PCOS.

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**Role of Midwifery**

**P0953**

**IMPROVING ACCESS TO SKILLED DELIVERY USING COMMUNITY MIDWIVES IN KILIFI COUNTY, KENYA**

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**Objectives:** Maternal Mortality in Kenya has been on the rise from themes were generated as per set objectives. Amount mean weight of control group is significantly lower than other groups. Amount mean weight of the area is higher in low dose treatment group with other groups. Number of primary follicles were significantly lower in low dose treatment group and number of secondary follicles were significantly higher in high dose treatment group. Cystic changes of ovary with dense fibrous band were observed only in low dose group.

**Conclusions:** Perinatal DEHP exposure caused genetic and pathologic changes similar with PCOS. After perinatal exposure of DEHP, weight and body fat were increased and ovarian hyperthecosis with changes of follicle counts were observed in F1 mouse. We suggested perinatal exposure of DEHP is one of candidate factor of emergence of PCOS in adulthood.

**P0954**

**EXCESSIVE EXPECTATIONS FOR PREVENTIVE EFFECTS REDUCES QUALITY OF LIFE AMONG PREGNANT JAPANESE WOMEN WITH STRIAE GRAVIDARUM**

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**Objectives:** Striae gravidarum (SG) reduces the quality of life (QOL) of pregnant women. Most women used several preventive measures to avoid SG with the expectation of successful prevention. However, the effects of several preventive measures for SG have not yet been established. In the present study, we examined the correlation between high expectations for effective preventive measures and reduced QOL among pregnant Japanese women with SG.

**Method:** We conducted a prospective cohort study using self-administered questionnaires at three private clinics in Japan between August 2013 and March 2014. The questionnaire included age, gestational weeks, development of SG, preventive measures for SG, expectations for successful prevention of SG, and a dermatology-specific QOL measurement, Skindex29, which consists of emotions, symptoms, and function subscales. We distributed the questionnaire twice until 19 weeks and after 35 weeks of gestation. The Ethical Committee of Health Sciences at Osaka University approved the study (No. 263).

**Results:** We distributed 218 questionnaires, of which 136 questionnaires (64.2%) were returned and analyzed. SG was present in 34 participants (26.5%) and 114 (83.8%) used several preventive measures during pregnancy. Pregnant women with SG showed a significantly lower QOL in all subscales of Skindex29 compared with those without SG (p < 0.05). Preventive measures significantly reduced the occurrence of SG (p = 0.001). However, when SG developed, pregnant women who had taken preventive measures showed a significantly lower QOL in the emotion subscale of Skindex29 than those who did not (p = 0.002); these women were characterized by excessive expectations for the effectiveness of preventive measures.

**Conclusions:** Although some steps were effective in preventing SG, excessive expectations for successful preventive effects might reduce QOL, especially in the emotional aspect. In order to prevent reduced QOL, it is important for midwives to provide accurate information about effect of prevention steps prior to appearance of SG.

**P0955**

**SURVEY OF THE PRACTICES OF FRENCH MIDWIVES DURING DELIVERY**

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**Objectives:** There are no guidelines in France for medical practices during “normal” deliveries, and they have not been described in detail in the French national perinatal surveys. The principal objective of our study was to describe the practices that French midwives report using during these physiological deliveries.

**Method:** We conducted a cross-sectional descriptive survey of French midwives, both hospital-based and in private practice, who perform deliveries in equipped facilities (i.e., not home births). Only midwives who attended at least one delivery in 2013 were eligible. They were recruited for the survey through the national council of...
midwives, the national college of French midwives, and social networks (Facebook, etc.). The questionnaire covered the different practices known to be used sometimes during all three stages of delivery. The questionnaire was available on the internet from June 15 through December 1, 2014.

**Results:** In all, 1496 midwives from 377 maternity units responded. During the first stage, 97.4% of midwives advised mobilisation, unless an epidural had been placed. Lateral decubitus was the position used most often for women with epidural analgesia during the first and second stages of labor (respectively, 68% and 54%). At delivery, positions in dorsal decubitus were used most often (87.6%). For pushing, 46.4% of midwives recommended closed-glottis pushing as the first choice. The mean maximum duration of expulsive efforts was 35.07 min ± 10.7 min.

**Conclusions:** The participation rate was estimated at 14.6%. This rate is an underestimate because hospital midwives do not all attend deliveries in France, and our denominator is the number of midwives reported per maternity ward at the national level. French midwifery practices are largely conditioned by the nearly routine use of epidural analgesia. Horizontal positions, especially dorsal decubitus, are therefore favored to the detriment of vertical positions during the first two stages. The duration of expulsive efforts remains shorter than that in other countries.

**P0956**

**KEY CONSIDERATIONS TOWARDS PRODUCING MORE COMPETENT MIDWIVES: RESULTS FROM PRE-SERVICE EDUCATION (PSE) ASSESSMENT IN TANZANIA**

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**Objectives:**
- To assess the adequacy of nurse-midwifery PSE in Certificate and Diploma Programs in preparation of students with the clinical skills to provide competent, quality nurse-midwifery care.
- To assess the role that nurse-midwifery schools play in recruitment and deployment of their graduates.

**Method:** Mixed methods approaches were used to gather qualitative and quantitative data including: Desk review of curriculum and training design; and field study at four nurse-midwifery PSE schools. Data collection tools were adapted from nationally approved Continuous Quality Improvement (CQI) tools and other international materials/standards for midwifery training. Interviews were conducted with key stakeholders including school administrators and district management teams, tutors, preceptors, students, and recent graduates. Assessment areas of focus included school infrastructure, administrative issues, clinical sites, job responsibilities and recruitment processes. Observed Structured Clinical Examination (OSCE) was used to determine the level of competencies in key midwifery skills.

**Results:** Both certificate and diploma program curricula do not provide enough clinical experience to qualify a nurse-midwife. Moreover, a number of ICM essential competencies are either missing or the content is insufficient. Findings revealed that basic midwifery competencies were lacking, with very low OSCE pass rates and large discrepancies between tasks that recent graduates reported performing and their OSCE scores. The study documented a highly centralized deployment system with a very limited role for schools and a 10.6 month time-lag from graduation to posting. Site assessment found infrastructure inadequacies, tutors and preceptor shortages, and lack of opportunities for clinical updates.

**Conclusions:** The study provided insight on what needs to be improved to address the lack of competency of graduating midwives. There should be a multifaceted approach to getting the quality of training up to standard. Based on this assessment, PSE programs need to identify and prioritize cost effective, innovative and practical solutions to strengthen production and deployment of midwives, including greater involvement of the schools and local authorities in the deployment system. Investing in nurse-midwifery education is crucial; when competent graduates are deployed, their work will contribute to good health outcomes including significant reduction of maternal and neonatal mortality.

**P0957**

**RELATION BETWEEN SERUM RELAXIN AND PRESENCE OF STRIAE GRAVIDARUM AMONG JAPANESE PRIMIPARAE**

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**Objectives:** Once striae gravidarum (SG) appeared in pregnancy, it has not been cured in their life. To investigate SG occurrence cause, we have examined the relation between serum relaxin level and presence of SG in Japanese primiparae.

**Method:** Setting: Two private clinics in Japan. Design and method: forty-three Japanese primiparae women were subjected to the study. Serum relaxin samples were collected three times as before 19th (early), 20–32th (mid), and more than 33th weeks of gestation (late). After their deliveries, we collected data of age, height, weight at pre-pregnancy, weight at delivery, gestation weeks, weight of newborn, and head circumference of newborn from medical records. The unpaired t-test or generalized linear model were applied for statistical analyses using SPSS 17.0 Advanced. The Ethical Committee of Health Sciences, Kyoto University approved the study (No.1234).

**Results:** SG was observed in 9 women (20.9%). Among those who with or without SG, there were no differences in any medical parameters except that women with SG were significantly heavier in weight gain during pregnancy than those who without SG (p=0.045). The serum relaxin levels (pg/mL) of women with or without SG was 692.6±355.0 or 671.1±283.3 at early, 342.6±173.4 or 298.0±173.7 at mid, and 318.0±141.6 or 308.7±161.0 at late periods, respectively. There was no significant difference for serum relaxin change in both groups throughout their pregnancy (p=0.770).

**Conclusions:** Our results indicated that women might prevent SG for not getting over weight gain throughout pregnancy. Although there was no relation between serum relaxin levels and presence of SG in the present study, it was thought that SG would be affected by not only local relaxin action but also other several factors. Further researches should be performed to reveal the causes of SG occurrence.

**P0958**

**BIRTH PREPAREDNESS AND COMPLICATION READINESS INTERVENTIONS: A SYSTEMATIC REVIEW**

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**Objectives:** Increased preparedness for birth and complications is an essential part of antenatal care and has the potential to increase birth
with a skilled attendant. We conducted a systematic review of studies on the effect of birth preparedness and complication readiness interventions on increasing birth with a skilled attendant.

**Method:** PubMed, Embase, CINAHL and grey literature were searched from 2000 to 2012 using a broad range of search terms. Studies were included with diverse designs and intervention strategies that contained an element of birth preparedness and complication readiness. Data extracted included population, setting, study design, outcomes, intervention description, type of intervention strategy and funding sources. Skilled birth attendance was primary outcome measure. Knowledge on complications was one of the secondary outcomes. Quality of the studies was assessed. Heterogeneous studies of low quality limited our ability to conduct a meta-analysis, therefore a narrative synthesis of the evidence is presented.

**Results:** Thirty-three references encompassing 20 different intervention programmes were included, of which one programmatic element of birth preparedness and complication readiness. Implementation strategies were diverse and included facility-based, community- or home-based services. Knowledge on danger signs and complications mainly increased. However, seven studies reported on an increase in birth with a skilled attendant or facility birth. Six studies focused on increased access to skilled care in case of complications, of which three found an increase in facility births. We analyzed the context and conditions of the intervention studies.

**Conclusions:** Birth Preparedness and Complication Readiness interventions can increase knowledge of danger signs and preparations for birth and complications; however this does not always correspond to an increase in the use of a skilled attendant at birth.

**P0959**

**WOMEN'S PERCEPTIONS ON FACILITY BASED MATERNITY CARE IN TERMS OF HUMAN RIGHTS PRINCIPLES IN TANZANIA**

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**Objectives:** A human rights approach to maternal health is promoted to be essential in the battle against maternal mortality. Although fundamental human rights principles are incorporated into legal and medical frameworks, their substantive applications remain unclear. The aim of this study is to explore the contextual meaning of these principles based on perspectives and experiences of women in Magu District, Tanzania.

**Method:** This study is a qualitative exploration of perspectives and experiences of institutionalized maternity care from a human rights framework. A total of 36 in-depth interviews were held with 17 women supplemented with one focus group discussion of a selection of the interviewed women in three rural villages and one town center in Magu District. Data analysis was performed making use of inherently significant human rights principles dignity, autonomy, security and equality.

**Results:** Women's experiences of maternal health services reflect several sub-standard care factors relating to violations of multiple human rights principles. Women described a range of ways how the services could be delivered in order to respect the human rights principles. Prominent themes included: "being treated well and equal", "being respected" and "being given the appropriate information and medical treatment".

**Conclusions:** Women in rural Tanzanian setting were aware that their experiences of institutionalized maternity care reflected violations of their basic rights and are able to voice what basic human rights principles mean to them and how they can be respected in service provision.

**P0960**

**THE EFFECTS OF VITAMIN B1 ON TREATMENT OF THE PREMENSTRUAL SYNDROME SYMPTOMS**

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**Background and objective:** The premenstrual syndrome (PMS) is a series of physical, mental, and behavioral symptoms with various severities, and disturbs social and personal relationships. Different treatments have been introduced for the syndrome due to its unknown complicated causes. Vitamin B1 (Thiamin) may reduce symptoms of the syndrome through affecting the performance of coenzymes in the metabolism of carbohydrates that plays an important role in appearance of symptoms of the PMS. This study was conducted to determine the effect of vitamin B1 on the symptoms of PMS in students residing at dormitories of Jahrom University of Medical Sciences in 2013.

**Method:** In this double-blind placebo-controlled clinical trial, 80 students with PMS residing at dormitories of Jahrom University of Medical Sciences were divided randomly into two groups, vitamin B1 and placebo. The severity of the symptoms of PMS in two cycles, before the intervention and during the intervention, was recorded by the students. The data were collected using an information collection form, PMS provisional diagnosis form, daily status record form, Beck Depression Inventory. The data were analyzed using descriptive and inferential statistics.

**Results:** There was no significant difference among the studied variables in terms of confounding variables. The comparison of vitamin B1 group before the intervention with that after the intervention showed that vitamin B1 reduced mean mental (35.08%) and physical (21.2%) symptoms significantly (P < 0.0001). Moreover, there was a significant difference between vitamin B1 and placebo groups in terms of mean mental and physical symptoms, as mean symptoms in vitamin B1 group was significantly lower than that in the placebo group (P < 0.001).

**Conclusions:** It seems that vitamin B1 is effective in recovery of mental and physical symptoms of PMS. Therefore, this vitamin can be used to reach a major goal of midwifery, that is, reduction of symptom severity of PMS, without any side effects.

**P0961**

**USE OF CLINICAL MENTORS IN MATERNITY UNITS TO IMPROVE PROVIDERS COMPETENCES TO MANAGE PPH AND BIRTH ASPHYXIA**

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**Objectives:** The importance of peer-led mentorship offered on job cannot be over-emphasized. The peer leader or “Clinical Mentor” (CM) is a key support in practice; the mentor mobilizes colleagues, sets up models to use in practice, responds to questions and consults District Trainers (DTs) for additional support. The objective of this study was to improve and sustain the frequency of providers’ weekly practice sessions for key PPH and newborn care interventions to improve provider competencies to prevent, detect, and manage PPH and birth asphyxia.

**Method:** The study is a quasi-experimental design with three study arms that receive different interventions to support practice after initial training. A facility-based Clinical Mentor received a day of clinical training and half-day of orientation in the mentor role to enable weekly, onsite practice with peers using maternal and newborn simulators. At each facility, the CM mobilizes all birth attendants for weekly simulation practice sessions to practice for 15 minutes each session for 8 weeks each after Helping Mothers Survive Bleeding after Birth and
Helping Babies Breathe training and 4 weeks for combined sessions of BAB and HBB skills.

**Results:** Eighty percent of facilities had practice logs in full study arm, 77% in partial and 29% in control. As a result of practice there was an improvement in competences of providers. The percentage of providers who prepared uterotonics in advance was 78%, bag and mask was 35% and 99% of women received uterotonics after birth but only 16% within 1 minute. After the intervention, preparation of uterotonics increased to 89% and bag and mask testing increased to 54%. Ninety-nine percent still received uterotonics after birth but twice as many (33%) received it within 1 minute after the intervention.

**Conclusions:** Use of clinical mentorship to support practice after training on the maternity improved the competency of midwives attending birth and it provided an opportunity for all midwives at the health facility to be trained.

**P0962 MEASURING WOMEN’S AUTONOMY AND EXPERIENCE OF RESPECTFUL MOTHERhood CARE**

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**Objectives:** In this provincially funded, community-based participatory action research project, a steering group women of childbearing age from different cultural and socio-economic backgrounds engaged multiple stakeholders as well as leaders from NGO’s, researchers, and community agencies to examine women’s experiences with maternity care in British Columbia. The mixed methods study explored topics that have not previously been detailed: women’s preferences for model of care; perceptions of reasons for intervention; access to midwifery care; and experiences of autonomy, respect, discrimination, or coercion, when participating in a shared decision making process.

**Method:** The team self-organized into four work groups: 1) current and potential midwifery patients; 2) previously incarcerated women; 3) immigrant and refugee women 4) and street-entrenched women experiencing multiple barriers. Through an extensive content validation process including community consultations with 1300 women, literature review, and expert panel review, the team developed four versions of a cross-sectional online survey and focus group questions. Women of childbearing age across BC were recruited via email, postcards, community list-serves, NGO websites, post-card, posters, and social media outlets. We subjected quantitative data to descriptive, bivariate, mixed-effects and psychometric analysis, and a thematic analysis for qualitative data.

**Results:** Women from all socio-economic backgrounds participated in the surveys (N=4087) and focus groups (N=203). Two new scales that measure women’s Autonomy in Decision Making (ADM) (range 7–42) and experience of Respectful Maternity Care (RMC) (range 0–7) displayed reliability and construct validity. Healthy women with healthy newborns had significantly higher scale scores (p=0.008). Women with obstetricians and family physicians had significantly lower ADM and RMC scores than those who saw midwives. Among women who experienced interventions several [inductions 18.0% (509); epidural 8.8% (249); and caesareans 11.0% (337)] felt pressured to accept them and had significantly lower ADM and RMC scores.

**Conclusions:** Women’s autonomy and role during the decision making process during pregnancy & birth differs significantly depending on their health status, need for interventions and type of provider. The most important factors are having a respectful, supportive and trusting relationship with care provider(s); enough time to discuss options for care; and being unpressured during decision making. These findings from communities in a high resource country mirror reports on the state of respectful maternity care in low and middle resource countries. The community based participatory action research model generates authentic patient-reported outcomes, & could inform health systems policy and health professional education globally.

**P0963 PATIENT PERCEPTIONS OF MIDWIFERY CARE, DEBRE MARKOS ETHIOPIA**

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**Objectives:** As in much of Sub-Saharan Africa, Ethiopia has persistently high levels of maternal mortality (676 deaths/100,000 live births) and low levels of skilled birth attendance at delivery (<15%). There is increasing recognition that one of the reasons women are reluctant to use maternal health services is poor service quality, and in particular fears of provider mistreatment. This qualitative research project studies patient’s perceptions of the quality of midwifery care and experiences of disrespect and abuse in maternal and child health services.

**Method:** This retrospective pilot study is conducted in Debre Markos town, in Ethiopia’s Amhara region. We conduct 25 in-depth interviews with women who have given birth within the last 6–12 months at health facilities (∼20) or at home (∼5). Women are recruited at local clinics or through health extension workers. Interview questions cover provider-patient interactions, factors associated with patient satisfaction, experiences of mistreatment while receiving care and patient’s beliefs about how services should be delivered. Data are triangulated with information from interviews with third-year midwifery students and local midwives.

**Results:** Forthcoming: interviews are being conducted in March 2015, with results available by June 2015.

**Conclusions:** Results will inform the construction of the next National Census of Ethiopian Midwives, and in turn can help strengthen Ethiopian midwives’ training and provision of respectful patient-centered care. They are also relevant to other Sub-Saharan African countries carrying out task-shifting to expand access to services, and committed to strengthening the quality of care.

**P0964 PERCEPTIONS OF PATIENTS’ RIGHTS AND WOMEN-CENTERED CARE AMONG MIDWIVES AND MIDWIFERY STUDENTS IN DEBRE MARKOS, ETHIOPIA**

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**Objectives:** Ethiopia’s maternal mortality rate remains persistently high: 676 women die for every 100,000 live births in the country. Midwives are at the center of Ethiopia’s initiative to decrease maternal mortality by drastically scaling up population coverage of mid-level health care providers at public facilities in underserved areas. A poorly studied challenge of this scale-up is ensuring the quality and responsiveness of new services. Such study is crucial because poor service quality and fears of provider mistreatment are significant reasons for women’s low rates of maternal health service utilization, which in turn contributes, in turn contributes to high maternal mortality.

**Method:** The study conducts in-depth interviews with 16
third-year bachelor’s degree midwifery students from Debre Markos University and four midwives from health centers in the town. Interviews involve questions on the coverage of patient rights in midwifery training, respondent knowledge of patient’s rights, their experiences of provider-patient interactions, and their observations of patient mistreatment. Data are triangulated with information from interviews with local women who have recently given birth.

Results: Interviews will be completed in March 2015, and results available and analyzed by June 2015.

Conclusions: Study results will inform the construction of the 2016 Ethiopian National Census of Midwives, which will collect information to strengthen the patient-centered care components of national midwifery training and professional supervision activities in Ethiopia and thus increase provision of quality, respectful, patient-centered care.

P0965
KNOWLEDGE SHARING & BASIC ULTRASOUND SKILLS FOR MIDWIVES
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Objectives: This is a service improvement project through knowledge and skill sharing. Incorporating service design principles in the working of an organisation help them to stay ahead of competition. Recently uptake of service design principles have not fitted down to hospital settings because of the lack of competition with the NHS hospitals.

The philosophy of service design is to bring improvement to health care delivery with changes to how roles & responsibilities are carried out and viewed. This change of views and responsibility can be improved by knowledge sharing. The same process have been adapted in many areas of hospital practise eg venepuncture.

Method: Access and utilisation of obstetrics ultrasound have led to improvement in maternal and new born outcomes by identifying potential risk earlier. The breech trial in 2000 has resulted in reduction in skills of breech delivery across the developed world. The prevalence of undiagnosed breech in low risk pregnancy still remains the same while the risk associated with breech delivery remains the same. A decision was made by the clinical governance team to transfer basic ultrasound skills to frontline midwives. A simple training module & program was designed. The department invested on 3 more ultrasound machine for front line use.

Results: 21/22 (95.5%) of labour ward senior midwives were trained, as well as 9/9 (100%) of DAU/ANC midwives, 5/5 (100%) of midwife lead unit senior midwives and 8/24 (33%) of community midwives were trained, the great majority never held an ultrasound probe before the training was commenced.

Conclusions: There was a significant reduction in undiagnosed breech presentation in labour and associated adversity six month into the project.

The project demonstrated that knowledge sharing and skill transfer improve service delivery and care within maternity.

Skill transfer helps team motivation, team building and improve service delivery.

P0966
ABORIGINAL MIDWIFERY: RECLAIMING INDIGENOUS KNOWLEDGE THROUGH THE TRANSFORMATIVE POWER OF BIRTH
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Objectives:
• Indigenous birth knowledge
• The journey of obtaining funding for Aboriginal communities.

Method: A proposal was accepted for funding community-based Aboriginal midwives.

Results:
• Improvement in quality of care
• Increase cultural integration of identity

Conclusions: Funding for midwifery will increase overall health in Aboriginal communities.

Safe Surgical Techniques and Practices

P0967
PATTERN OF PERI-OPERATIVE COMPLICATIONS OF MYOMECTOMY IN A TERTIARY CENTRE
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Objectives: The general aim of the study is to determine the pattern of peri-operative complications of myomectomy and determinants of its safety at the University of Ilorin Teaching Hospital. Specific objectives were to determine the clinical presentations (signs and symptoms) of women undergoing myomectomy and peri-operative complications of myomectomy.

Method: The study was a retrospective review of case notes of gynaecological patients who had myomectomy between January 2010 and December 2013. The information was obtained from their case folders, anesthesis operation charts, gynaecological ward and operating theatre records. The intraoperative findings were reviewed and compared with preoperative findings by ultrasonography and physical examinations.

The pattern of intraoperative and postoperative complications was also assessed. The complications were divided into minor and major according to the criteria by Garry et al.

Results: The uterine size was >16 weeks’ size in 52.9% of the patients. Abdominal swelling was the commonest symptom in 120 women. Dysmenorrhoea was related to multiple myomas (p=0.017). Using Garry criteria, major complications occurred in 43.6%, while 23.5% of the patients had no complications; major intra-operative blood loss requiring blood transfusion was the commonest (21%). The mean blood loss was 603.88±924.2 ml. 42.9% were transfused with 2-4 units. Posterior uterine incision had the least blood loss (P=0.045). Pre-operative IVC ≥30 (p=0.013) was related to reduced blood loss. Uterine size of >16 weeks predicted major intra-operative bleeding, blood transfusion and fever (p=0.033).

Conclusions: Major intraoperative blood loss requiring blood transfusion was the commonest major complication. Uterine size of >16 weeks was a significant predictor of major intraoperative bleeding. Breach in the endometrial cavity, number of uterine incisions and pre-operative abdomino-plevic ultrasound scan were not determinants of intraoperative complications. Patients should be counselled pre-operatively on the risk of blood loss and possibility of blood transfusion depending on the size. Myomectomy is a safe procedure even if greater than 16 weeks by palpation.

P0968
CLINICAL OUTCOMES AND HEALTH-RELATED QUALITY OF LIFE WITH TOTAL VAGINAL VERSUS SINGLE-PORT TOTAL LAPAROSCOPIC HYSTERECTOMY FOR UTERINE LEIOMYOMA AND ADENOMYSOSIS
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Objectives: This study aimed to compare the surgical outcomes and health-related quality of life (HRQOL) of total vaginal (TVH) versus single-port total laparoscopic hysterectomy (SP-TLH) for uterine leiomyoma and adenomyosis.
Method: This study included 121 patients who had undergone TVH or SP-TLH for uterine leiomyoma and adenomyosis between April 2011 and July 2012. Surgical outcomes, complications, and HRQOL were compared between the 2 groups. Preoperative and postoperative HRQOL data from the 36-item Short Form questionnaire (SF-36) were recorded for all of the patients. Data were analyzed using the 2-sample t-test, the χ² test, and Pearson’s correlation analysis.

Results: Fewer patients had a history of operation (p=0.02), the operation time was shorter (p<0.01), fewer patients had undergone combined surgical procedures (p<0.01), and the complication rate was lower in the TVH group than in the SP-TLH group (p<0.01). Overall, all SF-36 scales improved after surgery, except for the Social Functioning scale. There was no significant difference in any of the scales when the preoperative and postoperative scores were compared between the 2 groups.

Conclusions: Compared to SP-TLH, TVH is a safe, time-saving, and scar-free surgery in selected patients and has equivalent effects on HRQOL.

P0969
TAMOXIFEN FOR THE PREVENTION OF POSTOPERATIVE INTRA-ABDOMINAL ADHESIONS: A NOVEL METHOD
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Objectives: Postoperative intra-abdominal adhesion (PIAA) is a common complication following abdominal surgeries. Up to now, no practical method or device has been proven to be the gold standard in PIAA formation prevention. This study was designed to evaluate the effects of oral and intraperitoneal tamoxifen citrate on PIAA formation prevention.

Method: Forty eight guinea pigs were included in 4 groups. Laparotomy and grading of adhesions was performed on the 3rd postoperative day. Then tamoxifen was administered by orogastric gavage postoperatively. Group 4 underwent adhesion induction and intraperitoneal administration of tamoxifen citrate, then tamoxifen was administered by orogastric gavage postoperatively. Laparotomy and grading of adhesions was performed on the 8th postoperative day according to the Adhesion Characteristic and Adhesion Tenacity scoring system.

Results: The control group was significantly different with each other groups (p<0.008) which means usage of tamoxifen (oral or intraperitoneal or both), significantly reduces adhesion formation after laparotomy. Intrapерitoneal tamoxifen (group 3) was more effective in prevention of adhesion formation than group 2 with oral tamoxifen application (p=0.006). Also administration of both oral and intraperitoneal tamoxifen (group 4) reduces adhesions significantly (p=0.002) in comparison with just oral one (group 2) but it makes no difference (p=0.625) with only intraperitoneal tamoxifen (group 3).

Conclusions: This study indicated that tamoxifen significantly reduces PIAAs and intraperitoneal application is more effective than oral administration. This study shows that preventive effects of intraperitoneal application of tamoxifen will not improve when oral tamoxifen is added postoperatively. More studies with focus on evaluation of probable side effects and also performing clinical trials for evaluating tamoxifen for preventing PIAAs is strongly suggested.

P0970
LABIA MINORA HYPERTHYPHOS: OUTPATIENT SURGERY WITH THE MODIFIED TECHNIQUE
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Objectives: This work aims to propose the surgical correction for patients with minimal morbidity. Hypertrophy of the labia minora is a cause of functional and aesthetic discomfort. It’s considered constitutional, but also can come from external trauma, impaired lymphatic drainage and hormonal changes. Surgical repair is performed at the hospital environment, generating additional costs and time for the patient. The ambulatory surgical correction of the deformity was made under local anesthesia, using a modified technique.

Method: Sixty three patients were selected from January 01, 2013 to February 01, 2015. All patients were submitted to a preoperative evaluation. Everyone was instructed to use topical anesthetic before the procedure. In gynecological position, after antisepsis and asepsis, was administered Lidocaine Hydrochlorid with Hemisaline Norepinephrine, in a gum needle on the labia minora, and proceed an incision beginning under the clitoris and ending at the inner portion. Hemostasis and continuous suture were performed with absorbable suture line, using intradermal stitches. Ambulatory patients were immediate discharged and instructed to use prophylactic antibiotics and analgesics.

Results: All results were satisfactory, just one case had a unilateral hematoma.

Conclusions: The outpatient surgery with the modified technique proved to be executable, inexpensive, with minimal morbidity and immediate return of the patients to their usual activities, also with functional and aesthetic satisfaction.

P0971
CLINICAL OUTCOMES OF MAGNETIC RESONENCE-GUIDED FOCUSED ULTRASOUND SURGERY FOR UTERINE MYOMAS: LONG-TERM FOLLOW-UP
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Objectives: Magnetic resonance-guided focused ultrasound surgery (MRgFUS) for uterine myomas is a minimally invasive procedure that produces a tightly focused, high-intensity ultrasound beam within the targeted myoma. The acoustic energy converts to thermal energy at the focal point, which creates a thermal coagulation region with a temperature rise ranging from 60°C to 90°C in a matter of seconds. MRgFUS is relatively a new treatment method and the long term treatment effects are not fully discussed. We present the long term symptom improvement and additional intervention ratio following MRgFUS for uterine myomas.

Method: A total of 209 Japanese women underwent MRgFUS between 2004 and 2014 using the ExAblate 2000 system. The myomas were classified into 2 types on the basis of the signal intensity of T2-weighted MR images: low signal (LOW) or high signal (HIGH) myomas. Subjective symptoms were evaluated using the symptom severity score (SSS) questionnaire, in which a higher score indicates worse symptoms (0 to 100 point). The SSS was examined before and after the treatment (3, 6 months, and 1, 2, 4, 7 years). Additional post-MRgFUS treatments were recorded. These data were collected based on medical records and postal mail.

Results: The mean SSS value before MRgFUS of LOW group without additional interventional treatment was 20.0±6.93, which diminished significantly during 3 months to 7 years after treatment (One-way ANOVA). Of the 189 LOW patients, 50 required additional interventional treatment (20 hysterectomy, 11 myomectomy, 3 TCR-M, 2
Conclusions: Meticulous surgical techniques should be always re-
spected. Rare cases should be always expected. The culture, non-
professional clinical diagnosis. Dissection of the skin was done and the con-
ten was suspected to be bowl and confirmed after laparotomy. The
diagnosis of perineal hernia was confirmed and appropriate repair
was done.

Results: The hernia was perfectly corrected as the wound was healed
nicely and the patient was discharged after one week.

Conclusions: Meticulous surgical techniques should be always re-
spected. Rare cases should be always expected. The culture, non-
awareness and social conditions are the main causes of the late of the
medical consultation.

P0973
CLINICAL STUDY FOR SONOGRAPHY-GUIDED HIGH-INTENSITY
FOCUSED ULTRASOUND ABLATION OF UTERINE MYOMA

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Objectives: This study is to evaluate the clinical efficacy of US-guided
high-intensity focused ultrasound (HIFU) ablation of uterine myoma.

Method: 89 patients with symptomatic uterine myoma underwent
US-guided HIFU ablation, between October 2013 and April 2014 in St.
Peter’s Hospital. The study group designed by 34 patients who
were followed up for 6 months after treatment. We assessed the dif-
fferences volume at baseline and 6 months after treatment. Volume
of myomas was checked using contrast-enhanced T1-weighted
image on MRI and calculated using the ellipsoid formula: D1 × D2 ×
D3 × 0.523 (D1: longitudinal, D2: anteroposterior, D3: transverse).
The percentage of decrease in fibroid volume was calculated by 100
× (pretreatment volume – posttreatment volume)/pretreatment vol-
ume. Also we evaluated symptomatic improvement.

Results: Mean age of patients was 42.27−6.12 (23–53) years. Location
of myomas targeted were intramural type 26 cases, anterior
13 cases, posterior 6 cases, lateral 4 cases, fundus 3 cases, submu-
cosal type 5 cases, subserosal type 3 case. We divided 3 groups, be-
low 100 cm³, 100–200 cm³, above 200 cm³ on volume of myoma at
baseline (cm³). Mean volume of contrast-enhanced T1-weighted
image on MRI was 338.16 (37.98–921.43) cm³ before HIFU and 83.29
(23.4–371.1) cm³ 6 months after HIFU treatment. Reduction rate was
75.37(%). Symptomatic improvement was observed in dysmenorrhea
(72%), hypermenorrhea (81%), lower abdominal discomfort (37%),
frequency (27%). No severe complications like bowel injury, bladder
injury, infection was not observed.

Conclusions: US-guided HIFU treatment appears to be an effective
treatment to ablate uterine myoma.

P0974
THE EFFECT OF INTRAVENOUS INFUSION OF ASCORBIC ACID
(VITAMIN C) ON INTRAOPERATIVE BLOOD LOSS IN WOMEN
UNDERGOING LAPAROSCOPIC MYOMECTOMY

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Objectives: To determine whether intravenous infusion of ascorbic
acid reduce the intraoperative blood loss in women undergoing la-
paroscopic myomectomy.

Method: Randomized, parallel, double-blinded, placebo-controlled
trial including 50 women undergoing laparoscopic myomectomy in a
tertiary care center was conducted. Women with number of myoma
<4 and largest diameter of myoma <9 cm were eligible. Case-control
arm ratio was 1:1 and stratification factor was surgeon. From 30 min-
utes before surgery, ascorbic acid 2 g or placebo was administered
intraoperatively for 2 hours. As a primary endpoint, intraoperative
blood loss was estimated from the difference between the volume of
fluids used for suction and irrigation of abdominal cavity during
surgery. Surgery time and hemoglobin drop after surgery were ex-
amined as secondary endpoints.

Results: Among 50 women who randomized, 1 women in case arm
and 3 women in control arm were excluded due to withdraw of con-
sent (n=1), cancellation of surgery (n=1), and non-measurement of
primary endpoints (n=2). Baseline and surgery characteristics were
balanced between two arms. Intraoperative blood loss in case arm
(176±193 ml) was not different from that of control arm (169±227
ml, p-value = 0.92). In addition, surgery time (95±29 minutes in case
arm; 111±52 minutes in control arm; p-value = 0.23), hemoglobin drop
after surgery (1.9±1.5 g/dl in case arm; 1.4±1.4 g/dl in control arm)
were similar between two arms. No adverse event related to
intervention was detected.

Conclusions: Intravenous infusion of ascorbic acid did not reduce the
intraoperative blood loss in women undergoing laparoscopic my-
omectomy.

P0975
PREGNANCY OUTCOME AFTER ULTRASOUND-GUIDED
HIGH-INTENSITY FOCUSED ULTRASOUND (USgHIFU) ABLATION
FOR THE TREATMENT OF PATIENTS WITH UTERINE FIBROIDS:
A SINGLE CENTER EXPERIENCE

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Objectives: The aim of this study was to evaluate the ultrasound-
guided high-intensity focused ultrasound (USgHIFU) ablation for the
treatment of patients with uterine fibroids and pregnancies post the
procedure.

Method: This prospective study was performed from April 2011 to
May 2014. A total of 974 patients with symptomatic uterine fibroids
were included. Among them, 232 patients expressed their wish to be-
come pregnant. USgHIFU treatment was performed under conscious
sedation using JC/JC200 HIFU tumor therapeutic system. Informed
consent was obtained from every patient. All the adverse effects were
recorded.

Results: Thirty-seven pregnancies in 36 (15.5%) women occurred af-
fter USgHIFU, with 1 spontaneous abortion. Among the 36 women,
average age 32.0±4.5 (range:25–42) years; number of fibroids from 1
to 3 in these patients. The median volume of the fibroids 22.9 (range:
0.8–349.8) cm³. The average non-perfused volume ratio 83.5±7.9%
Termination of Pregnancy

**P0976**

**SUCTION CURETTAGE AS FIRST LINE TREATMENT IN CASES WITH CESAREAN SCAR PREGNANCY: FEASIBILITY AND EFFECTIVENESS IN EARLY PREGNANCY**

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**Objectives:** To discuss the management options for cesarean scar pregnancies in a singleton center. In current study we discussed the current management options for cesarean scar pregnancies (CSPs) based on our 6 years of experience.

**Method:** A retrospective evaluation of 26 patients with cesarean scar pregnancies in our clinic during a 6-year period was discussed. The diagnostic criteria for CSP were: 1) empty uterus; 2) empty cervical canal; 3) anteriorly-located gestational sac with or without cardiac activity and a diminished myometrium layer at the level of the previous scar; and 4) expansion of the gestational sac to the bladder, surrounded by the myometrium and fibrous tissue of the scar. Suction curettage was performed as a first-line treatment in patients who met the following criteria: <8 weeks gestation; intervening myometrial thickness ≥ 2 mm; hemodynamically stable patient.

**Results:** The mean maternal age was 33.4 years and the average number of previous cesarean deliveries was 2.2. The average gestational age was 47.4 days. The average myometrial thickness was 2.9 mm. The mean β-hCG level for all patients was 26,981±28,997 μIU/mL. Twenty-two (84.6%) women with CSPs were initially treated surgically (curettage and/or hysterotomy) and 4 (15.4%) women were treated medically. Suction curettage was performed in 19 patients as first-line treatment. Four of the patients needed an additional Foley balloon catheter placement because of persistent vaginal bleeding. Finally, the success rate of suction curettage was 16 of 19 (84.2%).

**Conclusions:** Delays in early detection of CSPs are associated with life-threatening complications, including uterine rupture with massive hemorrhage. Because of this outcome, an early diagnosis is a key factor for safe management of CSPs. Hemodynamic instability and abandoned bleeding is an indication for urgent surgery. This can be performed via laparoscopy or laparotomy, depending on surgical skills. The early diagnosis of a CSP (<8 gestational weeks) with a β-hCG level <17,000 μIU/mL and a myometrial thickness >3 mm can be treated with suction curettage with or without uterine Foley balloon placement as a curative treatment.

**P0977**

**RANDOMIZED TRIAL OF MIFEPRISTONE AND BUCAL MISOPROSTOL VS MISOPROSTOL ALONE FOR MEDICAL ABORTION**

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**Objectives:** To evaluate the efficacy and safety of mifepristone and buccal misoprostol versus misoprostol alone in medical abortion of ≤56 days.

**Method:** One hundred pregnant women having gestational age ≤56 days were randomized to group A and group B. In group A, patients received 200 mg mifepristone on day 1, followed by buccal misoprostol 800 μg on day 2, and in group B patients received 800 μg misoprostol alone on day 1. Complete abortion was the principal outcome measure. Secondary outcome measures were side-effects and acceptability.

**Results:** Forty-six (92%) patients in group A and 37 (74%) patients in group B aborted successfully (p value 0.017). Four (8%) patients in group A and eight (16%) patients in group B had incomplete abortion with retained products of conception. In group B, three (6%) patients had missed abortion and two (4%) patients had continued pregnancy whereas none of the patients in group A had missed abortion or continued pregnancy. The overall method acceptance was 100% whereas the overall route acceptance was 83%.

**Conclusions:** Misoprostol-alone regimen is a low-cost regimen as compared to mifepristone/misoprostol regimen. Though the efficacy of mifepristone followed by buccal misoprostol is better, buccal misoprostol alone can be used for termination of pregnancy in patients where mifepristone is either unavailable or contraindicated.
sured by visual analogue scale (VAS), morphine consumption and the time form induction-to-expulsion.

Results: Recruitment is expected to be completed end of March. Preliminary results will be presented at the FIGO-conference.

Conclusions: The study will give important information regarding the use of PCB in second trimester medical abortion.

P0980
PROGESTIN-BASED CONTRACEPTIVE ON THE SAME DAY AS MEDICAL ABORTION

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Objectives: The primary purpose of this study was to determine the efficacy of medical abortion, defined as the complete passage of products of conception, when a progestin-based contraceptive with the etonogestrel subdermal implant (SDI) or depot medroxyprogesterone acetate (DMPA) injection for contraception was given on the same day as an antiprogestin, mifepristone, for medical abortion up to 63 days gestation.

Method: This is a retrospective chart review of pregnant women aged 15 to 49 who underwent an elective medical abortion with mifepristone and misoprostol between August 2013 and July 2014 at two hospitals in KwaZulu Natal, South Africa. All women underwent each study site's standard medical abortion protocol with oral mifepristone 200 mg in the clinic followed by sublingual misoprostol 800 µg 24–48 hours later at home. The chosen method of contraception with the etonogestrel SDI or DMPA injection was administered immediately after mifepristone consumption. Medical abortion completion or failure was then assessed two weeks later either in the clinic or by phone.

Results: 89 charts were analyzed for this study. In this population of women who received the etonogestrel SDI or DMPA injection for contraception on the same day as mifepristone for medical abortion, 97.8% were noted to have a completed abortion, with 2.2% requiring medical abortion failure in our cohort when compared to historical medical abortion outcomes. Surgical dilation and curettage were used for medical abortion failure. There was no statistically significant difference between the medical abortion failure rate in our cohort when compared to historical medical abortion failure rates (5.2%) without progestin contraceptives (p=0.22) using the same mifepristone/misoprostol regimen. Patient’s age, gestational age and parity were not statistically related to medical abortion failure.

Conclusions: In our study, providing a progestin-based contraceptive with the etonogestrel SDI or DMPA injection on the same day as mifepristone for medical abortion did not affect efficacy. Larger prospective studies, including acceptability and satisfaction studies are needed. However, a one-visit approach with contraceptive administration on the same day as medical abortion should be considered, especially in lower resource settings where follow up rates may be low and complications of a future unintended pregnancy exceedingly high.

P0981
GESTATION AGE ASSESSMENT FOR MA SERVICES

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Objectives: Providing abortion services by medical methods presumably is dependent mostly on the correct estimation of the uterine size before, during and after the abortion process and ruling out ectopic pregnancy. A study was thus conducted to estimate the number of pelvic bimanual examinations required to get proficient in uterine size estimation for provision of medical abortion (MA).

Method: 44 doctors undergoing Comprehensive Abortion Care training at 19 training centers across states in India, participated in the study. Local ethical clearance was got from a participating medical college, for the study. The data included the period of amenorrhea or date of last menstrual period (LMP) as given by the woman, the uterine size estimated by the trainee doctor and confirmation of uterine size, as done by the master trainer from the training center. The data was analyzed to determine the experience level at which the uterine size assessed by the trainee doctor and the master trainer was the same.

Results: There is a wide variation in the number of pelvic examinations that trainees (MBBS doctors) require to achieve accuracy in assessing gestation age. A number of factors can be attributed to this variation namely; the personal skill of the trainee, previous exposure of the trainee in assessing gestation age and influence of the trainer as a mentor.

Conclusions: The average number of assessment’s at which the MBBS doctor’s assessment matches that of the trainer’s is 13 pelvic examinations. At the average 13th examination there is consistency of correct assessment of gestational age.

P0982
INDUCED ABORTIONS AND THE METHODS USED FOR INDUCTION IN SRI LANKA: HEALTHCARE PROVIDERS’ PERSPECTIVES

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Objectives: Sri Lanka is a country where, legally, an abortion can be performed only to save the life of the mother. However, research conducted in country reveals several hundreds of illegal abortions are being conducted daily outside hospitals. Though hospital statistics show that mortality from septic abortions have drastically reduced overtime, healthcare providers continue to report morbidity from induced septic abortions. This study was conducted with the objective of describing the pattern of presentation of induced abortion relation admissions to hospitals in Sri Lanka and understands the methods used over time.

Method: The study was conducted in five Tertiary Level hospitals in the Western province including three Teaching Hospitals as part of a World Health Organization Multi Country Survey. A qualitative survey with in-depth interviews was conducted using a moderator guide among healthcare providers serving in gynecology units with over five years experience in treating women presenting with abortions. The moderator guide was pretested in a similar setting. In-depth interviews were conducted till theoretical saturation was reached and transcripts developed. Thematic analysis was conducted by the research team using NVivo software on the developed transcripts.

Results: Twenty one doctors including consultants in Gynaecology and Obstetrics and nine nurses were interviewed. Number of admissions with induced abortions and complications was found to decrease overtime. “Use of drugs” was identified as the commonest method of induction with “Misoprostol” being the drug of choice which was available in pharmacies and private providers. Majority knew “Misoprostol” regimes used to induce abortion. Care providers with over ten years experience described a trend in the reduction of mechanical methods used and drugs being the method of choice. Majority of women seeking induction was identified as married women who had completed their families.

Conclusions: Sri Lanka is a country with restrictive abortion laws and “Misoprostol” was not a registered drug at the time of the survey. However, the drug was found to be available in pharmacies and private providers with “Misoprostol” being the commonest method women resort to for induction of abortion. Though family planning services are readily available, married women with unmet need in family planning appear to be the largest group of abortion seekers. Further research on the use of drugs and strengthening family planning services is recommended.
P0983

ACCEPTABILITY OF HOME-ASSESSMENT OF OUTCOME AFTER MEDICAL ABORTION IN A LOW-RESOURCE SETTING IN RAJASTHAN, INDIA: A RANDOMIZED CONTROLLED, NON-INFERIORITY TRIAL

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Objectives: To assess women’s acceptability of medical abortion and simplified follow-up using a low-sensitivity pregnancy test two weeks after medical abortion.

Method: This study was a randomised, controlled, non-inferiority trial. Women were eligible if they sought abortion with a gestation up to 9 weeks, lived within defined study area and agreed to follow-up. Women were ineligible if they had known contraindications to medical abortion, haemoglobin < 85 mg/l and were below 18 years.

Abortion outcome assessment through routine clinic follow-up by a doctor was compared with home-assessment using a low-sensitivity pregnancy test and a pictorial instruction sheet. Women’s acceptability was measured as satisfaction, expectations, comparison with previous abortion experiences and future preference of method, location of misoprostol and location of follow-up.

Results: 731 women were randomized to the clinic follow-up group (n=353) or home-assessment group (n=378). 623 women were successfully followed up, 96% of women were satisfied and 95% found the abortion better or as expected, with no difference between study groups. Knowing the abortion outcome and having done the pregnancy test was associated with increased satisfaction. More women in the home-assessment group chose home-assessment as future preference as compared with the clinic follow-up group.

Conclusions: Medical abortion is highly accepted and home-assessment fulfills criteria of acceptability among women and can be implemented in low-resource, rural settings.

P0984

COMPARISON OF SURGICAL MANAGEMENT WITH MANUAL VACUUM ASPIRATION AND MEDICAL MANAGEMENT WITH MISOPROSTOL FOR EARLY PREGNANCY FAILURE IN NEWI, SOUTH-EAST NIGERIA

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Objectives: Misoprostol is increasingly being used to treat women who have early pregnancy failure. This study determined the efficacy and safety of surgical management of early pregnancy failure with manual vacuum aspiration (MVA) versus medical management with misoprostol.

Method: This study was done in Chimex Specialist Hospital, Nnewi, south-east Nigeria. A total of 43 women with first-trimester pregnancy failure (anembryonic gestation or incomplete spontaneous abortion) were randomly assigned to receive 800 μg of misoprostol vaginally or to undergo manual vacuum aspiration (standard of care) in a 5:1 ratio. The misoprostol group received treatment on day 1, a second dose on day 3 if expulsion was incomplete and MVA on day 8 if expulsion was still incomplete. Surgical treatment (for the misoprostol group) or repeated aspiration (for the vacuum-aspiration group) within 30 days after initial treatment constituted treatment failure.

Results: Thirty-six and seven women were assigned to receive misoprostol and surgical treatment respectively. Of the 36 women assigned to receive misoprostol, 77.8% (28/36) had complete expulsion after first dose of misoprostol (by day 3) and 2.8% (1/36) after second dose of misoprostol (by day 8). Seven women had MVA after repeat of misoprostol, hence treatment failed in 19.4% (7/36) of misoprostol group and none (0/7) in surgical group (P=0.001). There were no reported adverse effects in any of the groups. None of the women received any contraceptive method prior to conception or supplementary pain management after the pregnancy evacuation.

Conclusions: Treatment of early pregnancy failure with 800 μg of misoprostol vaginally is a safe and effective approach in Nigeria, with a success rate of approximately 80%. Larger studies in Nigeria are needed to compare these findings.

P0985

OUTCOME OF EXPECTANT MANAGEMENT OF SPONTANEOUS FIRST TRIMESTER MISCARRIAGE. A RETROSPECTIVE STUDY

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Objectives: To determine the effectiveness and safety of expectant management for early pregnancy loss.

Method: A retrospective descriptive study of 20 patients with a diagnosis of miscarriage of 10 weeks gestation or less were managed expectantly by a single staff of the Department of Obstetrics and Gynecology from January 2012 to June 2014. Patients who were given medications to aid in the expulsion of products of conception or those who underwent surgical intervention were excluded from this study. Patients’ charts were collected and reviewed. The data analyzed were the duration from time of diagnosis of missed miscarriage to time of expulsion of products of conception and the complications of expectant management.

Results: Eighteen (90%) patients had complete expulsion of the product of conception while 2 (10%) patients had incomplete expulsion. Two (10%) patients had expulsion of the product of conception within 1 week after the diagnosis of miscarriage; 6 (30%) patients in 2 weeks; 8 (40%) patients in 3 weeks; 2 (10%) patients in 4 weeks; 1 (5%) patient in 5 weeks and 1 (5%) patient in 16 weeks. The complications noted were heavy bleeding in 3 patients and anemia in 1 patient. Two patients had incomplete expulsion for which completion curettage was done.

Conclusions: Patients can now be encouraged to try and to persevere with expectant management since high completion rate was noted by 2–3 weeks from time of diagnosis. The lower rate of complications in women who chose expectant management is also reassuring with the risk of infection or hemorrhage being low.

P0986

HIGH-INTENSITY FOCUSED ULTRASOUND COMBINED WITH SUCTION CURETTAGE FOR THE TREATMENT OF CESAREAN SCAR PREGNANCY

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Objectives: To retrospectively evaluate the safety and feasibility of high-intensity focused ultrasound (HIFU) treatment combined with suction curettage under hysteroscopic guidance for cesarean scar pregnancy (CSP).

Method: 53 patients with definite CSP were treated with HIFU followed by suction curettage under hysteroscopic guidance. All the patients received one session of HIFU ablation under conscious seda-
tion. Suction curettage under hysteroscopic guidance was performed at an average of 2.9 (range: 1–5) days after HIFU ablation. Blood flow of pregnancy tissue before and after HIFU, intraoperative blood loss in suction curettage and hysteroscopy procedure, time for β-human chorionic gonadotropin (β-hCG) to return to normal level, time for normal menstruation recovery were recorded.

**Results:** Immediately after HIFU treatment, color Doppler ultrasound showed that the fetal cardiac activity disappeared and the blood flow in the pregnancy tissue significantly decreased. All the patients underwent suction curettage under hysteroscopic guidance after the treatment of HIFU, the median volume of blood loss in the procedure was 20 mL (range: 10–400 mL). The average time for menstruation recovery was 35.1±8.1 (range: 19–60) days. The average time needed for serum β-hCG to return to normal levels was 27.5±6.4 (range: 12–40) days. The average hospital stay was 7.8±1.5 (range: 5–11) days.

**Conclusions:** Based on our results, it appears that HIFU combined with suction curettage under hysteroscopic guidance is safe and effective in treating patients with CSP at gestational ages shorter than 8 weeks.

**P0987**

**WHAT HAPPENS WHEN WE ROUTINELY GIVE DOXYCYCLINE TO MEDICAL ABORTION PATIENTS?**

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**Objectives:** Routine provision of antibiotics following medical abortion is common, yet practitioners and professional societies differ on its utility. Our study compares the side effects experienced by women who were prescribed doxycycline following medical abortion to those who were not and assesses the adherence to a prescribed regimen.

**Method:** This study was a prospective, observational, open-label study from a convenience sample in the United States. Women seeking medical abortion were enrolled in nine study sites including four clinics thatRoutine provision of antibiotics following medical abortion is common, yet practitioners and professional societies differ on its utility. Our study compares the side effects experienced by women who were prescribed doxycycline following medical abortion to those who were not and assesses the adherence to a prescribed regimen.

**Method:** This study was a prospective, observational, open-label study from a convenience sample in the United States. Women seeking medical abortion were enrolled in nine study sites including four clinics that routinely prescribe a seven-day course of doxycycline (Doxycycline Arm) and five clinics that do not routinely prescribe any antibiotics (No Doxycycline Arm). Seven to fourteen days following the administration of mifepristone, women were asked to self-administer a computer-based survey. The survey asked about side effects experienced (both arms) and adherence to the regimen (Doxycycline Arm only).

**Results:** Five hundred eight-one women were enrolled (278 in the Doxycycline Arm and 303 in the No Doxycycline Arm). There was a trend toward increased nausea in the Doxycycline Arm (47.8% vs. 40.9%; p=0.056) and a statistically significant difference in vomiting (25.2% vs. 18.5%; p=0.032). Almost all women in the Doxycycline Arm reported taking at least one pill, however only 28.3% reported “perfect adherence”. The most common reasons reported for taking fewer pills than instructed were that participants forgot to take them.

**Conclusions:** Women who were prescribed doxycycline following medical abortion reported moderate adherence and experienced significantly more vomiting than their counterparts. In the absence of robust evidence that prescribing 7 days of doxycycline following medical abortion is effective at reducing serious infections, these data can assist the public health community with deciding whether routine provision is the most appropriate strategy.

**P0988**

**ABORTION PRACTICES IN NEPAL: WHAT DOES EVIDENCE SHOW?**

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**Objectives:** Globally, unsafe abortion accounts for 13% maternal deaths. Annually, five million women are admitted to hospitals as a result of unsafe abortion and three million women experience complications following unsafe abortion. In Nepal too unsafe abortion still significantly contributes to maternal morbidity and mortality. In 2002, responding to the public voices, Nepal’s Parliament granted women’s legal access to safe abortion services. This meta-analysis examines the results of different studies on abortion practices in Nepal so that the finding is used in policymaking and programs aimed at reducing unsafe abortion.

**Method:** Study results published between 1990 and 2014 and accessed through PubMed, Lancet, Medline, WHO and Google Scholar were analyzed. Keywords used in the search, included legalization of abortion, Nepal, safe abortion, and unmet need. Case reports and grey literature were excluded.

**Results:** At the end of 2014, more than half million women sought safe abortion. Despite considerable progress, unsafe abortion still prevails in Nepal as it has been estimated that they constitute half of all abortions undertaken every year. Published literature showed that there is still an unmet need for safe abortion services in Nepal. Furthermore, while the overall awareness of the legality of abortion was high, public attitude was negative toward women seeking abortion services, and unmarried women were at risk for seeking unsafe abortions due to socio-cultural norms, values, and stigma.

**Conclusions:** Increased access to safe abortion service is needed to address the unmet need for safe abortion services in Nepal. Public attitude changing programs or policies and vulnerable population (e.g. unmarried women seeking safe abortion) friendly programs are needed.
prostol in the community, a harm reduction strategy to decrease morbidity and mortality from unsafe abortion.

**P0990 DEVELOPMENT OF POLICIES, STANDARDS AND GUIDELINES FOR THE REDUCTION OF MATERNAL MORBIDITY AND MORTALITY IN KENYA**

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**Objectives**: 1. To highlight the process of the development of the policies, standards and guidelines document in Kenya. 2. To give an overview of these policies, standards and guidelines in relation to the “Big Five” causes of maternal deaths in Kenya. 3. To make recommendations to other countries contemplating developing such document.

**Method**: A smaller task force was formed and mandated to review the older document and consider all the major causes of maternal mortality and morbidity. The Task Force held several review meetings. A national stakeholders meeting was held in November 2013 and representatives of public and private health sectors, faith-based organizations, and civil society groups to discuss the document. A larger validation meeting was held early January 2014. The group recommended the chapter on abortion be reviewed. This was successfully done in February 2015. A second and final stakeholders meeting is planned for April 2015 to finalize the document.

**Results**: A nationally agreed document compliant with the reproductive health supportive Constitution of Kenya, 2010, will be in place for use in reducing maternal morbidity and mortality in Kenya. It is hoped that the MOH, the private sector and NGOs will work hand in hand to fast-track the reduction of maternal mortality towards achievements of MDG number 5 and beyond.

**Conclusions**: Relevant technical experts, professional associations and academia should initiate and spearhead the process of improving policies standards and guidelines. Involvement of relevant stakeholders is essential in developing national health policies standards and guidelines.

**P0991 FAMILY PLANNING CURRICULUM TRENDS IN RYAN RESIDENCY PROGRAMS**

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**Objectives**: To identify which aspects of family planning curricula are potentially perceived as most helpful as per experiences and opinions of both trainees and instructors in Ryan Programs. Specific areas queried include: procedural exposure in early residency regardless of case complexity versus a graduated approach, utility of ultrasound, patient volume, approach to anesthesia, procedure settings, and procedure technique.

**Method**: Surveys created for resident and attending physicians and piloted at our home institution, a tertiary care academic medical center in MA. The edited survey was emailed to Ryan Program site coordinators for distribution to all resident and attending physicians involved in the family planning curriculum. REDCap utilized for data collection and storage; data exported to STADA for analysis.

**Results**: Seventy-five programs contacted with an expected response rate of 20% for an electronic survey. Responses will be compared between instructors and learners, across and within programs, and based on various other demographics such as gender, race, age, marital status, and geography.

**Conclusions**: Prior studies have demonstrated increased family planning competence for participants in Ryan Residency programs. The results of this survey will set the stage for standardization of Ryan program curricula domestically with potential implications for worldwide expansion to other family planning training programs.

**P0992 MEDICAL ABORTION – LET US GIVE QUALITY CARE! MAKING MEDICAL ABORTION SAFER AND MORE EFFECTIVE IN LOW RESOURCE POPULATION. A COMPARATIVE STUDY FROM PRIVATE HOSPITAL, NAGPUR INDIA**

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**Objectives**: To study the benefit of oral Iron supplementation and Prophylactic antibiotics to prevent Anemia after medical abortion. To reduce the morbidity of Anemia after medical abortion.

**Method**: Case control study of 200 patients opting for medical abortion (pregnancy up to 7 weeks, hemoglobin above 10 gm/dl included). In India, Mifepristone 400 mg one tablet and 4 Misoprostol tablets of 200 mcg combination KIT available (WHO approved) Rukmini hospital – government approved MTP-abortion centre allowed to dispense. Study group (100) given medical abortion kit with doxycycline 100 mg for 3 days metrogyl 400mg bd – 5 days & iron tablets bd – 21 days. Control group given only abortion pills kit. Ultrasound done at 10–15 days. Hemoglobin estimation done after 21 days. Statistical analysis done using percentages.

**Results**: Study group only 16% had mild to moderate Anemia. 3% had Hb 8 gm/dl. 3% had Hb of 9 gm/dl. 10% had Hb 10.5 gm/dl. 84% had Hb above 11 gm/dl. In control group, 33% had Hb above 11 gm/dl. 77% had mild to moderate Anemia. 53% had Hb 9gm/dl. 1% had severe anemia requiring blood transfusion. Hb 7 gm dl and 6 gm/dl. 84% had complete abortion in study group. 73% had complete abortion in control group. 13% from both group achieved complete abortion after Repeat misoprostol administration. Complete abortion in Control group had mild to moderate anemia.

**Conclusions**: Quality care for medical abortion requires prevention of Anemia and Infection. It is an acknowledged fact that Mifepristone Misoprostol combination can cause varying amount of blood loss in early pregnancy. Post abortion survey of women undergoing medical abortion shows varying degree of anemia, as they can have incomplete abortion and infected retained products will aggravate blood loss. Iron supplementation and Prophylactic antibiotics should be advised along with medical abortion pills as it helps preventing Anemia caused due to blood loss in Medical Abortion. Unmonitored these women are likely to start their next pregnancy with a low haemoglobin, and resulting disastrous consequences.

**P0994 WHAT DO KOCH AND COLLEAGUES REALLY SAY ABOUT THE RELATIONSHIP BETWEEN ABORTION LAWS AND MATERNAL MORTALITY?**

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**Objectives**: Safe abortion is a key strategy to reduce maternal morbidity and mortality. Mexico liberalized abortion law in Mexico City in 2007; laws in Mexico’s other 31 states vary, but remain restrictive. A recent publication by Koch and colleagues (BMJOpen 2015) presented descriptive data suggesting that states with more restrictive
abortion laws had lower levels of maternal mortality. We critique the methods and conclusions employed by this paper and present a research agenda for examining the impact of legal abortion on women’s health in Mexico.

**Method:** Several aspects of the methods Koch and colleagues employ make it difficult to interpret the results. First, a natural experiment requires random allocation of exposure and/or statistical approaches to approximate experimental design, neither of which are part of this analysis. Second, they use the Intentional Search and Reclassification of Maternal Deaths (BIRMM) dataset, but do not specify whether they include deaths that have been reclassified or not. In addition, the early years of the BIRMM had data quality issues that make results less robust than later years (since 2006). Finally, the results do not support the conclusions.

**Results:** The paper claims to demonstrate that maternal mortality and abortion-related mortality are higher in the 14 states classified as having less restrictive abortion laws. However, their own tables present more rapidly declining maternal mortality ratios (MMR) during 2002–2011 in the group of states with less restrictive laws. Further, their own multivariable models suggest no independent association between abortion laws and the MMR, accounting for several socio-demographic indicators. The authors conclude that this study shows that legalizing abortion does not impact maternal mortality, despite not focusing on the analysis on Mexico City, the only state where first-trimester abortion is legal on demand.

**Conclusions:** We need rigorous evidence about the health impacts of reforming abortion laws worldwide. Simplistic studies that do not answer the stated research questions and obfuscate findings with a deluge of descriptive detail do not advance science, clinical care, or women’s health. Population-level studies designed to answer questions about the causes of maternal mortality and the best approaches to reduce it are needed. Many factors contribute to decreasing maternal mortality and safe, legal abortion continues to play a key role, especially among the most vulnerable women.


**COSTS AND DECISION-MAKING REGARDING ABORTION AND ABORTION CARE-SEEKING IN ZAMBIA**

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**Objectives:** Although abortion can be legally provided in Zambia on the grounds of health, economic distress, and rape, it is rarely performed by trained providers under the allowed conditions. An additional barrier is that any women do not know abortion is legal in Zambia and therefore continue to have unsafe abortions. NGOs have attempted to scale up their ability to provide safe abortions in this fraught political environment. We sought to assess the economic, health and social costs of abortion in a context in which some women are able to access safe abortion while others do not.

**Method:** We employed the use of mixed-methods for the data collection: longitudinal semi-structured in-depth interviews (IDIs) and a structured cost questionnaire administered at Time 1 (T1) with women recruited at a range of health facilities in Lusaka and Kabwe districts. Women who have successfully obtained a legal abortion and women who have experienced complications from unsafe abortion have been recruited from 2 public hospitals (one in each district) and a number of private clinics in the two districts. To date, 45 T1 and six T2 IDIs have been conducted, and 108 cost questionnaires have been administered.

**Results:** Preliminary analyses from the IDIs reveal that safe terminations are happening in the private sector while abortion complications are treated at public hospitals. Women are arriving at health facilities with minor health complications. The unintended pregnancy and consequent abortion often results in the end of the relationship. Women report many numerous visits to the same as well as different health facilities in their quest to obtain an abortion or treat post-abortion complications. The data reveal that women are experiencing IUD insertions post-abortion often without consent. None of the respondents know abortion is broadly legal in Zambia.

**Conclusions:** Results from the study will be ready in May 2015. They will include descriptive analysis of the longitudinal costs that women incur as a result of accessing a safe versus an unsafe abortion. Estimates of the economic costs of abortion and postabortion care (costs of seeking care, cost of treatment, transport and opportunity costs) will also be generated. The impact to households will be assessed using a socio-economic status indicator. The focus on not only financial costs but also the longer term health effects as well as social consequences make these data a unique contribution to understanding abortion in Zambia.


**EXPERIENCES OF PROVIDING ABORTION CARE AND CONTRACEPTIVE COUNSELLING TO IMMIGRANT WOMEN IN SWEDEN**

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**Objectives:** Universal access to health care services is a public health goal in Sweden and one cornerstone is to promote universal access to safe and secure sexuality and good reproductive health. Immigrants represent 15% of the total Swedish population. Evidence suggests that immigrants might have different sexual and reproductive health (SRH) care needs as compared to non-immigrants. Previous research indicates sub-optimal reproductive health care and adverse SRH outcomes among immigrants living in high-income settings. The objective of this study is to explore health care providers experiences of abortion care and contraceptive counselling to immigrant women in Sweden.

**Method:** Individual interviews have been carried out with 15 health care providers involved in abortion care, i.e. doctors and midwives. A purposive sampling technique has been used to recruit participants with a variety of backgrounds. An inductive approach, using thematic analyses has been applied.

**Results:** The health care providers were at first reluctant to talk about specific needs among foreign-born women, but during the interviews specific needs that influenced the encounter were identified. In the analysis we identified one main theme: Accommodating the specific needs related to pre- and post migration factors – a challenge in the healthcare encounter. This theme includes three sub-themes: Handling Poor Knowledge, The Influence of Life Situations and Perceptions and Believes Influencing Contraception.

**Conclusions:** There is a need to acknowledge pre-migration factors that influence the health care encounter with foreign-born women seeking abortion care. This in order to reach the goal of, and to provide equal reproductive health care to all.


**THE INFLUENCE OF CONTRACEPTIVE ATTITUDES ON ABORTION STIGMA IN LUANDA, ANGOLA**

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**Objectives:** To assess the influence of perceived contraceptive attitudes on abortion stigma among women of reproductive age in Luanda, Angola. To understand the influence of contraceptive attitudes on abortion stigma, a social-ecological model which lays out multiple intersecting levels of influence on abortion stigma is also developed.
Levels of this model include partner, friend, community, and media influences.

Method: This analysis uses data from the 2012 Angolan Community Family Planning Survey. Researchers employed multi-stage random sampling to collect demographic, social, and reproductive information from a representative sample of Luandan women aged 15–49. Researchers analyzed data from 1469 respondents, used multiple logistic regression to assess women’s perceptions of how their partners, friends, communities, and the media perceived contraception, and examined associations between those perceptions and respondents’ abortion stigma. Stigma was measured by likelihood to help someone get an abortion; likelihood to help someone who needed medical attention after an abortion; and likelihood to avoid disclosing abortion experiences.

Results: Community acceptance of family planning and media discussion of family planning were associated with a decrease in likelihood to help someone receive an abortion. Higher levels of partner engagement in family planning discussion were also associated with decreased likelihood to help someone access abortion, as well as increased likelihood to avoid disclosing abortion. Partner support of family planning was associated with increased likelihood to help someone access an abortion and increased likelihood to not conceal abortion. Friends’ encouragement of family planning and community support of contracepting women were associated with an increase in likelihood to avoid disclosing abortion.

Conclusions: Addressing abortion stigma is key to reducing abortion-related mortality; increasing partner support of family planning may be one strategy to help reduce abortion stigma. Results indicating that perceived community and friend support of family planning can increase abortion stigma suggest that the stigma stems not from abortion itself, but rather from judgment about socially unacceptable pregnancies. These results can both inform further study into the reduction of abortion stigma and suggest a first step towards reducing stigma in Luanda.

P0998
FACILITATING ACCESS: SMS FOLLOW-UP AFTER MEDICAL ABORTION IN BOGOTA, COLOMBIA

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Objectives: For most women, a follow-up visit after medical abortion is medically unnecessary. This pilot RCT aims to establish the safety and feasibility of text-message (SMS) follow-up versus standard of care (in-person follow-up visit 15 days post procedure) after medical abortion at a clinic in Bogota, Colombia.

Method: Women in both intervention and control groups received wanted medical abortions according to clinic protocol. Women in the intervention group received 5 SMS’s containing clinical information and supportive messaging. Eleven days following the procedure, women in the intervention arm were asked to respond to a simple set of self-assessment questions via SMS. Women whose self-assessment indicated a need for follow-up were requested to return to the clinic. If follow-up was not indicated, participants were reminded to return to the clinic for the usual 15-day scheduled follow up visit.

Results: A total of 173 women between the ages of 18–49 were enrolled in the study (intervention: n=77; control: n=96). On average women traveled for 1.3 hours to the clinic. No serious medical complications occurred in either group, and the proportion of women returning to the clinic for side-effects or mild complications before the scheduled follow-up visit was the same across study groups (4.7%). In both study groups, 92% of women were satisfied with their abortion and follow-up care, the large majority of women in both study groups would recommend the process to a friend (intervention: 86%, control 89%).

Conclusions: SMS follow-up after medical abortion appears to be a safe and feasible method of follow-up for medical abortion care.

P0999
COMPARISON OF THE EFFECT OF ANETHUM GRAVEOLENS (DILL) SEEDS WITH OXYTOCIN ON INDUCTION OF LABOR IN TERM PREGNANCY: A RANDOMIZED CLINICAL TRIAL

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Objectives: Oxytocin, the most common pharmacologic methods for labor Induction has maternal and fetal side effects and sometimes is not effective. Dill Includes tannin – polyphenols with contractsile properties – potentially Supposed to be able to induce uterus contractions. This study aimed to investigate the effects of boiled Anethum Graveolens seeds on induction of labor and compare it with oxytocin in term pregnancy.

Method: A randomized clinical trial was conducted on 100 nulliparous, 41–42 week pregnant women aged 18 to 35y, Bishop score ≤4, cephalic presentation, intact membranes, singleton pregnancy without labor pain or bloody show, randomly allocated to either intervention or control Group receiving Boiled Anethum Graveolens seeds or induction with oxytocin, respectively. 0.018 g/kg of dill seeds and a teaspoon full of sugar was added to 250cc of boiling water and was brewed for about 10 minutes. Intervention group drank the filtered solution only once after Admission and were infused with simple Ringer serum.Control group received standard protocol of labor induction using Oxytocin.

Results: Intervention group had a significantly better bishop score following the Intervention compared to control group. The mean duration of active phase (2.30±0.34 vs. 2.76±0.48 hours, P=0.001), Second (42.95±8.79 vs. 58.52±22.58 minutes, P=0.004) and third stages (12.00±4.64 vs. 12.50±2.25, minutes P=0.001) of labor were significantly lower in intervention group. control group had shorter latency phase than intervention group.

Conclusions: Results supported the boiled Anethum graveolens seeds as an effective way to induction of labor.

Urogynecology

P1000
THE ROLE OF TRANS-OBTURATOR VAGINAL TAPE (TVT-O) IN THE MANAGEMENT OF FEMALE STRESS URINARY INCONTINENCE – 4 YEARS FOLLOW UP, MINIA UNIVERSITY EXPERIENCE

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Objectives: To evaluate the effectiveness and safety of a new minimally invasive surgical procedure trans-obturator vaginal tape (TVT-O) in the treatment of female stress urinary incontinence and follow up these cases for 4 years regarding effectiveness, safety and possibility of complications.

Method: This prospective study was conducted between June 2009 and October 2013 on 30 women with genuine stress urinary incontinence (SUI) demonstrated by history, clinical examination and urodynamics studies underwent transobturator sling (inside-out technique) (TVT-O Gynecare®. Johnson & Johnson, USA). The patients were followed up for 4 years regarding subjective and objective cure rates, safety and possibility of complications.

Results: The mean operative time (min.) was 19.67 (±8.06). The mean intraoperative blood loss (ml) was 80±30.52. There was no cases complicated by intraoperative bleeding (mild or severe), bladder,
urethral, vascular injuries and anesthetic complications. Subjective and objective cure rates of these patients were (95%), 3 cases were complicated by denovo urgency, 4 cases complain of mild dyspara-
nia till the end of the first year.

Conclusions: The results of this study concluded that management of
genuine stress urinary incontinence by transobturator vaginal tape
(TVT-O) is an easy and safe method with low complications and high
success rate.

P1001
COPIING MECHANISM AMONG WOMEN WITH VESICOVAGINAL
FISTULA AT THE NATIONAL OBSTETRIC FISTULA CENTRE,
ABAKALIKI, NIGERIA
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Objectives: This study aimed to evaluate the coping mechanisms
among women with VVF at the national obstetric fistula centre.

Method: This cross-sectional study assessing coping mechanisms
among 405 VVF clients using simple random sampling technique.
Information on socioeconomic variables, labour and delivery and as
well as means of survival, social and psychological states were col-
lated and analysed using standard methods.

Results: The mean age was 30.6±1. Many (42.2%) were above the age
of 39 years while 20 (4.9%) were less than 20 years. They were ma-
jorly (70.9%) multiparous and grandmultiparous. Up to 67% (272)
were living with their partners while 2.7% were divorced. 48% had
no formal education while 29.1% had primary education. Farming
(53.3%) and trading (18%) were their major occupation. Up to 61.2%
were in labour for more than 48 hours with 88.9% stillbirth. On their
coping mechanisms, 69.4% of the clients had support mainly from
partners (35.6%) and relatives (16.3%). 10.9% of relatives showed neg-
ative attitude to them. Only 5.4% were hopeful. Others felt depressed
(22%), hopeless (17%), helpless (14%) and worthless (4%).

Conclusions: The study showed that vesico-vaginal fistula poses
great psychological and other challenges to sufferers.

P1002
LOWER URINARY TRACT SYMPTOMS (LUTS)/URINARY
INCONTINENCE AFTER VAGINAL AND ABDOMINAL
HYSTERECTOMY
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Objectives: To determine frequency of lower urinary tract symptoms
(LUTS) after catheter removal in women undergoing vaginal and ab-
dominal hysterectomy performed for benign indications.

Method: Women undergo hysterectomy meeting for inclusion crite-
ria will be enrolled in study, taking from obs/gyne department. In-
formed consent will be taken before hysterectomy. Surgeon more
than 5 yr of post-fellowship experience will be performed hystere-
tomy. Post surgery catheter will be removed after 24 hour. First pa-
tients will be assessed after 24 hour of catheter removal to see LUTS
then at 1 week and finally at 4 week after catheter removal. LUTS will
be noted down along with age, parity, height, weight, BMI, co morbid,
menopause, route of hysterectomy, indication of operation, present-
ing complain and duration of indwelling catheter.

Results: 76 patients were included. Average age was 51 years. Most
women had multiparity. Menopause in 50%.19.7% diabetic & 0.26%
hypertensive. Common complain was VP prolapse 32.9% then PMB
23.7%, Menorrhagia 19.7% & Irregular cycle 9.2%.Frequency of LUTS
after removal of catheter in both hysterectomy was 32.9%, urgency
was 22.4%, UUI was 14.5% & SUI in 10.5%.Rate of LUTS was 47% in
vaginal & 18% was in abdominal (p=0.014), frequency was signif-
ically high in vaginal compare to abdominal (p=0.011) while ur-
gency, UUI & SUI was insigniﬁcant between both group.In parity, only
SUI was high in those women who had grand multi parity.

Conclusions: In conclusion the results of our study showed that
bothersome LUTS after catheter removal is only signiﬁcant (P value is
0.024), for frequency of urine, other LUTS has not signiﬁcant means
in both surgical group for a period of 4 week of post operatively.
This difference can be explained by both persisting and development
of LUTS and persists after correction for all difference. During vaginal
hysterectomy there is continued traction on the uterus could con-
tribute to irreversible damage of the pelvic innervation, which
inervates the urethral sphincter, might be at risk for damage due to
overstretching related to downwards traction.

P1003
PREVALENCE AND RISK FACTORS OF URINARY INCONTINENCE
IN PREGNANCY
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Objectives: To estimate the prevalence of UI in pregnant women in
Botucatu and to identify factors associated with UI during pregnancy.

Method: A cross-sectional population-based study. All pregnant
women regardless of gestational age were interviewed in the post-
partum time or until hospital discharge. An investigation structured
based on the literature, containing questions about the occurrence
of UI was used, their types, risk factors and the key moments in the
urinary leakage occurred.

Results: 996 women’s were interviewed, with an average age of
26.11 years (± 5.92). The prevalence of urinary incontinence was 52%.
Among several covariates, the presence of constipation (OR: 1.498),
consumption of stimulating foods (OR: 1.498), presence of gesta-
tional diabetes mellitus (OR: 3.541), recurrent urinary tract infection
(OR: 204.749) and age (OR: 1.059) were maintained is related to the
UI during pregnancy.

Conclusions: Understanding the risk factors for the occurrence of UI
during pregnancy can be useful to health professionals to prevent and
reduce risk factors that contribute to the UI during the period pre-
scribed, thus preventing this problem from getting worse after deliv-
er, especially when related to DMG and recurrent UTI.

P1004
VAGINAL MESH REPAIR: DOSE BRIDGE REPAIR REDUCE RISK
OF EROSION AND EXTRUSION?
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Objectives: The objective of the study is to determine the risk of ero-
son and extrusion after using type I polypropylene mesh (Allograft)
as an overlap graft for repair of anterior and posterior vaginal wall
due to defect in endopelvic fascia in patients with and without bridge
repair. Uses of mesh carry a risk of complications such as erosion or
extrusion which are usually easily treatable but sometimes may be
troublesome to manage. Bridge repair is a vaginal flap putted over
mesh below site of incision to enforce it.

Method: 80 patients with vaginal wall prolapses operated over 14
months (November 2013–December 2014) using Type I mesh in four
Libyan hospitals, 35% (28 patients) with anterior mesh repair for cysto-
tocele, 30% (24 patients) with posterior mesh repair for rectocele and
35% (28 patients) with cysto-rectocele. In 40% of the patients, repair
of defect is associated with other vaginal operations. Half of the pa-
tients (40 patients) had bridge repair along with mesh in repair of the
defect.

Results: Extrusion of the mesh occurred in 9 patients (11%), all of
them are mesh repair without bridge enforcement, three patients
with anterior mesh repair and six patients with posterior mesh re-
pair. No erosion seen in all 80 patients. Extrusion occurred at site of
incisions towards the vagina.

Conclusions: Because erosion occur mostly at site of incision, bridge
repair over mesh and below the site of incision for enforcement of genital prolapses can highly reduce the risk of extrusion.

**P1005**

**EFFICACY AND SAFETY OF SOLIFENACIN SUCINATE TABLETS VERSUS SOLIFENACIN SUCINATE TABLETS WITH LOCAL OESTROGEN FOR OVERACTIVE BLADDER IN POST-MENOPAUSAL WOMEN – A MULTI-CENTRE, RANDOMISED, OPEN, CONTROLLED COMPARISON STUDY**

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**Objectives:** To determine the prevalence and describe possible trigger factors of urinary incontinence (UI) among adult women in a Nigerian community.

**Method:** The present study comprised a household community survey conducted among 5001 women aged ≥18 years. Cluster multi-stage sampling was used to select eligible respondents. Information was obtained by an interviewer who administered a structured questionnaire on sociodemographics, obstetric and gynaecological characteristics, leakage of urine and trigger factors.

**Results:** The mean age of the women was 33±14.7 years. The proportion of women currently experiencing leakage was 2.8% (95% CI, 2.6–3.0). The types of incontinence reported by women currently leaking included stress incontinence (2.3%), urge incontinence (1%) and mixed (0.6%). Severe incontinence was reported in 0.5% of women, 0.1% had moderate incontinence, whereas 2.2% had mild incontinence. Women with history of vaginal delivery only were approximately two-fold more likely (95% CI OR, 1.11–3.02), and those who delivered by other modes over four-fold more likely (95% CI OR, 1.96–9.27), than nulliparous women to report currently leaking urine.

**Conclusions:** The present study shows a prevalence of UI comparable to other settings, and the commonest type is stress is found to be UI. The mode of delivery is a significant correlate of UI amongst Nigerian women.

**P1007**

**TVT-SECU R VERSUS TVT-OBTURATOR: A RANDOMIZED TRIAL OF SUBURETHRAL SLING OPERATIVE PROCEDURES FOR STRESS URINARY INCONTINENCE, EL MINA EXPERIENCE**

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**Objectives:** To compare TVT-Secur (TVT-S) and TVT-Oblurator (TVT-O) suburethral slings for treatment of stress urinary incontinence (SUI).

**Method:** This was a single-centers, randomized trial of women with SUI who were randomized to TVT-S or TVT-O from May 2008 to April 2012. The primary outcome, SUI on cough stress test (CST), and quality-of-life and symptom questionnaires and Pelvic Floor Impact Questionnaire were assessed at 12 weeks, 6 months, 1 year and 2 years.

**Results:** Thirty women were randomized to TVT-S and 28 to TVT-O. There were no differences in median baseline quality-of-life and symptom questionnaires and Pelvic Floor Impact Questionnaire. Eighteen (60%) of 30 participants randomized to TVT-S had a positive CST result at evaluation after 12 weeks, 6 months and 1 year, whereas 3 (11%) of the in the TVT-O group had a positive CST result. Both TVT-S and TVT-O resulted in improved quality of life and symptoms at 12 weeks, 6 months, 1 year follow up.

**Conclusions:** The TVT-S seems to have a higher risk of positive post-operative cough stress test result (higher failure rate); however, the 2 procedures result in similar improvements in quality of life and symptoms.

**P1008**

**LOW COST MID URETHRAL SLING IN STRESS URINARY INCONTINENCE**


**Objectives:** To evaluate the safety, efficacy and cost-effectiveness of mid-urethral sling using freedom VM for treatment of Stress Urinary Incontinence (SUI).

**Method:** We included 35 women with pure stress urinary incontinence not responding to lifestyle modifications, pelvic floor muscle training and medical management. The patients underwent TOT procedures using Freedom VM [polypropylene monofilament mesh, pore size 1.3 x1 mm. monofilament diameter 0.15 mm, cost: Rs. 5400 ($95)]. Patients were followed up for a period of 12 months for subjective and objective improvement.

**Results:** Out of 35 women with genuine SUI who underwent TOT using Freedom VM, 22 (63%) patients were completely cured, 10 (27%) patients showed improvement and 3 (10%) patients were yet symp-
tomatic at the end of 12 months. There were no intra operative vascular or visceral injuries. In immediate post operative period, 3 patients had urinary retention which improved by third post operative day after catheterization. No infection or mesh erosion was reported.

**Conclusions:** Mid urethral sling using Freedom VM is an equally safe and effective as other commercially available slings. This procedure is associated with less pain, shorter hospitalization, faster return to usual activities and reduced cost.

### P1009

**SURGICAL REPAIR OUTCOMES OF FEMALE GENITAL FISTULAE IN RELATION TO THEIR CLASSIFICATION**

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**Objectives:** To assess the outcomes of fistulae repair 3 months following surgery.

**Method:** A prospective study based on 300 patients registered from June 2011 to June 2014 at HNL and CNRFO. Outcomes assessment was based on an unpublished classification system using four criteria (fistula environment, size, illustration and prognosis).

**Results:** 94.4% cases through vaginal route. Type I (28.6%): simple fistulae; Type II (18.4%): urethral, bladder neck or trigone fistula (sub-types A, B, C). Type III (27.6%): circumferential (sub-types A, B, C). Type IV (17.4%): association of different types; Type V (2.6%): persistent fistula-related disease; Type VI (5.4%): iatrogenic.

7.7% lost to 3 months follow-up; 92.3% successful closure. 89.6% continent and cured. Continence rate: 100% type I, 23% type III C. 6.7% type III B. 6.7% type VI (5.4%): iatrogenic.

**Conclusions:** Successful outcomes and post-surgery urinary incontinence well associated with fistula types.

### P1010

**AN AUDIT OF OBSTETRIC FISTULAE PRESENTING TO HAMLIN FISTULA, ETHIOPIA, 2011–2014**

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**Objectives:** Clinically, the incidence and type of vesico-vaginal fistulae seem to be falling with high or ureteric fistulae becoming more prominent, possibly as the result of caesarean section. This thesis is explored by auditing the operation theatre records for 4 years at Hamlin Fistula Ethiopia in Addis Ababa, Metu and Yirgalem.

**Method:** An audit of all new presentations of urinary fistulae by age and parity presenting between January 2011 and December 2014, classifying them as high, low or ureteric fistulae.

**Results:** 875 women underwent primary urinary fistula repair in Addis Ababa, 708 in Yirgalem and 258 in Metu. Over the 4-year study period the number of new urinary fistula fell by 68% in Addis and Yirgalem and 37% in Metu. 65% of this workload is low fistulae in young primiparous women but 35% of new fistulae are high in older multiparous women who have undergone caesarean section or hysterectomy for uterine rupture and 35% are ureteric injuries. The incidence of high fistulae rises to a peak of 61% in Yirgalem, which serves the southern nations, poorly served by obstetricians.

**Conclusions:** Although the number of new urinary fistulae presenting to Hamlin Fistula Ethiopia seem to be falling, the high proportion of iatrogenic fistulae, probably result of difficult caesarean section at full cervical dilatation for mal-presentation after many hours in labour, suggests that this potentially difficult surgery is being carried out by inadequately trained and junior personnel in difficult conditions. If this were addressed there would be a significant fall in the number of fistulae requiring treatment.

### P1011

**VESICOCUTANEOUS FISTULA: A CASE REPORT AT THE NATIONAL OBSTETRIC FISTULA CENTRE, ABAKALIKI, SOUTH-EAST NIGERIA**


**Objectives:** Vesicocutaneous fistula is a rare type of urinary fistula. Like other types of urinary fistulae, it has a tremendous impact on quality of life as the patient is also consigned to a life of social seclusion from continuous urine leakage. We present a case of vesicocutaneous fistula resulting from trauma.

**Method:** Case Report.

**Results:** The patient was a 30 year-old Para 1+ 0 (1 alive) who presented with continuous involuntary leakage of urine and gait abnormalities following injuries from road traffic accident. Physical examination revealed a defect on the left aspect of the mons pubis with expansive cough impulse and right paracolitaral urine leakage. An assessment of subpubic paracolitaral vesicocutaneous fistula was made. She had repair of the anterior bladder wall and skin defects. She became continent after surgery.

**Conclusions:** Vesicocutaneous fistula is a rare type of urinary fistula. It requires careful examination in order to differentiate it from vesicovaginal fistula. Besides, it demands similar attention as other types of urinary fistulae as the psychological and medico-social implications are similar.

### P1012

**THE COPING MECHANISMS AMONG OBSTETRIC FISTULA SURVIVORS AT THE NATIONAL OBSTETRIC FISTULA CENTRE, ABAKALIKI, NIGERIA**


**Objectives:** Obstetric fistula is a significant public health concern among women in the developing world. It presents substantial medical, social and psychological challenges to the survivor. This study was undertaken to document the methods employed by patients in coping with the challenge.

**Method:** A cross-sectional prospective study carried out at the National Obstetric Fistula Centre, Abakaliki, Nigeria among 29 patients with fistula. Information on sociodemographic characteristics, psychological states and coping mechanisms were obtained using questionnaire.

**Results:** The mean age of the women was 31.3±3.24 years. A third were primiparous, over two thirds were married and 27.6% had leaked urine for over 48 months. Twenty (79.3%) claimed their state of mind was affected negatively while 65.5% were depressed. They all believed fistula was curable. There was no significant association between negative emotional state and marital status (P=0.000), education (P=0.204) or duration of leakage (P=0.245). They coped by using wrappers as diapers (25.9%), drinking less water (22.4%), using perfumes (19.0%), packing the vagina (3.4%). Financial support was mostly (75.9%) from relatives. Most (82.8%) were sexually active.

**Conclusions:** Obstetric fistula results in considerable psychological burden regardless of marital status, education and duration of leakage. The patients develop coping mechanisms over time.
P1013
THE FREQUENCY OF POSTPARTUM URINARY RETENTION (PPUR) AND FACTORS CONTRIBUTING PPUR AFTER VAGINAL DELIVERY
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Objectives: To determine the frequency of postpartum urinary retention (PPUR) & factors contributing to post partum urinary retention (PPUR) after vaginal delivery. Postpartum urinary retention continued to be a poorly recognized, common and frustrating complication during the immediate postpartum period. As it is almost impossible to predict which patients will develop PPUR, all patients on the postpartum ward should be considered to be at high risk. Present study is designed to calculate the actual magnitude of problem, for instance policy could be revised, new strategies should be design to reduce the maternal morbidity & mortality.

Method: It was a cross sectional study conducted at liaqauat national hospital from 1,July,2013 to 31,Dec,2013. total 114 women were recurred as case of postpartum urinary retentio following inclusion and exclusion criteria. women was interviewed & delivery notes was re-reviewed, on predesigned proforma including following variable age, BMI, parity, gestational age and history of delivery including duration of labor, instrumental delivery, episiotomy, use of epidural analgesia was recorded. To control the effect modifiers the stratification was done on age, gestational age & BMI, to see the effect of these on outcome using chi-square test considering p<0.05 as significant level.

Results: The average age of the women was 28.81±3.98 years, mean gestational age of the women was 38.34±0.88 weeks, mean BMI was 26.59±2.62 kg/m2 and mean duration of labor was 11.52±2.13 hours. Out of 114 women, 67 (58.77%) had primigravida and 47 (41.23%) had multigravida.

Frequency of postpartum urinary retention after vaginal delivery was observed in 6.14% (7/114) women. Prolong labor and epidural analgesia was significant factor contribute PPUR while, instrument delivery and episiotomy were not the significant factors in this study.

Conclusions: Managing voiding difficulties following childbirth requires proactive management that is collaborative and recognizes the potential psychological impact on the woman and her new baby. PUR remains a relatively poorly defined and understood condition, and yet can result in significant short and potentially long-term complications if it goes unrecognized. Attention to bladder care during labor and vigilance in the early detection and management remain the cornerstones of prevention. Future studies are still needed to further elucidate the mechanism, risk factors, and pathophysiology of PUR, of which all will help develop more standardized guidelines for the management of PUR.

P1014
OBSTETRICAL AND ANATOMICAL CHARACTERISTIC OF OBSTETRICAL FISTULA IN NAIYEME, NIGER
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Objectives: To determine the obstetrical and anatomical characteristics of genital female fistulas at the National Hospital of Niamey, Niger.

Method: In this prospective study from December 2005 to February 2005, 111 patients with obstetric fistulas were recorded and anatomical type of fistula were studied.

Results: The studied variables were: epidemiological, obstetrical data and the anatomical aspects: The patient were 87.39% 15–36 years old, 43.2% of the cases had their fistula with the first childbirth, 81% of the fistula were of urethral seat or trigonal. 53.2% of the patients were at the stage I, 30.6% are at the stage II, 7.2% are at the stage III and 9.0% are at the stage IV.

Conclusions: Patients were young, primipara and lesion were urethral or trigonal.

P1015
ASSESSMENT OF EFFICACY OF ERBIUM YAG LASER TREATMENT FOR STRESS URINARY INCONTINENCE USING 1 HOUR PAD TEST – RANDOMIZED CONTROL TRIAL
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Objectives: The scope of this study is to demonstrate the efficacy and safety of an non-surgical, minimally invasive and non-ablative laser treatment for SUI using a 2940 nm erbium: yttrium-aluminum-garnet (Er:YAG) laser.

Method: 72 patients with genuine SUI were randomly divided into two groups, 43 patients were allocated to the laser intervention group and 29 patients to perineometry control group. Laser group was treated with 3 sessions of non-ablative 2940-nm Er:YAG laser. Patients from control group were performing 2 weekly sessions of perineometry for 3 months. Evaluation of treatment efficacy was measured with 1 hour pad test. These evaluations were performed at follow-ups (FU) after 3, 6, 12 months.

Results: All patients completed the treatments and follow-ups at 3, 6 and 12 months. SUI improvement was significantly higher in laser group in comparison to control group, specially at longer FUs (6, 12 months). Results of our study for SUI are showing that non-ablative ErYAG laser treatment is efficacious and safe and that its results could last at least 12 months.

P1016
EVALUATION OF EFFICACY OF ERBIUM YAG LASER FOR FEMALE SUI USING 3 DAYS VOIDING DIARY – PILOT STUDY WITH 12 MONTHS FOLLOW-UP
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Objectives: The aim of this pilot study was the evaluation of efficacy of new minimally invasive ErYAG laser treatment for stress urinary incontinence using 3 days voiding diaries.

Method: Eight female patients with SUI were treated with 3 sessions of ErYAG laser, once a month. Therapy efficacy was measured using 3 days voiding diary: leakage frequency and leakage quantity were observed. Patients filled-up 3D voiding diary before the treatment and on six follow-ups (FU): at 14 Days, 1M, 2M, 6M, 8M and 12M. Average 3D frequency was calculated from the three successive daily numbers of leakage episodes at every measurement point. Leakage quantity was evaluated with 4 grade scale: no leakage (0), a little (1), moderate (2) and a lot (3). 3D averages were calculated and used for comparison.

Results: All patients reduced their leakage frequency and quantity already after the first laser session and their results further improved after each of the following two sessions. The largest average reductions of leaking frequency (of 89.8%) and of quantity (of 82.6%) were measured at 2M FU. At 6M FU the frequency was still 77.5% and quantity 62.2% lower than before the treatment. At 8M and 12 M these values were 73.5% and 59.2% for frequency and 69.5% and 46.6% for leakage quantity.

Conclusions: The results of this small pilot study showed that ErYAG laser therapy could produce significant reduction of SUI symptoms which is lasting at least 12 months.
P1017
CORRELATION OF SURGICAL REPAIR OUTCOMES OF FEMALE GENITAL FISTULAE AND THEIR CLASSIFICATION
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Objectives: To assess the outcomes of fistula repair 3 months following surgery.
Method: A prospective study based on 300 patients registered from June 2011 to June 2014 at HNL and CNRFO. Outcomes assessment was based on an unpublished classification system using four criteria (fistula environment, size, illustration and prognosis).

Results: 300 women underwent repair; 94.4% transvaginally for types:
Type I (28.6%): simple fistulae;
Type II (18.4%): urethral fistulae, bladder neck or trigone fistula;
Type III (27.6%): circumferential fistulae;
Type IV (17.4%): association of different types;
Type V (2.6%): persistent fistula-related disease;
Type VI (5.4%): iatrogenic fistulae.
23 (7.7%) were lost to follow-up; 277 (92.3%) had successful closure. 89.6% were continent. Continence ranged from 100% for type I to 23% for type III C. Failure of closure was frequent in types III and V. Post-surgery incontinence was 21.30% (more common in types II, III, IV and V).

Conclusions: Successful surgical outcomes and post-surgery urinary incontinence are well associated with fistula types.

P1018
PATTERNS AND DETERMINANTS OF MENOPAUSAL SYMPTOMS IN SUB-URBAN COMMUNITIES IN SOUTH-EAST NIGERIA: A CROSS-SECTIONAL STUDY
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Objectives: This study was to determine the pattern and determinants of onset of menopausal symptoms and to find out the factors associated with these symptoms.
Method: The study was carried out between January and April 2013 in three different locations in Anambra State in south-east Nigeria. Random sampling procedure was used. Women of age group greater than 30 years formed the sampling frame for enrollment in the survey. Survey questionnaire for data collection was designed with four sections including background and obstetrics personality of respondents, medical history, menopausal symptoms and management and informed consent. Cronbach’s alpha test was used to determine the internal consistency of the survey questionnaire.

Results: Analyses were done on 126 women. The highest (49.6%) proportion of women had their first menstrual period within 15–17 years. Majority (31.8%) were 50–54 years of age. Of the co-existing medical conditions, hypertension (36.4%) was highest, followed by diabetes mellitus (15.1%) and heart disease (11.1%). Majority (37.2%) of women were obese. Overall, majority (28.0%) of women including ≥60 years old saw their last menstrual period > 10 years prior to interview (p < 0.00). Majority experienced a gradual (76%) stop to their menstrual period and the ratio between gradual and sudden mode of termination of menstrual period was 3:1 (p = 0.11).

Conclusions: A high proportion of women with menopausal symptoms were > 50 years of age and majority had gradual stoppage of menstrual periods. Obese women were highest in proportion, while hypertension, diabetes mellitus and heart disease were the commonest co-existing medical conditions. There is need for establishment of menopausal clinics for awareness generation, early recognition and treatment of co-existing morbidities.

P1019
MODERN CONTRACEPTIVE UTILIZATION AND BARRIERS AMONG WOMEN WITH OBSTETRIC FISTULA IN NORTHWESTERN NIGERIA
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Objectives: This study determined the modern contraceptive utilization and barriers among women with obstetric fistula.
Method: This was a cross-sectional and descriptive study involving 173 women attending the fistula clinic of the National Obstetric Fistula Centre, Babbar Ruga, Katsina.

Results: The mean age of the women was 26.6±9.25 years and the mean parity was 3.76±3.2. Awareness of modern family planning was poor, only 48 (27.7%) were aware. Source of information was health-care providers in 58.5%. Oral contraceptive pills (31; 64.6%) and injectables (28; 58.3%) were the commonly known methods. Limiting family size (23; 48.9%) and spacing of births (11; 22.9%) were identified as the main benefits of family planning and only 3 (6.3%) identified family planning as important in the prevention of obstetric fistula. Husband opposition (33.3%) and desire for more children were identified as the major barriers to utilization.

Conclusions: The study showed that modern family planning knowledge is poor among women with obstetric fistula and if fistula is to be prevented, educational campaigns should target women in the rural areas that are at risk of developing obstetric fistula.

P1020
REVIEW OF OPERATIVE MANAGEMENT OF URETERO-VAGINAL FISTULAE IN 11 PATIENTS TREATED OVER 2 YEARS AT THE CURE INTERNATIONAL HOSPITAL IN KABUL, AFGHANISTAN
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Objectives: To determine the prevalence, etiology and management of Uretero-vaginal Fistula patients presented to Obstetric Fistula service of CURE International Hospital.
Method: Between Jan 2013 and Dec 2014, 295 patients were operated on for Ob Fistula.

We managed a total of 11 women with Uretero-Vaginal Fistula out of total 295 surgeries (3.7%) over a period of 2 years. All U-V Fistula patients had CS for prolonged labor. It is unknown if damage before or during surgery led to the fistula formation. All of patients had been leaking urine for over 3 months. Diagnosis was based on dye test Ultrasound and IVP. The surgical method was open transvesicle Ureteric reimplantation with Ureteric stent. The post operative stay was 2–4 weeks.

Results: In this series all patients with Ureteric re implantation were dry after Ureteric stent and Urethral catheter removal, except one patient was leaking urine through abdominal incision and successfully managed by longer catheterization.

Conclusions: Our result indicates the success of transvesicle Ureteric reimplantation in management of Uretero – vaginal fistula. The training of medical staff performing emergency Obstetric care and Gynecologic surgeries may need improvement.
P1021
HUSBAND’S ACCOMPANIMENT AND SUPPORT DURING CARE OF WOMEN WITH OBSTETRIC FISTULA IN NORTHERN DEMOCRATIC REPUBLIC OF CONGO: A DESCRIPTIVE STUDY

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Objectives: The Democratic Republic of Congo (DRC) is a developing country with poor obstetric indicators. Despite ongoing efforts to improve care, women continue to suffer multiple complications of childbirth including fistula. Reports from other programs have shown inadequate support by husband, even ostracization. The objective was to describe socio-demographic characteristics of patients in northern DRC and highlight the role of husbands’ support and accompanying of their wives during their period of care.

Method: This was a descriptive study of women presenting at one of two mobile fistula surgical campaign missions in the province of Equateur in northern DRC in August 2012 and October 2013. The women were examined and treated for VVF. Socio-demographic data, including marital status and accompaniment by husbands, were also collected.

Results: Out of 163 VVF patients, 100 (61.3%) were less than 35 years old and 63 (38.6%) were more than 35 years old. The majority of patients had no formal education (102/163, 62.6%) and were married (100/163, 61.3%). Husbands’ engagement and support in caring for their wives during fistula treatment was high as the majority of patients who were married and still living with their husbands were also accompanied to the hospital by their husbands (56/94; 59.6%).

Conclusions: This study shows that treatment for genital fistula the province of Equateur in northern DRC is highly successful; 142/163 women, or 87.1%, were successfully treated. A significant proportion of patients was married and was accompanied by their husbands throughout their hospital stay.

P1022
FISTULA REPAIR SERVICES IN A COUNTRY PROGRAM WITH RECURRENT ARMED CONFLICT: PROVINCE OF MANIEMA, DEMOCRATIC REPUBLIC OF THE CONGO

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Objectives: Recurrent episodes of armed conflict in the Congo have caused uncontrolled population displacement, survival mode and “every man for himself” and family separation, and skilled manpower loss including doctors and midwives. The objective was to describe patterns in repair statistics in the region before, during and after conflict.

Method: This was retrospective study of service delivery data before, during and after armed conflict in Maniema Province, with women being followed and treated at the “Fistula Clinic” of the Safe Motherhood Kindu (MSRK).

Results: Deliveries and caesarean sections were held in conditions of despair without proper assistance or a framework prepared for this purpose. In addition, there is now a contributory scourge, traumatic gynecologic fistula from sexual violence, including vaginal impalement with crude weapons. The total number of cases operated on in Maniema for this period was 1026, disaggregated as follows:

- Before the war (before 1998): 18 cases
- During the war (1998 to 2006): 293 cases
- After the War (2006 to present): 715

On average, 96% were cured, with 4% failures.

Conclusions: Recurrent armed conflict is a key indirect contributor to occurrence of female genital fistula. It will be difficult to eliminate or even reduce occurrence of fistula in the long-term unless other national and international interventions and inclusive dialogue are emphasized to deal with recurrent armed conflict.

P1023
IATROGENIC FISTULA IN KINSHASA, DEMOCRATIC REPUBLIC OF THE CONGO: ASSOCIATED OBSTETRIC PROCEDURES AND ANATOMIC CHARACTERISTICS

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Objectives: The objective of the study was describe the clinical environment in which the iatrogenic fistula occurs and establish the relationship between obstetric procedures and anatomical lesions.

Method: We conducted a retrospective study, retrospective study of obstetrical characteristics of fistula and associated obstetrical procedures at Saint Joseph Hospital from January to December 2013.

Results: In our series, 20 out of 192 women with obstetric fistula were diagnosed as being iatrogenic (11.56%). The age range was 16 years and 46 years. The average duration of labor work was 2.2 days. 15% of women were transferred to another health facility for delivery. The vesico uterine fistula 80% were associated with cesarean section. We found 3 urethrovaginal fistulas (15%) after Symphysiotomy. 10% of women have undergone two obstetric procedures during the same delivery.

Conclusions: This study showed a rate of 11.56% for iatrogenic fistula, comparable to other studies in the region. Delay in seeking emergency obstetric care can result in procedures that contribute to occurrence of iatrogenic fistula. The involvement of families, community, geographic accessibility, institutional capacity building, training providers are important for providing quality and timely care to women in pregnancy and childbirth.

P1024
ANTHROPOMETRIC VARIABLES AMONG OBSTETRIC FISTULA SURVIVORS AT THE NATIONAL OBSTETRIC FISTULA CENTRE, ABAKALIKI, NIGERIA

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Objectives: Obstetric fistula (OF) is a significant complication of prolonged obstructed labour arising from pelvic inadequacy. A relationship between maternal pelvis and shoe size has been documented. The study was carried out to assess the relationship between shoe size and other anthropometric variables among OF survivors.

Method: A cross-sectional prospective study to assess the anthropometric variables of 170 women with OF. The shoe sizes of the subjects were measured using the Genuine Brannock Device. Other anthropometric variables measured were height, weight, waist and chest circumference. The relationships between shoe size and the other variables were assessed using linear regression models.

Results: The mean height and weight were 1.54 ±0.07 m and 59.70 ±15.23 kg respectively. The mean waist and chest circumference were 34.37 ±4.43 cm and 34.51 ±16.46 cm respectively. The mean shoe size was 6.51 ±1.40. There was a positive correlation between height and shoe size (r=0.05, P=0.006916), weight and shoe size (r=0.15, P=0.000003), waist circumference and shoe size (r=0.12, P=0.000004) and chest circumference and shoe size (r=0.13, P=0.000001).

Conclusions: This study shows that among OF survivors, height, weight, chest and waist circumference all have a positive correlation with the shoe size.
Iron deficiency anemia is the most common micronutrient deficiency in the world today. It affects the lives of millions of women and children through contributing to poor cognitive development, increased maternal mortality and decreased work capacity.

Objectives: Fistula repair, like other major surgery carries some risk of complications. It is important to monitor the occurrence of complications because they may be related to quality gaps in perioperative assessment and care or to the surgical team's work environment and are crucial for client safety and satisfaction. The objective of this study was to assess complications risk associated with surgical treatment of fistula.

Method: Multi-country and multi-site monitoring was conducted for fistula programs supported by EngenderHealth between 2005 and 2013, using semi-structured questionnaires and excel format checklists for complication categories. A detailed validation audit was conducted at 10 purposely selected sites. For the audit, a pre-coded questionnaire was used for quantitative and qualitative data; it included a semi-structured guide for in-depth interviews for fistula surgeons, nurses and facility administrators.

Results: More than 26 thousand fistula repairs were recorded in quarterly review data, with a low overall complication rate over the study period, and confirmed by the clinical audit. Nevertheless, the audit revealed some under-reporting at a number of fistula repair facilities, mostly minor complications, but also a number of major ones, including death and “near miss” associated with septicaemia, acute renal failure, generalized convulsions and coma. The main challenges were poor perioperative care, follow-up and documentation. These were associated with inadequate physical and personnel resources and poor working environment.

Conclusions: Quarterly monitoring as well as a targeted clinical audit find that the complications risk of surgical treatment for fistula is low, but clinically significant. Some of the complications may be serious or recurrent and will need remedial action. Program managers and clinical monitoring teams need to be cautious of potential under-reporting from some health facilities for a variety of reasons, including poor record-keeping, diagnostic resources and apprehension by health providers. Providers need an improved work environment and facilitative supervision to better support quality perioperative care, documentation and follow-up.

Women's Health Issues and Policy

Iron supplementation protocols for iron deficiency anemia: A comparative review of iron regimens in three countries of India, Iran and England

Objectives: Iron deficiency anemia is the most common micronutrient deficiency in the world today. It affects the lives of millions of women and children through contributing to poor cognitive development, increased maternal mortality and decreased work capacity. Because of the important role of iron in the physical and cognitive health, and for the universal consideration of eradication of this problem, this review aimed to compare iron supplementary programs in three countries if India, Iran and England.
P1028
PERSPECTIVES ON GLOBAL HEALTH AMONGST OBSTETRICIAN GYNECOLOGISTS: A NATIONAL SURVEY
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Objectives: To characterize contemporary attitudes towards international healthcare of women amongst board-certified obstetrician-gynecologists.

Method: A questionnaire was mailed to members of the American College of Obstetricians and Gynecologists. Respondents were stratified by interest in global health.

Results: Two-hundred-two (50.3%) of surveys were completed. 76.6% of respondents endorsed interest in global health while 25.1% had experience providing healthcare abroad. Knowledge of contributors to morbidity and mortality was poor with only 29% of questions answered correctly. Personal safety was the primary concern of respondents, dovetailing with the belief that training local physicians in the US provides the most valuable service to developing a nation’s health care provision.

Conclusions: Despite high interest in global health, experience, knowledge, and willingness to spend time abroad were limited. Concerns surrounding personal safety amongst respondents dovetail with the belief that training local physicians in the US provides the most valuable service to international healthcare efforts. Though this approach alleviates security concerns, it brings its own challenges. Given that need is often highest in areas of unstable security, this concern represents a challenge to increasing involvement of Ob-Gyns in global women’s health.

P1029
ROLE OF SOCIAL CAPITAL IN MANAGEMENT OF HIGH-RISK BEHAVIOR IN WOMEN: A LITERATURE REVIEW
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Objectives: Social capital refers to the information that makes people believe that were respected and belongs to the network of bidirectional communication. It is a concept that related to the social context, and as a new component has an impact on the health of society. The aim of this study was to explore the role of social capital in management of high-risk behavior in women.

Method: The study is a narrative review which conducted by search in databases like Google Scholar, PubMed, Springer and ProQuest using keywords: social capital, social support, risk behaviors. Then relevant articles to the study subject from 2004 to 2014 were selected. In this regard, a total of 96 articles were sought and ultimately 30 full articles were used to complete this review paper.

Results: Results were categorized in three domains including: Social capital in women with high risk behavior; Social capital and its role in health and health care provider’s role in helping people with risky behaviors with a focus on improving social capital and social support. The findings of this study indicated that social capital has interactive effects in relation to the risky behaviors and delinquency.

Conclusions: People with effective social interaction and social support can improve their risky lifestyle. In this way is recommended to design and implement special counseling programs to promote health-promoting behaviors in high-risk groups.

P1030
PROFESSIONAL MISCONDUCT IN OBSTETRICS AND GYNECOLOGY IN LIGHT OF THE SUPREME MEDICAL COURT BETWEEN 2004 AND 2014
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Objectives: The aim of the study was to present and analyze the verdicts of the Supreme Medical Court concerning professional misconduct among obstetrics and gynecology specialists between 2004–2014.

Method: Verdicts of the Supreme Medical Court from 104 cases concerning obstetrics and gynecology specialists, passed between 2004–2014, were analyzed. The following categories were used to classify the types of professional misconduct: decisive error, error in the performance of a medical procedure, organizational error, professional judgment, criminal offence, and unethical behavior.

Results: The largest group among the accused professionals were doctors working in private offices and on-call doctors in urban and district hospitals. The most frequent type of professional malpractice was decisive error and the most frequent type of case were obstetric labor complications. The analysis also showed a correlation between the type of case and the sentence in the Supreme Medical Court.

Conclusions: A respective jurisdiction approach may be observed in the Supreme Medical Court ruling against cases concerning professional misconduct which are also criminal offences (i.e., illegal abortion, working under the influence). The most frequent types of professional misconduct should determine areas for professional training of obstetrics and gynecology specialists.

P1031
PERIMENOPAUSE – REAL SCENARIO AT THE TRANSITION
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Objectives: To address, analyse and evaluate the symptoms and complaints of women in the perimenopausal age group. The study aims to assess the quality of life and the impact of hormonal changes in perimenopausal women and its impact in day to day life.

Method: This is an observational study done in 500 women in perimenopausal age group (42 – 52 yrs) attending the outpatient department of Obstetrics & Gynecology at Jubilee mission medical college, Thrissur. Women who were receiving hormonal treatment, attained prematurity/surgical menopause or having any systemic medical illness and those who refused to participate in the study were excluded. Using structured questionnaires, these women were interviewed. Information regarding their complaints both physical and psychological was analyzed.

Results: Majority of women felt that they were affected by the symptoms in a negative manner. Most frequent symptoms were feeling tired, poor memory, lower backache, aching in muscle and joints, difficulty in sleeping, and vasomotor symptoms. The menstrual irregularity and sexual domains were also found disturbing to many of them.

Conclusions: Our study shows that a significantly higher proportion of perimenopausal women suffered from somatic symptoms such as backache, aches and pains, and lack of concentration, vasomotor symptoms and, Urinary symptoms. Sexual life was also affected. Vast majority of these women go through our health system unnoticed. Regional studies not only create awareness but also help in education of women. Health education and planning ahead for challenges need to be prioritised.
P1034
THE UNDERSTANDING OF THE TERM FEMALE GENITAL MUTILATION OR FGM AMONGST PATIENTS WITH FGM IN A UNITED KINGDOM INNER CITY ANTE-NATAL CLINIC

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Objectives: Female genital mutilation (FGM) is the term used for what commonly used to be known as female circumcision until the 1990’s. Since then female genital mutilation as a term, or FGM as its abbreviation, have been widely adopted by NGO’s, health professionals and the media. Female circumcision is hardly used nowadays to describe this practice. This study seeks to determine whether affected ante-natal patients better understand the term FGM or female circumcision.

Method: At the outset of the ante-natal clinic consultation 143 patients with FGM were shown the term “FGM” written down and asked the following: 1) Do you know what FGM or female genital mutilation means? 2) Do you know what female circumcision means? It was noted whether the patient spoke good English which meant that the consultation did not require an interpreter. If an interpreter was present, “female genital mutilation” was not to be interpreted literally in the patient’s own language until the above questions were answered. The patient’s occupation was also noted.

Results: Of 143 patients, 32 (22.4%) understood what FGM meant but 111 (77.6%) did not. 94 (65.7%) patients understood what female circumcision meant but 49 (34.3%) did not. 79 (55.2%) patients spoke English but 64 (44.8%) did not. No non-English speakers knew what FGM meant (0%). All 32 patients who understood what FGM meant spoke English and also understood what female circumcision meant. 21 of 64 (32.8%) non-English speakers knew what female circumcision meant. 82 (57.3%) patients were housewives, 55 (38.5%) worked outside the home and 6 (4.2%) unemployed. 41 housewives (50%) did not speak English and did not understand FGM or female circumcision.

Conclusions: FGM is not understood as well as female circumcision in both English and non-English speakers within this study. Clinicians should consider using the term female circumcision should it increase patient understanding during consultations and especially in non-English speakers. The consultation, however, should be an opportunity to educate the patient about the term FGM if it is unfamiliar. There was a particular lack of understanding of both FGM and female circumcision in non-English speaking housewives. These facts should be taken into consideration not just within hospital consultations but also during FGM educational projects and in the media.

P1032
FECA L INCONTINENCE AND SPHINCTER DISRUPTION IN PATIENTS WITH ANAL INTERCOU RSE: REVIEW OF 40 WOMEN

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Objectives: To investigate the anorectal problems and fecal incontinence in females having anoreceptive intercourse.

Method: 40 female patients referring to the colorectal ward of Hazrät-e-Rasoul Hospital and Legal institution in Tehran, Iran and having complaints about anal coitus were examined for the presence of anal sphincter problems and fecal incontinence.

Results: 82.5% had external anal sphincter gap and 52.5% of the patients had different degrees of incontinence. 70% of incontinencies were to liquid form of stool while incontinence to solid stool and flatus was equal (15% each). Mean of Wexner score was 4.7.

Conclusions: It appears that the prevalence of incontinence and anal sphincter rupture is high in patients having anal coitus. Measures for harm reduction must be considered by authorities.

P1033
WHAT IS THE MAIN FOCUS OF GYNECOLOGY ON PRIMARY CARE?


Objectives: To identify the sociodemographic and clinical characteristics, main gynecological diseases referenced and referencing the flow of women cared in the median complex level at the University Hospital of the University of São Paulo.

Method: Survey of 325 medical records of women referred from the Hospital of the University of São Paulo.

Results: a) 21 of 64 (32.8%) non-English speakers knew what female circumcision meant. b) 82 (57.3%) patients were housewives, 55 (38.5%) worked outside the home and 6 (4.2%) unemployed. c)41 housewives (50%) did not speak English and did not understand FGM or female circumcision.

Conclusions: FGM is not understood as well as female circumcision in both English and non-English speakers within this study. Clinicians should consider using the term female circumcision should it increase patient understanding during consultations and especially in non-English speakers. The consultation, however, should be an opportunity to educate the patient about the term FGM if it is unfamiliar. There was a particular lack of understanding of both FGM and female circumcision in non-English speaking housewives. These facts should be taken into consideration not just within hospital consultations but also during FGM educational projects and in the media.

P1035
REDUCING MATERNAL MORTALITY THROUGH POLICY ENGAGEMENT: THREE COUNTRY CASE-STUDIES FROM MARIE STOPES INTERNATIONAL

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Objectives: Marie Stopes International’s (MSI) role as a service provider in 37 countries provides us with a unique evidence base for developing practical and innovative policy recommendations. We undertake policy engagement and advocacy at national level to:

- Remove the unnecessary legal or regulatory restrictions that limit the ability of providers to deliver lifesaving maternity and reproductive healthcare services
- Increase resources for maternal and reproductive health
- Strengthen health systems and the capacity of governments to resource and provide services
- Ensure governments are aware of innovative medical and financing solutions that can scale up access.

Method: MSI is leveraging its service delivery expertise and action-oriented research to advise, inform and influence governments, donors and service providers. This engagement takes many forms including establishing national technical working groups, developing and disseminating guidelines, implementing pilots, training government health staff and private providers, and conducting workshops and awareness campaigns with community and religious leaders. In many countries we are working closely with professional medical associations, including FIGO national affiliates, to deliver national action plans focussed on, for example, reducing unsafe abortion. We are also working closely with governments to ensure that they understand and better comply with WHO guidance.
Results: Our approach has yielded some important successes including:
- Afghanistan: New national guidelines authorising post-abortion care to enable women to access this lifesaving healthcare in public sector facilities (2012);
- Ethiopia: New national guidelines on safe abortion care, which allow women to be treated at primary health clinics (2014);
- Nigeria: New national policy that extends the remit of Community Health Extension Workers to deliver a broader range of health services, including implants and IUDs (2014).

Conclusions: MDG5 is still the most off track and delivering services is not always enough to tackle the barriers to access faced by medical professionals. MSI’s advocacy approach of working constructively with governments and other partners has the potential to significantly expand access to contraception, and ultimately to reduce maternal mortality.

P1036
VAGINAL HEALTH CARE: A TOPIC OF NEGLIGENCE
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Objectives: To assess Bangladesh women’s menopausal symptoms and health problem related to vaginal atrophy.

Method: A retrospective study done in a private clinic during the period between 2012 and 2014, among the post menopausal women having different health related problems.

A questionnaire was made regarding the vagina anf sexual problem. Review study also done on different menopausal international journal.

Results: 65 women finished their menstruation more than 10 years back.
90% women have experienced at least one menopausal symptom, 60% associated with vaginal symptoms with menopause. Vaginal discomfort 38%, vaginal dryness 90%, and pain during sex 65%. 85% experienced vaginal disease more than 1 year.
Lack of sexual intimacy 90%, loving relationship less than 10%, self esteem affected 80%.
Only 2% of those with vaginal discomfort used some form of treatment in the form of HRT.

Conclusions: Vaginal atrophy negatively affects women life. Lack of knowledge of the subjects hinder their approach to health care facility.

P1037
KNOWLEDGE AND PERCEPTION OF GENITO-URINARY FISTULAE BY NIGERIEN PATIENTS AND POPULATION BEFORE AND DURING CAMPAIGN TO END FISTULA
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Objectives: To determine the knowledge and perception of fistula patients and general population on the causes, names, social consequences, methods of treatment and ways of prevention of the condition.

Method: The survey was conducted in 1994–1995 and in 2012–2013. It involved 843 patients registered in 11 health centers nationwide and 954 healthy individuals from general populations in 1994; 215 patients in a national referral Centre and 300 people in 2012–2013. Trained health personnel administered to fistula patients and to individuals a questionnaire and focus groups discussions.

Results: The survey was conducted in 1994–1995 and in 2012–2013. It involved 843 patients registered in 11 health centers nationwide and 954 healthy individuals from general populations in 1994; 215 patients in a national referral Centre and 300 people in 2012–2013. The major burden of these complications occurs in women living in low and middle-income countries. The aim of our research is to identify and measure maternal morbidity using a newly developed standardised, method. A better understanding of the burden of ill health during and after pregnancy will help inform care packages that aim to improve maternal health outcomes in low resource settings.

P1038
ASSESSING THE BURDEN OF MATERNAL MORBIDITY IN MALAWI
S. Bar Zeey, M. McCauley, N. van den Broek. Liverpool School of Tropical Medicine, Liverpool, UK

Objectives: Maternal mortality has been referred to as “the tip of the iceberg”. For every woman who dies, 20 or 30 more suffer morbidity related to pregnancy and childbirth. The major burden of these complications occurs in women living in low and middle-income countries. The aim of our research is to identify and measure maternal morbidity using a newly developed standardised, method. A better understanding of the burden of ill health during and after pregnancy will help inform care packages that aim to improve maternal health outcomes in low resource settings.

Method: A descriptive cross-sectional study in Malawi to assess maternal morbidity in pregnant and postnatal women using a new data collection tool that consists of a full health consultation during which a comprehensive questionnaire is administered in a face-to-face interview. The sections of the detailed questionnaire include general demographics, details of previous and current pregnancy complications, medications, domestic violence, use of alcohol, tobacco and substance abuse psychological wellbeing, and quality of life. Clinical (general, obstetric and/or pelvic if indicated) examinations and basic urine and serological investigations (haemoglobin, malaria, CRP, syphilis and HIV) are performed.

Results: Preliminary analysis from 194 women 59% of women were recruited from the antenatal period and 41% from the postnatal period. The majority of women are married housewives. 66% are multi-gravidae and 24% primigravidae. In regards to women’s perception of health, 89% reported feeling very good or good at the time of interview. One fifth of all women reported currently requiring a form of medication. Domestic violence was reported by 10% of women and 7% reported alcohol use during their pregnancy. Haemoglobin ranged from 5–14 g/L with an average of 11.4 g/L. 8% of women were diagnosed with malaria and syphilis.

Conclusions: Descriptive preliminary analyses demonstrate that it is possible to determine and identify the key components of maternal morbidity to create a “morbidity score” that can be used as a key maternal health indicator to monitor and evaluate maternal health programs both in the antenatal and postnatal context in middle-income settings. We await full data collection in June on a larger population scale (2000 women) in order to conduct full and comparative statistical analysis.

P1039
ASSESSING THE BURDEN OF MATERNAL MORBIDITY IN PAKISTAN
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Objectives: Maternal mortality has been referred to as “the tip of the iceberg”. For every woman who dies, 20 or 30 more suffer morbidity related to pregnancy and childbirth. The major burden of these complications occurs in women living in low and middle-income countries. The aim of our research is to identify and measure maternal morbidity using a newly developed standardised, method. A better understanding of the burden of ill health during and after pregnancy will help inform care packages that aim to improve maternal health outcomes in low resource settings.

Method: A descriptive cross-sectional study in Pakistan to assess maternal morbidity in pregnant and postnatal women using a new data collection tool that consists of a full health consultation during which a comprehensive questionnaire is administered in a face-to-face interview. The sections of the detailed questionnaire include general demographics, details of previous and current pregnancy complications, medications, domestic violence, use of alcohol, tobacco and substance abuse psychological wellbeing, and quality of life. Clinical (general, obstetric and/or pelvic if indicated) examinations and basic urine and serological investigations (haemoglobin, malaria, CRP, syphilis and HIV) are performed.

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Conclusions: Descriptive preliminary analyses demonstrate that it is possible to determine and identify the key components of maternal morbidity to create a “morbidity score” that can be used as a key maternal health indicator to monitor and evaluate maternal health programs both in the antenatal and postnatal context in middle-income settings. We await full data collection in June on a larger population scale (2000 women) in order to conduct full and comparative statistical analysis.
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**Results:** 1 in 5 women report a previous pregnancy complication with 1 in 10 overall reporting a previous neonatal death or stillbirth. Admission to a health facility for previous pregnancy complications was 13.8%. One in five of women report a previous Caesarean section. 53% of women have at least one physical morbidity. Multiple morbidities were uncommon (<10%). 26.9% of women report psychological morbidity.

**Conclusions:** We present a new data collection tool to identify and measure maternal morbidity in a comprehensive, holistic and robust way. We aim to determine the certain markers of morbidity that can be combined and used to provide a maternal morbidity “score” both in the antenatal and postnatal periods. We envisage this “morbidity score” can be used as an outcome measure to assess the effectiveness of interventions implemented, especially in the development of evidence-based antenatal and postnatal care bundles in low and middle-income countries.

**P1040**

ASSESSING THE BURDEN OF MATERNAL MORBIDITY IN KENYA

M. McCauley, S. Bar Zeev, N. van den Broek. Liverpool School of Tropical Medicine, Liverpool, UK

**Objectives:** Maternal mortality has been referred to as “the tip of the iceberg”. For every woman who dies, 20 or 30 more suffer morbidity related to pregnancy and childbirth. The major burden of these complications occurs in women living in low and middle-income countries. The aim of our research is to identify and measure maternal morbidity using a newly developed standardised, method. A better understanding of the burden of ill health during and after pregnancy will help inform care packages that aim to improve maternal health outcomes in low resource settings.

**Method:** A descriptive cross-sectional study in Kenya to assess maternal morbidity in pregnant and postnatal women using a new data collection tool that consists of a full health consultation during which a comprehensive questionnaire is administered in a face-to-face interview. The sections of the detailed questionnaire include general demographics, details of previous and current pregnancy complications, medications, domestic violence, use of alcohol, tobacco and substance abuse psychological wellbeing, and quality of life. Clinical (general, obstetric and/or pelvic if indicated) examinations and basic urine and serological investigations (haemoglobin, malaria, CRP, syphilis and HIV) are performed.

**Results:** Data collection is due to commence in Kenya in April 2015. We expect full data collection in August on a larger scale (2,880 women) in order to conduct full statistical analysis. We plan to evaluate the occurrence of each risk factor, symptom and sign of maternal morbidity individually and then collectively into system-specific disease patterns, e.g. cardiovascular, gastrointestinal and neurological. The framework used for further categorisation will use an adapted version of the causes and classification for maternal mortality as outlined in the WHO International Classification of Disease – Maternal Mortality (ICD-MM).

**Conclusions:** We present a new data collection tool to identify and measure maternal morbidity in a comprehensive, holistic and robust way. We aim to determine the certain markers of morbidity that can be combined and used to provide a maternal morbidity “score” both in the antenatal and postnatal periods. We envisage this “morbidity score” can be used as an outcome measure to assess the effectiveness of interventions implemented, especially in the development of evidence-based antenatal and postnatal care bundles in low and middle-income countries.

**P1041**

A RAPID SCOPING REVIEW UPDATE FOR NON-CLINICAL INTERVENTIONS FOR REDUCING UNNECESSARY CAESAREAN SECTION

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**Objectives:** To perform a rapid scoping review to assess the updated literature on studies assessing the effectiveness and safety on non-clinical interventions for reducing unnecessary caesarean sections with the intention of informing an update for the original Cochrane review published in 2011.

**Method:** We searched the electronic databases - Medline, Embase, Cochrane Central Register of Controlled Trials, Cochrane Library, CINAHL - for potentially relevant articles indexed between March 2010 and August 2014. Potentially eligible articles were single-screened and selected according to the inclusion criteria by all members of the review team, and single data abstraction was performed by all members of the study team using a standardized data extraction form.

**Results:** The electronic search strategy identified 2424 references for title and abstracts screening. Ninety-one articles underwent full-text screening, and eleven references reporting eight studies met our inclusion criteria. Five studies described non-clinical interventions specifically targeted at pregnant women or their family members, including two that evaluated the effects of group education regarding mode of delivery on intention for and rate of caesarean section, and three evaluated lifestyle or complementary therapy interventions delivered prior to labour. Three studies evaluated the use of audit and feedback targeting healthcare professionals. No new studies evaluating financial or regulatory interventions were identified.

**Conclusions:** Interventions to address the rise in caesarean section rates is an international concern and active area of primary research. This scoping review lends support to the original Cochrane review in 2011 and indicates that there are additional reported non-clinical interventions that may also be useful in addressing this global priority.

**P1042**

UPTAKE OF A WOMEN-ONLY, SEX-WORK-SPECIFIC DROP-IN CENTER AND LINKS WITH SEXUAL AND REPRODUCTIVE HEALTH CARE FOR SEX WORKERS

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**Objectives:** Female sex workers (FSWs) face high sexual and reproductive health disparities globally, and there has been increasing recognition of the need for women-centered care and sex work tailored services to address these disparities. The objective of this study was to longitudinally examine the uptake of a women-only and sexwork-specific drop-in service and its impact on their access to sexual and reproductive health services.

**Method:** For this longitudinal analysis, data were drawn from the AESHA (An Evaluation of Sex Workers’ Health Access) study, a community-based prospective cohort of FSWs from Vancouver, BC,
Canada. Data were collected through interview-administered questionnaires between January 2010 and February 2013 and participants were followed up on a semi-annual basis. The drop-in center of interest was WISH, a women-only and sex-work tailored service open seven nights a week and servicing women with hot meals, showers, hygiene items, clothing and safety supplies. Descriptive, bivariate and multivariable logistic regression analyses using Generalized Estimating Equations identified correlates of WISH utilization over a 30-month period.

**Results:** Of 547 FSWs included in the present analysis, 330 (60.3%) utilized WISH services over the 30-month period. In multivariate GEE analysis, use of WISH was independently associated with age (adjusted odds ratio [AOR]: 1.04; 95% confidence interval [CI]: 1.03–1.06), Aboriginal ancestry (AOR: 2.18; 95% CI: 1.61–2.95), injection drug use (AOR: 1.67; 95% CI: 1.29–2.17), exchange of sex for drugs (AOR: 1.40; 95% CI: 1.15–1.71) and accessing SRH services (AOR: 1.65; 95% CI: 1.35–2.02).

**Conclusions:** Results demonstrate high uptake of a sex work specific drop-in space for marginalized FSWs. Women-centered and low-threshold drop-in services can effectively link marginalized women with SRH services.

**P1044**

**ATTITUDE TOWARDS FEMALE GENITAL MUTILATION AMONG SUDANESE MEN AND WOMEN LIVING IN SAUDI ARABIA**


**Objectives:** The aim of this study was to assess the attitude towards Female Genital Mutilation (FGM) among Sudanese men and women living in Saudi Arabia.

**Method:** Prospective observational study using a questionnaire designed to assess the attitude of 518 Sudanese men and women living in Jeddah, Saudi Arabia towards FGM.

**Results:** Respondents were also asked about their opinion about FGM and 344 (66.4%) said they are against FGM, 132 (25.5%) said they are with FGM, 9 (1.7%) said the do not know, and 33 (6.4%) did not answer. When asked if FGM is a religious thing, 328 (63.3%) said no, 110 (21.2%) said yes, 63 (12.2%) said do not know, and 17 (3.3%) did not answer. When asked if living in Saudi Arabia changed their views on FGM, 202 (39%) said no, 282 (54.4%) said yes, 19 (3.7%) said do not know, and 15 (2.9%) did not answer.

**Conclusions:** Community-led strategies to abandon FGM may help to empower men and women to change their attitudes and to critically examine their tradition.

**P1043**

**COMMUNITY BASED ESTIMATES OF PRE-ECLAMPSIA, MATERNAL, PERINATAL AND NEONATAL MORTALITY: RESULTS FROM THE COMMUNITY LEVEL INTERVENTIONS FOR PRE-ECLAMPSIA (CLIP) BASELINE SURVEY IN SINDH PROVINCE, PAKISTAN**

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**Objectives:** Reliable data on numbers and causes of maternal and child morbidity and mortality are scarce in developing countries. This information is crucial for developing effective national and international health policies for prevention and control maternal and child mortality. The aims of this study were to create a platform for the collection of community-level demographic health information in order to provide reliable socio-demographic and health outcome data to support the planning of the Community Level Intervention for Pre-eclampsia (CLIP) study.

**Method:** This study utilized a retrospective household survey of women of reproductive age (15–49 years) living in two districts of Sindh Province, Pakistan. Data from each district were collected on customized forms and aggregated to estimate total population rates. Rates calculated include pregnancy incidence over the past 12 months and within the woman’s lifetime; maternal, fetal, infant and child deaths in the past 12 months; and hypertensive disorders of pregnancy and seizures. Perinatal (PMR) and neonatal (NMR) mortality ratios were reported per 1000 live births; maternal mortality (MMR) was reported per 100,000 live births as defined by the WHO.

**Results:** Between June and September 2013 88,410 households were surveyed with 1.2 (± 0.6) women of reproductive age identified per household (mean age 27.5). Pregnancy rate at time of survey was 11.9% and 19,584 pregnancies were reported in the past 12 months and within the woman’s lifetime; maternal, fetal, infant and child deaths in the past 12 months; and hypertensive disorders of pregnancy and seizures. The PMR was 64.7/1000; NMR was 34.2% of the births occurred at home. Of the pregnancies, 62.1% reported a history of high blood pressure and 11.9% reported history of eclampsia (CLIP) study.

**Conclusions:** This study provides reliable community-based population level data on socio-demographic and health outcomes among women of reproductive age in two districts of Sindh Province, Pakistan. We were able to estimate population level mortality ratios that can be used for the planning of effective health interventions, including the CLIP trial, in these regions. These estimates are comparable to the rates reported by the World Bank for MMR and NMR of 170/100,000 and 42/1000 live births, respectively.
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Publication Information
International Journal of Gynecology & Obstetrics (ISSN 0020-7292). For 2015, volumes 128–131 (12 issues) are scheduled for publication. Subscription prices are available upon request from the Publisher or from the Elsevier Customer Service Department nearest you or from this journal’s website (http://www.elsevier.com/locate/ijgo). Further information is available on this journal and other Elsevier products through Elsevier’s website (http://www.elsevier.com). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

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