ISSN 1012-8867 SEPTEMBER 2019, VOLUME 31 ISSUE 3

JOGECA

KENYA OBSTETRICAL AND GYNAECOLOGICAL SOCIETY 2019 ANNUAL SCIENTIFIC CONFERENCE ABSTRACTS

Contents

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EDITORIAL: CONFERENCE PROCEEDINGS

In February 2019, the 43rd Kenya Obstetrical and Gynecological Society Conference took place at Movenpick Hotel and Residences in Nairobi. We are pleased to present a collection of abstracts based on this conference's theme. The KOGS Annual Scientific Meetings are the foremost gathering of women's health care experts in Kenya The call for abstracts has been receiving a very positive response as indicated by the number of accepted abstracts. As we may be aware, conference proceedings may be published as a book or book series, in a journal, or otherwise as a serial publication. Only about 5% of conference presentations are ever published. This may be due to time and resource constraints on part of the Authors or due a myriad of reasons. However, this leads to a delay in publication of a lot of novel ideas.

At JOGECA, all submitted articles are subject to an extensive peer review, in consultation with members of the journal's Editorial Board and independent external referees. The manuscripts are assessed and the decision taken by the journal's Editor-in-Chief based on all the peer reviewers' comments, which are then conveyed to the author(s).

As the abstracts in this issue show, much has happened since the inception of the society, we know a lot and are capable of doing a lot. Since this collection comes from individual researchers, each paper typically is quite isolated from the other papers in the proceedings. Mostly there is no general argument leading from one contribution to the next. We trust that this special issue will encourage our members to take the next step of translating these abstracts into manuscripts. Conference paper may form the basis of a journal article without being considered self-plagiarism, or compromising the novelty of the journal article, so long as the article is "expanded, revised, and/or refined to add value to the conference proceedings."(1)

By looking back at the proceedings of this event, and referring to some of the conclusions made in these papers, we would like to provide a basis for appreciating the wide variety of research initiatives that have been reported here in. Overall, articles from this collection reflect a wide range of areas of research and programmatic initiatives in Reproductive Health and highlight its prospects and future directions. We hope that they will attract the attention of a broad scientific readership.

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ADOLESCENT HEALTH AND SEXUALITY

PREVALENCE AND FACTORS ASSOCIATED WITH REPEAT TEENAGE PREGNANCY AMONG TEENAGERS ATTENDING ANTENATAL CARE AT KASANGATI HEALTH CENTER

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Introduction: Repeat teenage pregnancy poses immense obstetrical risks to the woman and is a serious public health concern especially in sub-Saharan Africa. Not enough emphasis is placed on these repeat teenage pregnancies despite their higher associated morbidity and mortality risk compared to first time teenage pregnancies. These pregnancies have grave emotional and physical long term effects.

Objective: To determine the prevalence and factors associated with repeat teenage pregnancy in Kasangati health centre IV.

Methodology: A cross-sectional study will be conducted at Kasangati health centre IV ANC. It will include all pregnant teenagers between 13 to 19 years. At least 250 pregnant teenagers shall be enrolled and interviewed. The prevalence will be computed as total number of participants with repeat teenage pregnancy divide by the total sample size of teenage pregnancies expressed as a percentage. Data presentation will be in tabular and graphic forms. To assess factors associated with repeat teenage pregnancy, bivariate analysis will be performed to compute odds ratios at the 95% level of significance and a p-value of less than 0.05 will be considered significant. For continuous variables, the independent t-test (for normally distributed data) and Wilcokson rank sum test (for skewed distribution) shall be applied.

To assess independent association of these risk factors, a binary logistic model will be used to establish the odds of a repeat pregnancy relative to the predictors. Associations with p-value <0.05 will be considered statistically significant. The results of the analysis will be presented in tables.

Results: The results of this study will help shed more light in the factors that lead to repeat teenage pregnancies and thereby help us address each factor individually. This will in turn reduce morbidity and mortality that is associated with these repeat teenage pregnancies, and help in bettering the lives of these young girls. It is our hope that this study may go on to influence change at the policy level so that more policies can be made in favor of these teenagers.

Conclusion: We anticipate that our results may influence policy in dealing with teenage pregnancy and associated complications.

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STARTING FROM THE ROOTS – USING HUMAN CENTERED DESIGN TO INNOVATE AN ADOLESCENT-CENTERED PREGNANCY PROGRAM IN WESTERN KENYA

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Objectives: By age 20, nearly 50% of all women in Kenya will have begun child-bearing. Adolescent pregnancy is associated with poor maternal and neonatal outcomes and contributes to the potentiation of poverty. In Kenya fewer than 50% of pregnant adolescents attend 4 antenatal care visits and fewer than 50% deliver in a health facility. The Kenyan government has identified Adolescent Sexual and Reproductive Health as a key health priority. To address the healthcare needs in pregnant adolescents we have partnered with Idea Couture to use human centered design as a unique methodology to develop an adolescent-centered pregnancy program at a large teaching and referral hospital in Western Kenya.

Methodology: A team of 8 Kenyan designers, including pregnant or parenting adolescents, were recruited at Moi Teaching and Referral Hospital to learn human centered design. Inclusion criteria were a commitment to 2 weeks and 100% attendance. Further community stakeholders were recruited as research participants for context and co creation labs. Interviews were 2 design team members to 1 interviewee; the labs were 2 design team members to 6-8 participants per group.

Results: Our partner Idea Couture taught the Design Team qualitative research methodologies and prototyping of ideas. A total of six 1:1 interviews and 9 focus groups as context and co-creation labs were completed by the Design Team. There were 10 programmatic solutions generated, including Healthcare Provider Empathy Training, Community Outreach Support, and Peer Support Groups, under the umbrella of an Adolescent-Centered Clinic. The partnership with Idea Couture facilitated the creation of innovative research strategies, prototypes, and visual media to communicate our ideas to various stakeholders for partnership formation and buy-in. The design team members found the process to be engaging and empowering; attendance was 100%.

Conclusions: Human centered design is a unique methodology to generate solutions to complex health challenges that target both patient experience and health outcomes. Partnerships with industry firms such as Idea Couture provide both research and care driven initiatives with unique expertise to facilitate this process. Next steps include engaging the design team in launching and evaluating the top priority prototypes.

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FAMILY PLANNING AND CONTRACEPTION

COMPARISON OF COUNSELLING RATES BEFORE AND AFTER COMMUNITY HEALTH VOLUNTEERS (CHV) ENGAGEMENT IN COUNSELLING ON FAMILY PLANNING AND PPIUD IN KENYA

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Introduction: To sensitize women at the community level to take up contraception, community health volunteers (CHVs) underwent a two-day training on family planning (FP) counselling. They visited households to counsel on FP including other health messages and created linkages to the hospitals participating in the postpartum intrauterine device (PPIUD) initiative.

Objective: To compare the counselling rates before and after CHV engagement on FP and PPIUD in Uasin Gishu and Kiambu counties, Kenya, 2017.

Methodology: Retrospective descriptive study using routinely collected program data of the Kenya PPIUD project from Uasin Gishu and Kiambu counties, Kenya.

Study Population: Women delivering in the teaching hospitals of Kiambu and Uasin Gishu Counties.

Data Analysis: We present results from two counties based on routinely collected data comparing counselling rates pre and post involvement of CHVs (April-June) and (July-September) respectively. $\chi 2$ tests of independence was conducted for the bivariate analysis. Multivariate logistic regression was applied to discern factors associated with being counselled on PPIUD. A separate analysis was carried out for each of the study region due to the differences in counseling rates observed over the two study periods. All statistical analysis was conducted using STATA 14.

Results: The demographic characteristics of the women in the two periods of the study were similar. Overall, counseling rates for PPIUD were significantly higher during the post-CHV period (18%) compared to the pre-CHV period (16%). The likelihood of receiving counseling on PPIUD was 19% higher during the post-CHV period (AOR=1.19, 95% CI=1.03-1.38). The odds of counselling on PPIUD increased linearly with the woman's age, number of children and number of pregnancies. Counseling rates were 26% lower among unemployed women compared to women who were employed (AOR=0.74, 95% CI=0.59-0.94).

Conclusion: CHVs can act as a point of contact for FP counselling including PPIUD and can stimulate uptake and follow up of the same. They can promote positive health seeking behavior for reproductive health.

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THE CONTRIBUTION OF NURSE-MIDWIVES IN THE PROGRAM OF THE IMMEDIATE POST-PARTUM INSERTION OF INTRAUTERINE CONTRACEPTIVE DEVICE IN KENYA: EXPERIENCE IN SIX COUNTIES.

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Introduction: Nurse-Midwives are the most accessible frontline health workers in Kenya and provide critical maternal and neonatal health services particularly at the primary health care level to include post-partum family planning services. The immediate post-partum intrauterine device (PPIUD) is convenient, efficient and safe with low incidence of infection, low perforation rates and eliminates the need for a return for a contraceptive method, yet the uptake remains low in developing countries like Kenya.

Methodology: This was a descriptive retrospective study based on routinely collected information of the Kenya PPIUD project undertaken in six teaching and referral hospitals selected based on catchment area, number of deliveries, infrastructure and personnel to support continuous learning. Training on provision of PPIUD services was done and an evaluation on the proficiency and complication and removal rates by cadre.

Results: A total of 973 health providers were trained with 82% (796) being registered nurses while doctors were 11% (109). Overall, 1628 PPIUD insertions with 70% (1137) being performed following a vaginal delivery. Overall, 39% (612) of the Health care providers were rated as experts (>=30 PPIUD insertions) 39% (612). Amongst nurses, majority 46% (602/1294) were rated as experts. Of all PPIUD insertions, only 2.5% (40) reported an expulsion or a removal.

Discussion: Nurses can provide PPIUD services safely and task sharing of PPIUD services with nurses provides a unique opportunity for increasing coverage of post-partum family services as nurses form the bulk of the health workforce and work in all peripheral health facilities.

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EMBRACING THE GOLDEN OPPORTUNITY FOR MALE ENGAGEMENT IN PPIUD UPTAKE

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Introduction: Family planning is an important pillar in reproductive health that saves women, children and communities. The 1994 International Conference on Population and Development (ICPD) in Cairo, emphasized the pro-active role of men in reproductive health programs including family planning, for the number, timing and spacing of birth. It is also important in prevention of mother to child transmission of HIV amongst the afflicted clients. Contraception provided in the immediate postpartum period reduces missed opportunities, unmet need, is cost effective to the health delivery system, and allows the women to nurture their children, meet household needs, and become more productive in national development. Counseling is integral to the uptake of immediate post-partum intrauterine device (PPIUD). Spousal refusal has been associated to women declining PPIUD services. This begs the question "What is the role of male engagement in the uptake of PPIUD?"

What is the problem? Family planning is often 'a woman's issue'. Socio-culturally men in a patriarchal setting assume a masochistic, egalitarian attitude as the head of the home; he is the decision maker especially in matters relating to sexuality and having more children is considered manlier and wealthier. There is hardly any reference to the female partner who often is submissive, fearful, ignorant, and unable to communicate in matters of sexual heath, relationships and often is disempowered to make informed decisions. The woman in most times is left to conduct the practice of family planning in secrecy. Often these gender inequities contribute to higher fertility rates, unplanned /unwanted pregnancies, that may result in unsafe abortions, lack of contraceptive use, gender-based violence, morbidity and mortality. Couple engagement has been successful in counseling, diagnosis and treatment in HIV and gender-based violence programs. Male involvement is associated with fast-tracking of prenatal care processes. Despite this, is there a deliberate effort to define the role of male involvement in provision of immediate postpartum post-partum family planning?

Results: Evidence shows that men and couple involvement, promotes gender equity, improves family planning decision making and uptake. Men become enablers having gained understanding of the types, value of modern family planning

methods including the cost-benefit of contraception at individual, household, community and health system level. The adoption of gender norms that are facilitative; with power dynamic adjustments in the couple relationships improves communication, participation and consumption of family planning services. In low middle income countries research is needed on the social determinants that are socio-culturally acceptable. Promotion of male champion educators and media that shows men as drivers for family planning is of added value.

Priority actions:

1. Development of training package for male engagement in family planning programs
2. Male champions as peer educators in the community and in health facilities
3. Media and communication strategies that promote men as partners and consumers of family planning
4. Health system that strengthens men involvement in RH programs

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SETTING UP PPIUD SERVICES IN LOW RESOURCE SETTING: LESSONS IN A DEVOLVED KENYAN HEALTH SYSTEM

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Summary: Family planning (FP) is an important pillar in Safe Motherhood and has been demonstrated to avert up to 30% of maternal and 10% of new born deaths. Postpartum family planning [PPFP] focuses on unintended and closely spaced pregnancies throughout the first year of birth. Postpartum intrauterine device (PPIUD) is the only FP method which is highly effective, reliable, inexpensive, non-hormonal, immediately reversible, and long-acting contraceptive that can be initiated during the immediate postpartum period and it has no a negative effect on lactation, however, its uptake remains low. We describe the process of we setting up PPIUD services with the aim of institutionalizing the routine provision of immediate PPIUD as a method of FP in resource-limited setting.

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FERTILITY AND ENDOCRINOLOGY

ABNORMAL SPERM PARAMETERS AND THE EFFECT OF SPERM WASH IN MEN SUSPECTED TO BE INFERTILE – A REVIEW OF 3-MONTHS DATA FROM A PRIVATE REFERRAL LAB IN NAIROBI

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Introduction: Male infertility is defined by the WHO as the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse by the man with an otherwise fertile female. This can be divided into Primary and secondary infertility. It accounts for 40-50% of infertility cases.

Objective: The objective of this study was to determine abnormal sperm characteristics and the effectiveness of sperm wash on them in men suspected to be infertile who were referred to Pathologists Lancet Kenya – a leading independent private laboratory in Nairobi that is ISO15189 SANAS accredited for andrology.

Methodology: This was a retrospective study; all semen analysis results from our system for July-September 2018 were retrieved and specific parameters for tabulation and statistical analysis. The parameters for analysis included motility, morphology, color, pH, volume, concentration, sperm count, viscosity, vitality. Data retrieved included those who had sperm wash done.

The test is accredited at the laboratories by the (SANAS). EQA is also done through the (UK-NEQAS).

Results: A total of 387 semen analysis were examined, with the men having a mean age of 35.79 years and an age range of 20 -59 years. 249 (64%) of the males were referred as having primary infertility, 62 (16%) had reported secondary infertility and 76 20%) were fertile though referred for other reasons. Of the total cohort examined, asthenozoospermic diagnosis was found in 29.8%, followed by teratozoospermic at 281%, hypozoospermic at 6.8%, azoospermic at 6.5% hyperspermic at 3%, necrozoospermic at 1.6%%, the least in diagnosis was cyptozoospermic at 1.2%. The rates of abnormal parameters are shown in the table below. Sperm wash was requested in 83 men of whom 97.6% had a success rate at the first attempt, the rest (2.4%) conceived with the second attempt.

Conclusion: Men should consider a semen analysis test. Data highlights how different sperm parameters can influence infertility among men and majority of them can actually benefit through sperm wash.

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INDIVIDUALIZED CONTROLLED OVARIAN STIMULATION (ICOS): WHERE ARE WE?

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Objective: This review focuses on the concept of individualized ovarian stimulation (iCOS) based on the currently available predictor biomarkers that may be used in optimizing ART outcomes.

Context: Kenya is experiencing rapid and uncontrolled growth in assisted reproduction technology (ART) services. Despite nearly universal under 50% live birth rates globally, there has been no standardized application of available broad categories of ovarian stimulation (OS) protocols. OS is also complicated by both the atrocities of hyper-response (OHSS) and disappointment of poor response (PR). A need for enhanced predictability of ovarian response (OR) is therefore discernible and needs to be sought and backed by scientific evidence.

Summary: ART outcomes have not been commensurate with the monumental expansion and growth of ART services. It has been shown that the number of oocytes retrieved in normal OS responders

correlates positively with ongoing pregnancy rates, making this the targeted prime outcome. No ideal OS predictive marker has been identified, but AMH is currently most promising. Ability to predict the starting gonadotropin dose in OS, with high specificity for universal application, has remained elusive. However, evidence is emerging that Antimullerian hormone (AMH) is currently most promising in reliability as a biomarker for iCOS and optimizing outcomes in normal, hyper-, and poor responders, thereby allowing significant levels of individualization.

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RESEARCH IN OVARIAN STIMULATION IN KENYA: WHERE ARE WE?

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Introduction: Despite a multitude of studies in ovarian stimulation (OS), the process still remains enigmatic. From a global perspective, the ideal OS procedure that would optimize outcomes still remains elusive yet it is one of the most important aspects in infertility management. Whereas in Kenya patients consult general doctors, specialists Obstetricians and Gynecologists and dedicated infertility specialists, knowledge on current concepts in ovarian stimulation is not universal. This creates a need for improved understanding of OS and a structured referral system if the desired benefit to the patients is to be accrued.

Objective: To create an interest and better understanding on the global trends, practice and research on OS. It is expected that this would generate local interest in research and standardization of practice.

Summary: Ovarian stimulation is key to in vitro fertilization (IVF). However, ovarian response remains highly variable and unpredictable. There still remains a hiatus in knowledge and practice that deters achievement of high predictive values in OS. Hence, poor response and the risk of ovarian hyperstimulation syndrome (OHSS) still remain significant. As a consequence, achievement of higher fertilization rates, continuing pregnancy rates (CPRs) and live birth rates (LBRs) remain relatively low. In Kenya, the situation is dismal –low level of commitment to practice, few facilities offering advanced care, lack of solid supportive data in research and practice, lack of standardized protocols and referral systems, and lack of proper regulatory guidelines. Despite being thus far, the potential for research and data generation still exists. Molecular research on OS in primates has been pioneered in Kenya but this potential is not fully exploited. Although the trend of OS is towards individualized controlled ovarian stimulation (iCOS), the concept is far from being engulfed. The expectation therefore is that Kenyans will join the rest of the world in knowledge generation and translation for the betterment of advanced care in infertility.

Conclusion: As Kenyans endeavor to embrace assisted reproductive technology (ART) as a service, indulgence in research that improves practice remains a vital aspect of growth.

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SOCIOECONOMIC FACTORS ASSOCIATED WITH DELAYED DECISION-MAKING ON DEFINITIVE MANAGEMENT OF TUBAL INFERTILITY AT THE KENYATTA NATIONAL HOSPITAL

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Introduction: Socioeconomic factors in healthcare provision encompass the ability of governments to provide services and the ability of the patients to afford treatment. Health authorities avoid prioritizing infertility treatment due to alternative prioritization of limited resources, overpopulation, perceived need for prevention rather than cure and perceived high

cost of specialized infertility services. In Kenya, Assisted Reproductive Technology is available only in the private sector, often requiring cash payment due to lack of medical insurance cover. This calls for a need to evaluate the role of socio-economic factors in causation of this observed delay.

Broad objective: To determine socioeconomic factors associated with delay in decision-making on definitive management among patients with tubal infertility.

Methodology: An unmatched case-control study with 43 cases and 43 controls. Delay was defined as a period of four or more years since fertility treatment was desired.

Results: Age ≥ 35 years old and low educational level were strongly associated with delay (OR 15.93 and 8.56 respectively, p values <0.001). Low monthly income had a significant association with delay. This also correlated with the category of the husband's occupation, with 7.0% cases having high categories compared to 58.1% of controls (OR 0.05, p <0.001). Significantly more cases made an initial visit at a dispensary/ health center than controls [17 (39.5%) and 5 (11.6%) respectively (OR 4.97, p value 0.003). There were 23 (53.5%) of cases subjected to multiple hysterosalpingograms compared to 10 (23.3%) of controls (OR 3.80, p=0.004). Those who had had inappropriate ovulation stimulation made up 29 (67.4%) cases compared to 13 (30.2%) controls (OR 4.78, p <0.001).

Conclusion: Socioeconomic factors contribute significantly to delay in decision-making on definitive management of tubal infertility.

Recommendations: Cost reduction and subsidy are necessary in order to enhance access to the wider population.

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FERTILITY PRESERVATION

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Introduction: There are a number of situations where preservation of fertility is needed. This has to happen at a time before a person is ready to start a family and can sometimes be the only hope for becoming a parent in future.

Embryo preservation is the most established technique but it is not suitable for people who do not have the sperm of a partner to fertilize eggs or are as yet unsure about committing to having a child with their partner. There is a rise in maternal age as well as request for fertility preservation especially for women choosing to postpone their reproductive goals sometimes for social reasons. This can also be seen with men.

For women and men undergoing cancer treatment, the medicine that cures them can also render them infertile. While this has led to longer life spans for the women, there is a known damaging effect of chemotherapy drugs, or the directed action of radiation treatment for pelvic and abdominal cancers as well as brain tumors. The fact that parents are increasingly waiting until their 30s or 40s to start a family also means that the likelihood of a person having not given birth prior to cancer treatment is ever higher.

There are also a number of conditions that lead to infertility. An example is a young person diagnosed with Turner's syndrome will be able to carry a baby in future but may not be able produce her own eggs in the said future following Premature Ovarian Insufficiency.

Surgical therapies for benign gynecological conditions, such as ovarian cystectomy in inexperienced hands as well as for complexities such as endometriosis, large dermoid cysts and recurrent ovarian cystectomies can also compromise the ovarian reserve.

Fertility preservation in the transgender population of transitioning females to males is another area of increasing interest. The methods most utilized are embryo and oocyte cryopreservation. More complex procedures include ovarian tissue cryopreservation and transplantation, ovarian transposition and in vitro Maturation of oocytes. Case presentations for Turner syndrome and Non-Hodgkins Lymphoma following an 18-week pregnancy loss are made.

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PREVALENCE OF POLYCYSTIC OVARIAN SYNDROME AMONG WOMEN PRESENTING WITH AMENORRHEA AND OLIGOMENORRHEA AT THE KENYATTA NATIONAL HOSPITAL

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Introduction: Polycystic ovarian syndrome (PCOS) is the commonest endocrine condition associated with anovulatory infertility in women of reproductive age. The majority of PCOS patients have ovarian dysfunction, with 70%-80% of women with PCOS presenting with menstrual irregularities (oligomenorrhea/amenorrhea). PCOS is also associated with type 2 diabetes, cardiovascular diseases and endometrial carcinoma. Menstrual irregularity is a common complaint among patients seeking gynecological care, and being an important manifestation in the PCOS patient, forms the basis of this study.

Methodology: This was a descriptive cross-sectional study. The study population comprised of 131 patients recruited at Kenyatta National Hospital gynecology department in Nairobi Kenya. After informed consent, those enrolled filled a questionnaire, had their anthropometric measurements taken, then underwent a pelvic ultrasound scan and had a blood sample taken for evaluation of serum levels of free testosterone.

Results: A total of 49 (37.4%) was diagnosed with PCOS using the Rotterdam criteria in this study. Their mean age was 25.9 +/-3.8 years, had a mean body mass index was 25.9+/-5.6, and 91.8% were nulliparous. Twenty-one women (42.9%) of those with PCOS had testosterone levels higher than the upper limit of normal. The average size of the left ovary was15.8+/-6.4 cm3 and the right ovary was 17.7+/-8.6cm3.

Conclusion: Polycystic ovary syndrome should rank highly in the differential diagnosis when evaluating a woman with oligomenorrhea or amenorrhea as evidenced by the high prevalence.

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FIBROIDS AND INFERTILITY: TO REMOVE OR NOT TO REMOVE FOR INFERTILE WOMEN

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Introduction: Uterine fibroids are the most common tumors of the female genital tract with prevalence of approximately 50-60% and rising to 70% by the age of 50yrs. The presence of uterine fibroids can lead to a variety of clinical challenges, which include infertility. Prevalence increases with age hence becoming significant as women are delaying in childbearing. The critical question of the relationship between uterine fibroid & infertility has been debated for many years and the debate is still ongoing. Biologically it is plausible to support the cause relationship between uterine fibroids and infertility. However, clinical data has been puzzling and inconsistent. Observational studies have reported inconclusive or contradictory results.

Objective: To understand the pathophysiology and mechanism of the infertility caused by fibroid, the diagnosis of the fibroids that are at the risk of causing infertility and the surgical management principles of fibroid causing infertility.

Methodology: Review studies and literature on infertility and uterine fibroids.

Conclusion: Submucous uterine fibroids and intramural fibroids deeply infiltrating the cavity are likely to cause infertility.

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HYSTEROSCOPY:MECHANICAL RESECTION AND TISSUE EXTRACTION OF ENDOMETRIAL PATHOLOGY

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Introduction: Hysteroscopy is more effective with lower costs in resection of uterine endometrial pathology compared with laparoscopic and laparotomy procedures. Hysteroscopic electrical tissue resection is a common method for performing myomectomy and polypectomy. Two different forms of resectoscopy are available: monopolar and bipolar. During the procedure, resected tissue needs to be removed regularly from the cavity to maintain visualization of the target pathology. This is achieved by removing the electrosurgical instrument and inserting forceps or other mechanical instruments through the cervix. Dilation and curettage is the traditional approach to removing uterine pathologies which often is conducted in a blind manner, which is generally contraindicated

Hysteroscopy mechanical tissue resection uses a blade to cut tissue that is then removed through the device and captured in a specimen trap. The system accesses the pathology through the dilated cervix. On visualization of the pathology, tissue resection can be achieved using either rotating, pivoting, or reciprocating devices, which continually cut and remove tissue. Continual tissue removal, when used with a suitable fluid control system to maintain a clear operative field, makes removal and reinsertion of operative instruments only rarely necessary.

Objective: To discuss hysteroscopic mechanical resection and tissue extraction in endometrial pathology.

Methodology: Review studies and literature on hysteroscopic mechanical resection and retrieval of endometrial pathology,

Conclusion: Hysteroscopic removal of endometrial Pathology (polyps & uterine fibroids) using mechanical hysteroscopic tissue removal has been shown to be safe, effective and cost effective.

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UNIVERSAL ASSISTED REPRODUCTIVE TECHNIQUE COVERAGE: HOW FEASIBLE IS IT?

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Introduction: The prevalence of infertility in the world ranges from 5-30% with variations from country to country. In Sub-Saharan Africa, infertility rates are as high as 30%; the overall rate of sub-fertility in Kenya was 26.1%. In Africa, the majority of the couples who need infertility therapy, lack access to treatment. Why is infertility not viewed as a disease? Some lay authors, however, have questioned if infertility is a disease or just a ‘‘difference’’ and that this reflects a philosophical question that is not easy to answer. Properly understanding that infertility represents a disease is the fundamental first step toward mandating universal coverage of ART. Why are patients often forced to put a price tag on having a child?

It is truly heartbreaking that infertility coverage is viewed as a perk and not considered to be a requirement for insurance companies, the employers and the government health services. Survey in Kenya, shows no public hospital offers ART, only two private hospitals offer ART and the rest of ART centers are under private gynecologists; hence ART

is only available in the private sector. Cost is a major factor, however, Low Cost IVF (LCIVF) bypasses the need for a costly IVF laboratory, by simplifying embryo culture methods and utilization of mild ovarian stimulation protocols.

Objective: Review the availability of ART services and interventions that can facilitate universality of ART services.

Methodology: Review studies and literature on ART

Conclusion: Infertility represents a bona fide disease with a variety of treatment options and, with Low Cost IVF and appropriate legislation, universal ART coverage is achievable.

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LAPAROSCOPIC RETRIEVAL OF TRANSLOCATED IUCD: A NEEDLE IN A HAYSTACK

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Summary: A 27-year-old para 3+0 had a Copper Intrauterine contraceptive device (IUD) inserted 3 years prior to presentation. She conceived 8 months later, and was told the IUD would come out with the placenta during delivery. Two years later she developed lower backache. A plain AP x-ray done revealed the IUD in the pelvic area. She was subsequently counselled and advised to have Hysteroscopy / laparoscopy to retrieve the IUD. She was then admitted for Hysteroscopic/laparoscopic retrieval. Intra operatively a quick hysteroscopy revealed an empty uterine cavity, we then proceeded with diagnostic laparoscopy and located the IUD embedded in the anterior abdominal wall over the right iliac fossa with the omentum enveloping the location of IUD. There was a pocket of pus seen around the IUD which was washed out. She had an uneventful recovery and was discharged the following day.

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FETOMATERNAL MEDICINE

QUANTIFICATION OF FETOMATERNAL HAEMORRHAGE AND ITS APPLICATION IN ANTI-D IMMUNOGLOBULIN DOSING IN RHESUS NEGATIVE MOTHERS DELIVERING AT MTRH, ELDORET.

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Introduction: Fetomaternal hemorrhage (FMH) is entry of fetal blood into the maternal circulation during pregnancy or delivery. To prevent sensitization, anti-D immunoglobulin is usually given. The dose given varies depending on the amount of FMH. There is limited local data on the determination of size of FMH and its utility in the dosing of prophylactic anti-D. Several studies have shown that lesser doses of anti-D can safely be used with lower cost implications.

Objectives: To determine the prevalence of Rhesus negativity, quantify the size of FMH and to determine the average calculated dose of anti-D immunoglobulin required for postpartum prophylaxis in Rhesus negative women delivering in MTRH.

Methodology: A cross-sectional study conducted between April and September 2017. It involved estimation of size of FMH, using the Kleihauer-Betke test, on a sample of venous blood collected from Rhesus negative postpartum women within 2-12 hours after delivery. Consecutive sampling was used. Structured questionnaires were administered to eligible participants. Data analysis was done using R version 3.3.3 (R Core Team, 2017).

Results: Out of 4,552 deliveries over the study period, 143 (3.1%) were Rhesus negative. 99 met the eligibility criteria. Mean age was 26.4 years and mean gestational age at delivery was 39 weeks. Fetomaternal hemorrhage was detected in 35 (35.4 %) of the study participants, 24 (68.6%) of whom had FMH of less than 10ml. The size of FMH ranged from 2.5-20mls. The use of 100µg of anti-D immunoglobulin would have been sufficient for 89.9% (89/99) of the Rhesus negative mothers in whom quantification of FMH was done. With the exception of age, the obstetric and sociodemographic characteristics of those who had fetomaternal hemorrhage and those who did not were similar.

Conclusion: The prevalence of Rhesus negativity among parturient in MTRH was 3.1%. FMH of less than 10ml occurred in 89.9% meaning majority of the cases of FMH could have been neutralized by 100µg of anti-D immunoglobulin.

Recommendations: We recommend quantification of FMH in all unsensitized Rhesus negative patients and accordingly adjusted dosing of anti-D immunoglobulin as well as further studies into the cost effectiveness of such measures.

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RISK FACTORS FOR MATERNAL MORTALITY AMONG WOMEN WHO HAD CAESAREAN SECTION DELIVERY IN KENYA: A CASE-CONTROL STUDY.

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Introduction: Caesarean section (CS) is a major surgical procedure that should be performed as a life-saving intervention for a mother and/or her baby. Medically unnecessary CS are associated with adverse outcomes. About 37% (138) of women who died in Kenya hospitals in 2014, were delivered by CS. The WHO has proposed the routine use and analysis of the Robson 10 Group Classification (RTGC), as a mechanism to assess the quality of care and clinical management practices within and between facilities.

Objective: To determine the risk factors associated with CS related deaths and to assess the feasibility of applying the RTGC in Kenya.

Methodology: We used a case-control study design. Data was extracted from case notes of 126 women

who died after CS (cases) was compared to 252 women who did not die (controls) after CS in 2014. The adjusted odds of death (95% CI, p=0.05) were determined for several risk factors using multiple regression analysis.

Results: After controlling for confounders (distance from home to a facility and maternal socioeconomic status) Postpartum haemorrhage (OR 27.50, 95% CI:8.40-90.13), blood transfusion (OR 14.59, 95% CI: 3.95-53.91), patient referral (OR 2.68, 95% CI:1.22-5.89), referral to Intensive Care Unit (OR 27.50, 95% CI:8.40-90.13), and general anaesthesia use (OR 11.45, 95% CI:4.56-28.74), were risk factors for death amongst women who had CS. About 45% (96) of the women in our sample were having their first term baby following spontaneous onset of labor (RTGCS 1) and 33% (70) had a previous CS (RTGCS5).

Conclusions: Most of the risk factors identified in our study are modifiable and related. They can, therefore, be mitigated to reduce maternal mortality associated with CS. Mitigating these risk factors requires early identification and treatment of women at risk of PPH, use of regional anaesthesia where possible, CS by experienced staff, early referral of adequately resuscitated women presenting with complications and adequate blood transfusion services. Prioritizing these interventions and the prospective use and analysis of RTGCS, combined with maternal and perinatal death audits, is likely to reduce the risk of death from CS in Kenya.

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MICROBIAL PATTERNS IN AMNIOTIC FLUID AND HISTOLOGY OF THE SMOOTH CHORION IN WOMEN WITH PREMATURE RUPTURE OF MEMBRANES AND PRETERM PREMATURE RUPTURE OF MEMBRANES AT THE KENYATTA NATIONAL HOSPITAL, KENYA

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Introduction: Premature rupture of membranes complicates 2% of pregnancies but is associated with 40% of preterm deliveries with significant perinatal morbidity and mortality. Local and global studies have shown an association between ascending infection from the lower genital tract and occurrence of premature rupture of membranes. A variety of pathogens have been implicated including Escherichia coli, Group B Streptococcus, Neisseria gonorrhoea, Trichomonas vaginalis and Bacterial Vaginosis.

Objective: To identify the microbial patterns in amniotic fluid, and the histology of the smooth chorion of the placenta, in women with premature rupture of membranes

Methodology: A descriptive prospective cohort study at the Kenyatta National Hospital labour ward. Fifty women were recruited, 29 with rupture of membranes between 28 to 36 weeks and 21 with rupture of membranes after 37weeks. Eligible mothers were interviewed to obtain medical history, and physical examination performed. High Vaginal Swab and amniotic fluid samples were collected using a plain bottle and transported to the laboratory for microscopy and culture. The placentae were collected at delivery for histology. Data were exported to STATA version 12 software for analysis. Summary statistics and relative risks were calculated, and chi square and Fischer's exact test were performed at 95% significance.

Results: Women who presented with early rupture constituted 58% of the study participants and had a mean age of 25 years; the mean age for late rupture of membranes was 29 years. Bacterial vaginosis (32%), Candida spp. (18%) and Group B strep. (14%) were the most common microbes in the amniotic fluid. Placental histological examination revealed maternal inflammation (51.72%) and foetal inflammation

(27.59%). Those who presented with late rupture of membranes (42%) had maternal inflammation in 14.29%.

Conclusion and Recommendations: Candidiasis and bacterial vaginosis are highly prevalent, hence a need for updating guidelines on management of premature rupture of membranes in pregnancy to cover for Candidiasis and Bacterial vaginosis in this population.

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HIGH PREVALENCE AND SEVERITY OF POST-PARTUM RETINOVASCULAR CHANGES FOLLOWING PRE-ECLAMPSIA WITH SEVERE FEATURES COMPARED TO NORMAL PREGNANCY

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Introduction: Hypertensive retinopathy complicates about 40-100% of pregnancies with hypertensive disorders and its severity worsens with progression of hypertension.

Reactive retinal vessel changes demonstrably also mirror cardiovascular changes in the course of normal pregnancy. There is low utility of fundoscopy in assessing target organ damage and prognosis in pre-eclampsia in low resource setting.

Objective: To compare postpartum maternal retinovascular (RV) findings between pregnancies complicated with preeclampsia with severe features (PES) and normal pregnancies at Kenyatta National Hospital (KNH).

Methodology: Comparative cross sectional study conducted between May 2017 and March 2018.

Study population: Sixty-five women within 72 hours postpartum following normal pregnancy (n=35) or pregnancies complicated with PES (n=30) and without preexisting ocular or medical comorbidities. Participants were interviewed on sociodemographic and reproductive health characteristics and clinical parameters obtained from medical records. Visual acuity assessment was done using a portable LogMAR chart and non-mydriatic fundus photography used for retinovascular evaluation. RV changes were graded using Keith Wagner grading.

Postpartum retinovascular findings and severity grades were analyzed and presented as percentages and compared between the two groups using Chi square or Fisher's exact test. Odds ratios (OR) of retinovascular changes following pre-eclampsia compared to normal pregnancy was estimated. A p value of

Results: Overall prevalence of hypertensive retinovascular change was 90.8 % (83.3% in PES versus 97.1% in normal pregnancies). We found statistically significantly greater odds, OR 5.05 CI (0.93, 27.6) of severe retinovascular changes after pregnancies complicated with PES (p=0.045).

Conclusion: There is high but comparable prevalence of maternal retinovascular changes within 72 hours postpartum after pregnancies complicated with PES or normal pregnancy. PES is associated with greater odds of postpartum retinovascular changes Compared to normal pregnancies.

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BURDEN OF CARDIAC DISEASE IN PREGNANCY IN WESTERN KENYA

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Introduction: Cardiac disease in pregnancy is emerging as a significant contributor of non-obstetric maternal morbidity and mortality globally. The burden of cardiac disease in pregnancy in high income countries is well described, however, few studies characterize its burden in low and middle income countries where the prevalence of disease among women of reproductive age is high.

Objective: To describe the maternal and neonatal outcomes of cardiac disease in pregnancy at a high volume obstetrical facility in western Kenya.

Methodology: We conducted a retrospective case-control study of all women with cardiac disease admitted to a national referral hospital in western Kenya during pregnancy or up to 6 weeks postpartum from January 2011 through March 2016. 97 identified cases of cardiac disease in pregnancy were matched to 242 controls of women without cardiac disease based on age and parity. Cardiac history and pregnancy outcomes, including adverse maternal events (obstetric or cardiac) and neonatal events, were collected.

Results: Rheumatic heart disease was the most common cardiac condition (75%) with over half of the cases complicated by severe mitral stenosis or pulmonary hypertension. Although most women had attended at least one ANC visit, 37% of the cardiac cases were diagnosed late in pregnancy between the third trimester and into the postpartum period and only 50% had been seen by a cardiologist prior to the current pregnancy. Maternal mortality among cardiac patients was 10 times higher than controls. Hospital admission during the antenatal period was significantly higher (67.4% v/s 2.1%) among cases (p?0.001). Cases had significantly more cardiac (56% v/s 0.4%) and neonatal events (61% v/s 27%) as compared to controls (p<0.001).

Conclusion: Cardiac disease in pregnancy is associated high rates of maternal mortality and significantly higher risks of neonatal morbidity. Early disease identification and coordinated obstetric and cardiovascular care strategies are needed to reduce preventable maternal and neonatal adverse outcomes among this high risk population.

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PREVALENCE, ANTIMICROBIAL SUSCEPTIBILITY, SEROTYPES AND RISK FACTORS OF GROUP B STREPTOCOCCUS RECTOVAGINAL ISOLATES AMONG PREGNANT WOMEN AT KENYATTA NATIONAL HOSPITAL

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Introduction: Estimates of group B streptococcus (GBS) disease burden, antimicrobial susceptibility and its serotypes in circulation among pregnant women in many developing countries including Kenya, are limited, yet these data are required for prophylaxis and treatment of infections due to GBS. We evaluated the rectovaginal prevalence, antimicrobial susceptibility, serotypes and factors associated with GBS colonization among pregnant women receiving antenatal care at Kenyatta National Hospital (KNH) between August and November 2017.

Methodology: In this cross sectional study, 292 consenting pregnant women between 12 and 40 weeks of gestation were enrolled. Interview-administered questionnaires were used to assess risk factors associated with GBS colonization. Two swabs; one from the anorectal canal the other from the lower vagina were collected and cultured on Granada agar for GBS isolation. Positive colonies were tested for antimicrobial susceptibility to penicillin G, ampicillin, vancomycin and clindamycin. Serotyping was done using Immulex Strep-B kit. We used logistic regression to identify factors associated with GBS colonization. Data analysis was done using STATA® version 13. P values of <0.05 were considered significant.

Results: The median age of study participants was 30 years (IQR 26-35) with a median gestational age of 35 weeks (IQR 30-37). The prevalence of GBS in this study was 20.5%. Isolates were most resistant to penicillin G (72.4%) followed by ampicillin (55.2%), clindamycin (30.4%) and vancomycin (24.1%). All ten GBS serotypes were isolated. Serotype Ia was the

most prevalent (75.9%) while serotype VIII (44.2%) was the least occurring. 69.8% of GBS positive participants carried more than one GBS serotype. None of the risk factors were associated with GBS colonization.

Conclusion: The prevalence of GBS is high among mothers attending antenatal clinic at KNH. There is high prevalence of GBS isolates resistant to commonly prescribed intrapartum antibiotics hence other measures like GBS vaccination is a potentially useful approaches to GBS prevention and control in this population. Screening of pregnant mothers for GBS colonization should be introduced.

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ROBSON CLASSIFICATION FOR CAESAREAN DELIVERY RATES AND EARLY PREGNANCY OUTCOMES IN KENYA

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Introduction: Since 1985, after the World Health Organization, (WHO) set the ideal C-section rate for a population as 10-15%, there has been a constant rise in the rates of this surgical procedure. This has been matched with growing concern over the increasing C-Section rates due to the potential increase in maternal and perinatal risks. In 2011, WHO proposed the ten-step Robson classification system as a global standard for assessing, monitoring and comparing C-Section rates within health-care facilities over time, and between facilities. We used the Robson classification to analyze the C-Section rates in a busy County Maternity Hospital in Kenya and its association with early perinatal outcomes.

Methodology: A descriptive one-year retrospective cohort study in which records of 499 women who underwent C-Section between 1st January to 31st December 2016 were reviewed.

Setting: Pumwani Maternity Hospital in Nairobi County in Kenya.

All women were categorized into Robson groups. We estimated the relative size, the C-Section rate and the absolute and relative contributions made by each Robson group to the overall C-Section rate and the association of each group with selected early maternal and perinatal outcomes. Data were analyzed using STATA version 12.

Results: The Robson groups with the highest contribution to the CS rates were: Group 1, Group 5 and Group 3 at 36%,24% and 24% respectively. The early pregnancy outcomes: APGAR scores less than 7 at 5 minutes, severe post-partum haemorrhage, maternal and neonatal deaths within 24 hours were similar across all the 10 Robson groups.

Conclusion: The Robson classification was easily applied and identified low-risk women as the largest contributors to the C-Section rates at the Pumwani Maternity Hospital. Additional studies should evaluate for C-Section and identify strategies for reducing C-Section in this low-risk obstetric population.

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INTIMATE PARTNER VIOLENCE DURING PREGNANCY AND THE ASSOCIATED PERINATAL OUTCOMES AT MOI TEACHING AND REFERRAL HOSPITAL, ELDORET, KENYA

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Introduction: Intimate Partner Violence (IPV) against women is the range of sexual, psychological and physical coercive acts used against adult and adolescent women by current or former male intimate partners (CDC, 2010). When this occurs in pregnancy, it directly or indirectly affects the mother leading to adverse maternal and perinatal outcomes. Locally, the prevalence of IPV in pregnancy (IPVp) is 37%. Determining the risk factors of IPVp would make it easier to identify affected pregnant women.

It is also necessary to find out whether adverse perinatal outcomes occur in cases of IPVp.

Objectives: To determine the prevalence, the types, the factors associated and the perinatal outcomes of IPVp among women giving birth at Moi Teaching and Referral Hospital (MTRH).

Methodology: This was a cross-sectional study of 369 women who had just given birth and were admitted in the postnatal ward at MTRH. Systematic sampling was used. Data was collected using a structured questionnaire which was modified from the WHO violence against women Tool. The analysis was done using the R Core Team 2017. Logistic regression was used to assess the association between risk factors and the occurrence of IPVp.

Results: The prevalence of IPVp was 37.1%. Physical, sexual and psychological IPVp were identified with psychological violence emerging as the most prevalent affecting 73.7% of the victims. There was an association between IPVp and partner alcohol and drug intake (adjusted odds ratio (aOR) 2.19), history of exposure to violence while young (aOR 3.02), a low income and education level and a previous history of IPV (aOR 25.77). Women who were exposed to physical IPVp were more likely to give birth to children who had low 5-minute APGAR scores ($p = 0.014$). There was no difference in age ($p = 0.836$), marital status ($p = 0.529$) and the type of employment ($p = 0.914$) between those who experienced IPVp and those who did not.

Recommendations: Pregnant women should be screened for IPVp during the antenatal period. There is a need to conduct further studies to address on how to curtail the burden of intimate partner violence in pregnancy.

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ACCURACY OF URINE DIPSTICK TEST IN DETECTING ASYMPTOMATIC BACTERIURIA AMONG PREGNANT WOMEN RECEIVING ANTENATAL CARE AT KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA.

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Introduction: When not detected and treated asymptomatic bacteriuria in pregnancy is associated with development of obstetric complications. Routine screening of pregnant women is necessary to avert the adverse outcomes, unlike in the general population where the disease is considered benign. Quantitative urine culture, the "gold standard" test for detection of asymptomatic bacteriuria (ASB), is time consuming, expensive, requires special equipment and trained personnel, thus limiting its routine use in low-resource settings. Although the dipstick test is cheaper, easier to perform and interpret, its accuracy and role in detecting ASB in pregnancy in this setting has not been evaluated.

Methodology: A cross sectional study of among pregnant women without symptoms of urinary tract infection receiving routine antenatal care at Kenyatta National Hospital. Clean catch, mid-stream, voided urine specimens from 132 eligible participants were subjected to concurrent dipstick and bacteriologic culture. Markers of ASB in urine dipstick (presence of either or both leucocyte esterase (LE) and nitrites) were compared with culture. Accuracy of urine dipstick, as measured from the sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), positive likelihood ratio (PLR) and negative likelihood ratio (NLR) in detecting ASB was estimated using culture as the "gold standard."

Results: Out of 320 women screened, 41% were eligible. The prevalence of ASB was 6.9%. Sensitivity, specificity, PPV and NPV were 66.7%, 74.4%, 16.2% and 96.8% respectively for LE; 44.4%, 97.5%, 57.1% and 95.9% for nitrite; 22.2%, 100%, 100% and 94.5%

for either LE or nitrite; and 88.9%, 71.9%, 19% and 98.9% for both LE and nitrite respectively. The PLR and NLR for LE was 2.61 and 0.45 whereas that of nitrite was 17.76 and 0.37 respectively.

Conclusion: A negative urine dipstick test very likely rules out ASB in pregnancy and the need for routine culture. However, a positive dipstick test has low accuracy in detecting ASB in pregnancy and requires confirmatory testing with culture. Treatment for ASB based on positive dipstick alone would expose a large number of pregnant women to unnecessary antibiotics and their side effects.

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ADVERSE PERINATAL OUTCOMES AMONG WOMENDIAGNOSEDWITHHYPERTENSION IN PREGNANCY IN PUMWANI MATERNITY HOSPITAL, NAIROBI, KENYA

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Introduction: Hypertension complicates 6-9% of pregnancies globally and is associated with an increased risk of adverse maternal and perinatal outcomes. There is paucity of evidence on the impact of hypertension in pregnancy (HIP) in sub-Saharan Africa. We analyzed the magnitude of adverse perinatal outcomes and their determinants among women with HIP in Pumwani Maternity Hospital (PMH), Nairobi.

Methodology: We conducted a descriptive cross-sectional study in PMH involving women with HIP. Upon receipt of ethical approval from the Moi University-MTRH IREC and permission from the hospital authority, 157 women were consecutively enrolled. A questionnaire administered to each participant was complemented with abstraction of data from their clinical record. Data analysis (descriptive and inferential statistics) was conducted using IBM SPSS V 23.0. The main outcome variable was perinatal death. Univariate regression was conducted followed by estimation of a multivariate regressions model.

Results: The incidence of HIP was 287 per 10000 pregnancies while pre-eclampsia 74 (50.02%) and unclassified hypertension (38.5%) were predominant hypertensive states. Perinatal mortality rate (PMR) was 203 per 1000 births. Half (74) of the births occurred before term and 71 (47.97%) of fetuses at birth had low birth weight (weight 4) severe maternal hypertension, labor at admission, pre-eclampsia, proteinuria of more than 2+ on dipstick, recent pregnancy loss and high parity were associated with increased risk of perinatal mortality.

Conclusion: HIP was associated with a high PMR and associated with a high rate of prematurity, birth asphyxia and small for gestational age. Modifiable predictors of perinatal death were identified and protective interventions identified. Early and timely diagnosis for HIP through active surveillance, matched by proper monitoring and the management to prevent severe HIP in PMH are recommended. Providers need continuous training on appropriate fetal and maternal surveillance and timely use of corticosteroids and MgSo4 to avert preventable adverse outcomes.

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ORAL PRE-EXPOSURE PROPHYLAXIS (PREP) FOR HIV PREVENTION AMONG PREGNANT AND BREAST-FEEDING WOMEN AT POPULATION SCALE IN KENYA

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Introduction: Globally, women experience higher vulnerability for HIV infection; those in sub-Saharan Africa are disproportionately affected. Evidence posits that pregnant and lactating women are four times likely to acquire HIV. The WHO recommends tenofovir-based regimens for PrEP as part of eMTCT during pregnancy and lactation. Jilinde is a large-scale project supporting the integration of routine oral PrEP in ten counties of Kenya. We analyzed the socio-behavioral profile of pregnant and breastfeeding women initiating oral PrEP through Jilinde.

Methodology: Since February 2017, Jilinde has supported the integration of oral PrEP through 89 facilities in the 10 counties. Upon training health providers, establishing monitoring and evaluation tools, and a sustainable commodity management pathway, PrEP services are provided through drop-in centers, private facilities, community outreach and public facilities (outpatient, ANC, PNC, comprehensive care). Clients receive pre-initiation counseling followed by adherence support and risk and clinical monitoring at each scheduled clinical visit. A clinical record is kept for each individual client. We analyzed de-identified client-level data collected during each visit.

Results: In 20 months, Jilinde-supported sites had initiated 10 912 women on PrEP, 352(3.2%) were pregnant or breastfeeding. Among breastfeeding and pregnant women, majority 196(55.7%) were younger than 25 years, all were schooled (99.4%) and majority 211 (59.9%) were married. Most women 189 (53.7%) were initiated in public facilities and 63% were referred through departments within the sites highlighting the huge potential to mainstream PrEP within existing structures. The prevalence of predominant self-reported risky behaviors driving uptake for PrEP were; no or inconsistent condom use (91.7%), sex with a high-risk partner whose HIV status is unknown (68.7%), transactional sex (34.6%) and sex with an HIV positive partner (22.4%). No significant differences were observed between pregnant and breastfeeding women on these risky behaviors.

Conclusion: Jilinde's experience has yielded valuable lessons for shaping continued scale-up of oral PrEP which can benefit pregnant and lactating women. Diversification of delivery models has potential to increase PrEP uptake and coverage while inefficiencies in the delivery pathways in public and private facilities create disincentives for uptake. Targeted messaging and adherence support are recommended to pivot the consistently low continuation rates.

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OUTCOME OF PREGNANCIES IN WOMEN WITH UTERINE FIBROIDS AT KENYATTA NATIONAL HOSPITAL

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Introduction: Uterine fibroids are the most common benign tumors in women, with an estimated prevalence of 0.1-4% in pregnancy. Prevalence rates vary with race, and are most common in African women. Uterine fibroids have been associated with adverse pregnancy outcomes such as pain, preterm labor and delivery, preterm premature rupture of membranes, placental abruption, fetal malpresentation, postpartum hemorrhage, and high cesarean section rates. Despite the high prevalence of fibroids reported among African women, there is limited data on obstetric outcomes in pregnant women with fibroids. Previous studies done on the subject have reported inconsistent findings.

Objective: To determine the effect of uterine fibroids on obstetric outcomes from 28 weeks of gestation.

Methodology: This was a prospective cohort study of 143 pregnant women who had routine obstetric ultrasonography by 28 weeks at Kenyatta National Hospital. 71 patients with uterine fibroids noted on ultrasonography and 72 patients without fibroids were followed up monthly until delivery. Maternal, fetal and early neonatal outcomes were obtained as the patients progressed to delivery and compared between the two groups.

Results: Presence of fibroids was associated with advanced maternal age. No significant difference was observed between the two groups with regard to abdominal pain requiring admission, preterm premature rupture of membranes, preterm labor and delivery, small for gestational age infant, ante partum haemorrhage, mode of delivery, duration of labor, postpartum hemorrhage, fetal presentation and neonatal outcomes ($p > 0.05$).

Conclusion: Pregnant women with fibroids are not at an increased risk of adverse obstetric outcomes compared to women without fibroids.

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MATERNAL NEAR-MISS DETERMINANTS AT MOI TEACHING AND REFFERRAL HOSPITAL, ELDORET

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Introduction: Key factors for reducing maternal mortality includes strengthening health systems and quality maternal health care. Confidential enquiry into maternal death has been used in the past for assessment of quality of care. This has been faced with the challenge of low numbers of deaths per center to allow reliable policy guidance. Maternal near miss has been proposed as an adjuvant to maternal death enquiries. World Health Organization (WHO) defines maternal near miss as a woman who nearly died but survived a complication that occurred antenatal and peripartum. In Kenya, there is little information on the circumstances surrounding maternal near miss.

Objectives: To determine the incidence, risk factors and immediate perinatal outcome of maternal near miss morbidity at MTRH.

Methodology: Case control study design was used. Near miss cases were identified using WHO's criteria. Consecutive sampling was applied and 45 cases with 225 matched controls. Analysis of done with relevant statistical packages.

Results: The incidence of maternal near miss calculated was 10.4 per 1000 births. Majority of Near Misses were due to Hematological/coagulation dysfunctions (64%) with Hypertension as the underlying cause (35%). Near miss was associated with being employed [OR 0.12(95% CI 0.03-0.42)] and awareness of danger signs [OR0.41 (95% CI 0.19- 0.91)]. Being referred from another facility had increased odds [OR: 2.70 (95% CI: 1.24- 5.88)] and making a decision to go to hospital within 30 minutes [OR: 2.61 (95% CI: 1.11- 6.14)]. The commonest reason for referral was lack of facility (e.g. theatre, ICU) and personnel. Most babies of the near miss cases were born alive (76%), median APGAR score was 9/10, still birth rate was 22%, median birth weight was 2700g. There was no statistically significant difference in perinatal outcome between cases and control.

Conclusion: The incidence of maternal near miss is 10.4 per 1000 birth in MTRH. The determinants of near miss are unemployment, lack of awareness of danger signs and being a referral from a peripheral facility. There was no difference in perinatal outcome between the cases and control.

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OGILVIE SYNDROME: A POST-CESAREAN SECTION COMPLICATION: A CASE REPORT

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Introduction: Ogilvie syndrome is a rare condition involving acute dilatation of the colon (without any mechanical obstruction), abdominal pain, constipation, and fever. It leads to necrosis and perforation of right hemicolon. A case is presented and early diagnosis emphasized to avoid maternal mortality.

Methodology: The patient had 3 prior vaginal deliveries. She had C/S due to oblique lie.

On 1st post-C/S day, she had mild generalized abdominal pain. On 2nd day, she had mild distention that was managed conservatively.

On 4th day, the patient was sickly with disorientation, dyspnea and marked abdominal distension.

Laparotomy revealed gangrene and perforation of ascending colon. Eight liters of pus and stool were drained. Hemicolectomy and ileostomy was performed. Thereafter, she was admitted to the intensive care unit with adverse outcome.

Discussion: The incidence of the disorder is unknown. Predisposing factors include major surgeries, severe cardiac, pulmonary & renal diseases, trauma, anticholinergics, steroids and narcotics. Ogilvie syndrome most likely results from abnormalities affecting the autonomic nervous system's control of colonic motor function. The diagnosis is based on clinical evaluation and imaging. There is no specific therapy but options include supportive therapy, medications, decompression and surgery.

Conclusion: Being a rare disease with high potential for causing mortality, there is a need for increased awareness of this condition.

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LIFE-SAVING TRANSVAGINAL BILATERAL UTERINE ARTERY LIGATION IN MASSIVE INTRACTABLE POST-PARTUM HEMORRHAGE

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Introduction: Bilateral ligation of the uterine artery or its branches, though a useful procedure to stop upper uterine bleeding and thus life-saving, is not commonly performed by obstetricians and gynecologists. It is a safe, efficacious, feasible and cost-effective procedure. Transvaginal approach is a minimally invasive technique that requires lesser time to perform. Postpartum hemorrhage (PPH) is a life threatening condition, and remains the leading cause of maternal mortality and morbidity. Uterine atony, lower genital tract lacerations, uterine rupture or inversion, retained products of conception and underlying coagulopathy are some of the common causes of PPH. It requires early recognition of its cause, immediate control of the bleeding source by medical, mechanical, invasive-non-surgical and surgical procedures as well as rapid stabilization of the mother's condition. Second-line surgical treatment of PPH remains challenging, since there is limited practice and therefore limited expertise. We report a dramatic near-miss case of severe intractable postpartum hemorrhage due partly to coagulopathy which was successfully treated by transvaginal bilateral uterine artery ligation. We wish to sensitize medical personnel to its role.

Methodology: 28-year-old R.N Para 2+0 admitted in active labor with moderate vaginal bleeding for 4 hours prior to admission. She progressed to SVD with good neonatal outcome, but immediately developed profuse postpartum hemorrhage. No retroplacental clot was noted. By the time EUA commenced she was in shock and severely pale and continued to bleed profusely despite repair of cervical lacerations. The blood was dilute and non-clotting. All medical, mechanical and surgical means failed to arrest bleeding. Transvaginal bilateral uterine artery ligation was performed and bleeding was immediately arrested. She was admitted in ICU for 3 days and transfused 7 pints of fresh whole blood and 3 pints of fresh frozen plasma.

Discussion: This case illustrates that accurate transvaginal bilateral uterine artery ligation, a minimally invasive procedure, is life-saving in intractable PPH, including those caused by coagulopathy.

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PREGNANCY FOLLOWING UTERINE ARTERY EMBOLIZATION FOR UTERINE FIBROIDS

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Introduction: Uterine artery embolization (UAE) for uterine fibroids and adenomyosis is increasingly gaining popularity due to its minimally invasive nature. However, safety concerns remain for those desiring conception making fertility desire a relative contra-indication for UAE. This is due to potential complications such as ovarian dysfunction leading to amenorrhea and adverse pregnancy outcomes such as miscarriages, abdominal delivery, placental anomalies, Fetal Growth Restriction and prematurity which appear to be more likely after UAE.

Methodology: We present three cases of pregnancies in women who had previously undergone UAE for symptomatic uterine fibroids and their subsequent outcomes. We will further discuss the challenges of conception and pregnancies after UAE with reference to the current evidence from the literature.

Conclusion and recommendation: Despite our few numbers and evidence from available literature, UAE appears to be a viable option for young women desiring fertility. However, they should be counseled on the potential risk of ovarian dysfunction and adverse pregnancy outcome until sufficient evidence is available inform practice.

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LOW DOSE OXYTOCIN AS AN ADJUNCT TO FOLEY CATHETER FOR CERVICAL RIPENING IN NULLIPAROUS WOMEN AT MTRH, ELDORET, KENYA: A RANDOMIZED CONTROLLED TRIAL

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Introduction: Induction of labor (IOL) has increasingly become a common procedure, more so in developed countries where the incidence currently averages 20-30%. In developing countries, IOL is variable ranging from 2% to as high as that seen in developed nations. In MTRH, about 5% of all deliveries are term inductions. Nulliparous women often comprise over half of those requiring IOL even in our setting. Additionally, the presence of an unfavorable cervix prior to induction is not uncommon in this group and this has been classically associated with failed inductions, labor dystocia, caesarean sections and longer hospital stays.

Objective: To determine the effectiveness and safety of Foley catheter with simultaneous low dose oxytocin when compared to Foley catheter alone for cervical ripening in nulliparous women at MTRH.

Methodology: This is a preliminary randomized double blind placebo controlled superiority trial being conducted at the Riley Mother and Baby hospital in MTRH. A total of 220 nulliparous women aged at least 18 years with a single, live, non-anomalous, vertex pregnancy and scheduled for IOL with an unfavorable cervix ≥ 34 weeks of gestation are systematically sampled for inclusion in the study in a ratio of 1:1. Consenting participants are randomly allocated to receive Foley catheter (FC) plus low dose oxytocin (Fixed 4 drops/minute) or FC plus placebo using block randomization, with block sizes of 20. The primary outcome is the time to delivery while the secondary outcomes are proportion of deliveries within 24 hours, mode of delivery, time to vaginal delivery, Bishop score after FC expulsion, proportion of vaginal deliveries within 24 hours, need for additional ripening agent, time to FC expulsion, uterine tachysystole, chorioamnionitis, Fetal heart rate changes, atonic PPH, uterine rupture, admission to NBU, meconium stained liquor, Apgar score

Expected findings: The time to delivery has a potentially significant impact on resources and obstetric outcomes. This study will robustly complement previous studies and ultimately inform future protocols with rational, objective and evidence based data specific to low resource settings.

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CARDIAC DISEASE IN PREGNANCY: MATERNAL, FOETAL AND NEONATAL OUTCOMES AT MOI TEACHING AND REFERRAL HOSPITAL, ELDORET- KENYA

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Introduction: Cardiac disease in pregnancy remains a challenging situation which compromises obstetrical care and contributes significantly to maternal mortality and morbidity in sub-Saharan Africa. Most of evidences currently available on cardiac disease in pregnancy are from developed

countries, widely focused in congenital heart disease with little information on acquired and or rheumatic heart disease.

Objective: This study was done to describe maternal foetal and neonatal outcomes in pregnant and postpartum women seeking care at MTRH, and describe factors affecting pregnancy outcome in a particular context of developing countries.

Methodology: This was a longitudinal descriptive study which consecutively enrolled 90 pregnant and postpartum women with both congenital and acquired cardiac disease. Variable on maternal socio-demographic and clinical characteristics were captured, as well as factors which influenced maternal foetal and neonatal outcomes. The maternal foetal and neonatal risk index were prospectively calculated.

Results: The prevalence of cardiac disease was 0.4% and accounted for 27.5% of maternal death. The median age was 27 years (range 16-40). Rheumatic heart disease accounted for 88.9%, cardiomyopathy 7.8% and congenital heart disease was reported in 3.3% of cases. High risk patients were 54% and had complex heart structure lesions. Cardiac events were reported in 84.4% and were frequently associated with mitral stenosis, cardiomyopathy, caesarean section and ICU admission need. Maternal mortality occurred in 12% due to cardiac events. Foetal events occurred in 13.3% and neonatal events accounted for 31.1%. Adverse outcomes were related to the severity of underlying cardiac disease, parity and home delivery, poor compliance to treatment and medical advice, and poor health-seeking behaviour.

Conclusion: Cardiac disease in pregnancy is significantly associated with maternal, foetal and neonatal complications. The risk of complications increases with poor health-seeking behaviour as determine by the socio-demographic factors and health system. Socio-demographic factors are important determinants and predictors of pregnancy outcomes in women with cardiac disease in a particular context of developing countries.

THE WHO GLOBAL MATERNAL SEPSIS STUDY (GLOSS)

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Introduction: Despite marked reduction in maternal and neonatal mortality over the past 15 years, further reduction is targeted by the Sustainable Development Goals, the UN Global Strategy for Women's, Children's & Adolescents' Health, and Ending Preventable Maternal Mortality strategic plans. Early detection and management of maternal and neonatal infections and sepsis can reduce the burden of infection related morbidity and mortality. The burden, and detection of maternal sepsis, particularly in low- and middle-income countries is deficient.

Objective: To develop and validate a set of criteria for identification of presumed or confirmed maternal sepsis and to assess the frequency, management and outcomes of maternal sepsis.

Methodology: This was a facility-based, multi-country, multisite prospective, inception cohort study in 46 LMIC and 7 developed countries in Africa, Americas, Europe, South East Asia, and Western Pacific. All women admitted to or already hospitalized in participating health facilities with suspected or confirmed infection during any stage of pregnancy through the 42nd day after abortion or childbirth were included. They were followed throughout their hospital stay till discharge, death or 42nd postpartum/ postabortal day, whichever occurred earlier.

Preliminary Results: 468 facilities in 46 LMICs in 48 geographical areas covering over 158,200,000 inhabitants participated. In Kenya 11 sites in Nairobi County participated. Globally, 2,648 women with suspected/confirmed infection and all maternal deaths were recruited. During the study period, 50 maternal deaths were recorded, 30 of these were infection related. There were 296 maternal near miss. Overall, 35% of sepsis cases occurred during pregnancy,

13% during labour, 42% postpartum and 10% post abortion. Further statistical analysis is ongoing.

Significance: The development of identification criteria for possible severe maternal infection and maternal sepsis is expected to facilitate early identification, referral and timely management of maternal sepsis, and ultimately lead to reduction of maternal mortality due to sepsis.

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THE WHO HEAT-STABLE CARBETOCIN VERSUS OXYTOCIN TO PREVENT HEMORRHAGE AFTER VAGINAL BIRTH

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Introduction: Postpartum hemorrhage is the most common cause of maternal death. Oxytocin is the standard therapy for the prevention of postpartum hemorrhage, but it requires cold storage, which is not available in many countries. In a large trial, we compared a novel formulation of heat-stable carbetocin with oxytocin.

Methodology: We enrolled women across 23 sites in 10 countries in a randomized, double-blind, non-inferiority trial comparing intramuscular injections of heat-stable carbetocin (at a dose of 100 μg) with oxytocin (at a dose of 10 IU) administered immediately after vaginal birth. Both drugs were kept in cold storage (2 to 8°C) to maintain double-blinding. There were two primary outcomes: the proportion of women with blood loss of at least 500 ml or the use of additional uterotonic agents, and the proportion of women with blood loss of at least 1000 ml. The non-inferiority margins for the relative risks of these outcomes were 1.16 and 1.23, respectively.

Results: A total of 29,645 women underwent randomization. The frequency of blood loss of at least 500 ml or the use of additional uterotonic agents was 14.5% in the carbetocin group and 14.4% in the oxytocin group (relative risk, 1.01; 95% confidence interval [CI], 0.95 to 1.06), a finding that was consistent with non-inferiority. The frequency of blood loss of at least 1000 ml was 1.51% in the carbetocin group and 1.45% in the oxytocin group (relative risk, 1.04; 95% CI, 0.87 to 1.25), with the confidence interval crossing the margin of non-inferiority. The use of additional uterotonic agents, interventions to stop bleeding, and adverse effects did not differ significantly between the two groups.

Conclusion: Heat-stable carbetocin was non-inferior to oxytocin for the prevention of blood loss of at least 500 ml or the use of additional uterotonic agents. Non-inferiority was not shown for the outcome of blood loss of at least 1000 ml; low event rates for this outcome reduced the power of the trial.

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WHO MULTI-COUNTRY SURVEY ON ABORTION (WHOMCS-A): ABORTION-RELATED MORBIDITY IN THE FACILITIES

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Introduction: Globally, abortion accounts for 8% of maternal mortality. Capturing accurate information on abortion is a challenge especially in settings where abortion is legally restricted. The 2010, WHO Multi-Country survey(MCS) on Maternal and Newborn Health that collected data on over 300,000 women found a lot of under-reporting of abortion related morbidity and mortality.

Objectives: To assess the global burden/frequency, severity, management and outcomes of abortion-related complications; and to understand the conditions under which abortions took place.

Methodology: A multi-country, multi-site cross-sectional study with prospective data collection in health facilities in 30 countries across the WHO regions of Africa, Americas, Eastern Mediterranean,

Europe, South East Asia, and Western Pacific. Countries and facilities were identified through multi-stage sampling methodology. Data collection was both the facility and individual levels, involving review of medical records and exit surveys with eligible women using Audio Computer Assisted Self Interview (ACASI). All women presenting to the health facilities with signs and symptoms of abortion complications comprised the study population. Online data entry and management was performed on a web based data management system

Results: Locally, a total of 2,875 participants were recruited and 648 did the ACASI interviews. Of the total, 2,496 participants had abortion as the primary diagnosis, 331 ectopic pregnancies and 48 molar pregnancies. Statistical analysis is ongoing and the final results of this study are expected to be released on the last week of September 2018, during the WMCS-A Global PIs meeting to be held in Nairobi.

Conclusion: This survey will provide an opportunity to assess the burden, severity and management of abortion-related complications in a standardized way in facilities across 30 countries spread across the world.

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CENTRAL DIABETES INSIPIDUS IN PREGNANCY: A CLINICAL CASE REPORT

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Summary: Diabetes insipidus(DI), a condition where there is failure of the renal tubules to conserve water is a rare complication in pregnancy leading to symptoms of polyuria and polydipsia. Effective management prevents the detrimental effects of dehydration hypernatremia which can culminate in severe neurological effects including weakness, confusion and seizures. A multidisciplinary approach between the obstetrician and endocrinologist is required for effective management, reducing morbidity and mortality in both the fetus and mother. A 39year old G5P2+2 presented in her first trimester with a diagnosis of central DI for the past 5 years. Her history includes a term pregnancy and normal vaginal delivery complicated by post-partum haemorrhage (PPH) 11 years prior, followed by preterm caesarean delivery at 31 weeks' gestation due to severe preeclampsia 10 years ago. Since her diagnosis she suffered two first trimester miscarriages which were medically managed. She was put on 20ug of intranasal desmopressin and co-managed with an endocrinologist antenatally with monitoring of fluids, salt intake and serum electrolyte levels. She required 60ug of desmopressin by her third trimester. Careful planning of a repeat caesarean section resulted in the birth of a healthy infant. Neurogenic DI is caused by inadequate synthesis in the hypothalamus or release of Anti-Diuretic Hormone (ADH) from the posterior pituitary and may be a sequel of Sheehan's syndrome after the severe PPH. Desmopressin (DDAVP), an ADH analogue that is resistant to destruction by placental vasopressinase is the recommended treatment. Nephrogenic DI, occurring due to renal insensitivity to ADH, can prove difficult to treat as it is resistant to both DDVAP and vasopressin. The dose is titrated to achieve symptomatic relief of polyuria with a serum sodium target of 133-140mEq/L, with no adverse maternal or fetal effects reported. During caesarean section, desmopressin is administered intravenously and care taken to ensure that preoperative starvation does not culminate in hypernatremia, with monitoring biochemically and symptomatically. A literature review on the types of DI and their management is discussed. Up to 50% of women with pre-existing DI will deteriorate in pregnancy however careful antenatal monitoring of fluid balance, biochemical profile and symptoms will lead to an uncomplicated pregnancy.

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A SYSTEMATIC APPROACH TO THE MANAGEMENT OF EARLY ONSET FETAL GROWTH RESTRICTION

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Introduction: Management of early onset fetal growth restriction remains a major challenge to many obstetricians. There is need to balance between early interventions that may result in severe prematurity with significant long term sequelae and delayed interventions that could result in fetal death

Methodology: We present cases with a systematic approach relying on various Doppler studies and tests of fetal wellbeing to inform timing of delivery.

Conclusions: A systematic approach to the management of early onset fetal growth restriction optimizes perinatal outcomes.

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LOOKING BEYOND THE FOUR-CHAMBER VIEW AS PART OF BASIC ANOMALY SCAN

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Introduction: The classic approach to fetal cardiac examination has been the four-chamber view. However, this has since changed since this plane alone could miss a number of cardiac anomalies that may benefit from early neonatal care. This calls for need to conform to international standards and perform an extended view of the fetal heart including the outflow tract during the basic anomaly scan.

Methodology: We present a series of anomalies that could be easily missed on a four-chamber view and how this could impact on perinatal outcomes

Conclusions: A shift towards extended fetal cardiac examination will detect a significant proportion of cardiac defects that could benefit from neonatal interventions.

OPTIMISING CAESAREAN SECTION USE: THE LANCET SERIES 2018

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Introduction: Optimizing the use of caesarean section (CS) is of global concern. Underuse leads to maternal and perinatal mortality and morbidity. Conversely, overuse of CS has not shown benefits and can create harm. CS rates have increased over the past 30 years, without significant maternal or perinatal benefits. Hence, a global consultation and action plan is needed.

Methodology: Using extensive literature search, a three-part Lancet Series reviews the global epidemiology and disparities in CS, as well as the health effects for women and children, and lays out evidence-based interventions and actions to reduce unnecessary caesarean sections and to ensure CS when indicated.

Results: Estimates show 29·7 million (21·1%) births through CS in 2015, almost double the number in 2000 (16·0 million -12·1%). Global and regional increases are driven both by increasing proportions of births in health facilities, and increases in CS within health facilities. Within-country disparities are very large: five times more CS in the richest versus the poorest quintiles in low-income and middle-income countries, and high CS use among low obstetric risk births, especially among more educated women. Maternal mortality and maternal morbidity is higher after CS than after vaginal birth. Preterm birth is a risk if gestational age is not well known, and there is emerging evidence that babies born by CS have different hormonal, physical, bacterial, and medical exposures, that can subtly alter neonatal physiology. Clinical interventions, such as external cephalic version for breech delivery at term, vaginal breech delivery in appropriately selected women, and vaginal birth after CS, could reduce CS. Approaches such as labour companionship and

midwife-led care have been associated with higher proportions of physiological births, safer outcomes, and lower health-care costs in high-income countries. Educational interventions for women, training of health professionals, eliminating financial incentives for CS, and reducing fear of litigation is fundamental. Safe, private, welcoming, and adequately resourced facilities are needed.

Discussion and conclusions: At the country level, effective medical leadership is essential to ensure CS is used only when indicated. Interventions to reduce overuse must be multicomponent and locally tailored, addressing women's and health professionals' concerns, as well as health system and financial factors.

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PREVALENCE AND ANTENATAL CARE BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG PREGNANT WOMEN WHO HAVE UNDERGONE FEMALE GENITAL MUTILATION AT A RURAL HOSPITAL IN KENYA: A DESCRIPTIVE CROSS-SECTIONAL STUDY

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Introduction: Female genital mutilation (FGM) causes a wide range of obstetric complications with associated poor pregnancy outcomes. Antenatal care (ANC) provides an ideal opportunity for birth preparedness and complication readiness in women with FGM. We determined the prevalence of FGM and evaluate the level of birth preparedness and complication readiness given during antenatal care visits among women who have undergone FGM in one Kenyan hospital in Northern Kenya in 2015.

Methodology: Descriptive cross sectional at Garissa Level 5 Hospital, Kenya. Population: 311 postnatal mothers who had received antenatal care

Data variables: Socio demographic, clinical, FGM related health education provision at antenatal clinic, birth preparedness and complication readiness for those with FGM, future intent of FGM practices and receptivity of FGM related information provision

Analysis: Proportions are presented according to the ANC facility attended.

Results: The prevalence of FGM was 85%, only 4% (11/263) and 6% (15/263) of women with FGM were asked about type of FGM and examined for FGM status during their ANC visits respectively. Regarding FGM birth complications 11% (29/263) were informed about bleeding, episiotomy and perineal tears, 9% (24/263), 10% (26/263), 7% (19/263) and 5% (13/263) were informed about poor neonatal outcomes, need to deliver in an emergency obstetric care (EmOC) facility, de-infibulation and re-infibulation respectively. Only 7% (18/263) were informed about reduction in dyspareunia, reduction in dysmenorrhoea and increase in urine passage after delivery.

Conclusion: Antenatal care as a strategy for the prevention of obstetric complications of female genital mutilation is not being optimally utilized. This offers an opportunity for complication prevention and better pregnancy outcomes among this group.

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ARE CAESAREAN SECTIONS SAFER THAN VAGINAL DELIVERY? ASSESSING THE EFFECT OF MODE OF DELIVERY ON MATERNAL AND NEONATAL OUTCOMES IN SELECTED HEALTH FACILITIES IN MIGORI COUNTY, KENYA

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Introduction: Caesarean section deliveries have been increasing globally due perceived safety and the ever increasing indications. Despite its perceived safety, many complications of caesarean sections

such as those related to the procedure itself as well as anaesthesia have been well studied and have led to the push towards reducing its rate. However, few studies have been conducted especially in the less developed countries to compare the outcome of pregnancy between women delivered through caesarean section and those delivered vaginally. We therefore set out to conduct a longitudinal study to assess the effect of mode of delivery on Maternal and Neonatal Outcomes in Selected Health Facilities in Migori County.

Methodology: We assessed maternal and neonatal outcomes against the mode of delivery and matched adverse outcomes with the mode of delivery. The associations between mode of delivery and (i) in-hospital maternal mortality, (ii) stillbirth (FSB), and (iii) neonatal deaths were examined.

Results: We assessed 28,867 deliveries out of which 89.3% had normal vaginal delivery and 7.9% Caesarean section (CS). Other modes of delivery included 1.0% breech and 0.2% assisted vaginal delivery while 0.6% were born before arrival and 1.1% had missing mode of delivery status. Maternal and fetal indications for CS include prolonged/ obstructed labour (11.8%), CPD (9.6%) and previous CS (17.9%) among others. CS (OR 3.0 [1.99, 4.56] and assisted vaginal delivery (11.5 [2.68, 49.42], $p < 0.005$) were found to be associated with a marked increase in the risk of stillbirth. CS alone (3.3 [2.04, 5.29], was also found to be associated with an increased risk of pre-discharge neonatal deaths and maternal deaths (6.2 [3.13, 12.26], $p<0.0005$).

Conclusion: The caesarean section rate in Migori County is 8.9%. There is a significant increase in the maternal and infant pre-discharge adverse outcomes in deliveries conducted by caesarean section compared to those conducted vaginally.

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GYNAECOLOGIC ONCOLOGY

GESTATIONAL TROPHOBLASTIC DISEASE OUTCOMES: A 7-YEAR REVIEW AT MOI TEACHING AND REFERRAL HOSPITAL

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Introduction: Gestational trophoblastic disease (GTD) is an uncommon condition that encompasses a heterogeneous group of diseases (tumor or tumor-like conditions) characterized by abnormal growth and proliferation of the trophoblasts during or after a pregnancy. There is good outcome/prognosis with treatment but if untreated leads to high risk morbidity and mortality.

Objective: To determine outcomes of management patients presenting with GTD at Moi Teaching and Referral Hospital over a 7 years (2010/2017)

Methodology: A retrospective study done at MTRH-Cancer center using patients' charts. Data collected, processed and analyzed with relevant statistical packages.

Results: 90 women with GTD were reviewed. Mean age was 31.9 years, majority (63%) in 20-35yr group. Majority were Multiparous (75.6%). Abnormal vaginal bleeding occurred in 83.3% of which 4.4% had classical vesicles. In 25.6% had prior spontaneous abortion,71.1% normal pregnancy and only 3.3% had a history of prior GTD. Choriocarcinoma was the dominant lesion (22.3%), Hydatidiform mole 4.4% and invasive mole 4.4%. The highest number of metastases occurred in the lungs 62.4%, vaginal at 25%. Majority of the patients (57.8%) received both surgical and medical treatment. Up to 38.6 % were on combined chemotherapy agents, 37.1%, were on single agent and 24.3% on sequential regimen involving initially single agent then combined agents. Surgical complications occurred in 9.6% and the most common complication was vaginal bleeding. Complete cure of GTD during the study period was achieved in 82.2% of the patients. Bivariate analysis of GTD outcome showed significant association with marital status p =0.003, spontaneous abortion P=0.038, gravidity P= 0.013, WHO risk level p=0.003, metastases p=0.001, and Surgical treatment at p=0.000. Multivariate logistic regression was done to adjust for confounders showed that the low risk patients have more than four times higher odds of being cured, AOR: 4.44 (95% CL: 2.30, 9.10).

Conclusion: GTD mostly affects multipara in the second and third decades of life. Vaginal bleeding is the main presentation. Spontaneous abortion, WHO risk score, gravidity and presence of metastases are risk factors for GTD. The overall cure rate of GTD is favorable in MTRH, in keeping with the expected high survival rates elsewhere and patients with low WHO risk score have higher chances of getting cured.

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THERAPEUTIC CHALLENGES IN ADVANCED CERVICAL CARCINOMA WITH ASSOCIATED PELVIC KIDNEY

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Summary: Advanced cervical cancer rarely presents concurrently with an ectopic pelvic kidney. The presence of an ectopic pelvic kidney within the field of pelvic radiation presents a therapeutic dilemma: to transplant the pelvic kidney or to sacrifice it by irradiating the pelvis. The quagmire is further aggravated when deteriorating renal functions proscribe the use of chemotherapy. The present case is a 45-year-old patient who presented with advanced cervical cancer in the setting of a left pelvic kidney managed at the Kenyatta National Hospital.

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THE GROWING TERATOMA SYNDROME: AN INCREASINGLY COMMON RARE CLINICAL ENTITY

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Introduction: Growing teratoma syndrome is a rare clinical entity seen in young women during or after chemotherapy for malignant ovarian germ cell tumors. A benign condition that is curative with surgical resection alone.

Methodology: A 26-year-old Para 1+0, who had undergone a left ovarian cystectomy in 2013 was diagnosed with a Yolk sac tumor of the left ovary stage IIIc in 2017 for which she had cytoreduction surgery (unilateral salpingo-ophrectomy and infra-colic omentectomy). She then completed 4 cycles of adjuvant chemotherapy with bleomycin, etoposide and cisplatin. She returned 7 months later with increasing abdominal mass and pain. An abdominal CT scan showed a left adnexal mass, multiseptated and cystic measuring 6.7 x 4.0 cm. Her follow up alpha feto-protein levels consistently remained normal. She was counselled on the findings after which she had an elective total abdominal hysterectomy and right salpingo-ophrectomy. Intra-operatively, she had 3 liters of straw-colored ascetic fluid, a grossly normal uterus and a mass from right ovary measuring 10 x 12cm. Histology report: Cyst wall lined by tall columnar epithelial cells, no invasion seen, uterus and cervix were normal.

Discussion: Growing teratoma syndrome (GTS), referred to as chemotherapeutic retro-conversion based on the clinical accuracy, was first described in 1982 by Logothetis. The diagnosis is based on a three pronged criteria that includes (i) Enlarging or development of new masses despite chemotherapy, (ii) Normalization of serum markers and (iii) Presence of mature teratoma in the resected specimen. The pathogenesis is largely unknown but several theories have attempted to explain it with the main ones being the destruction of immature malignant cells leaving a mature benign teratoma as well as the alteration of cell kinetics of totipotent malignant cells transforming them into benign mature teratoma. The diagnosis of GTS does not increase the stage of the original tumor nor diminish prognosis. Being a benign disorder, most complications occur due to pressure effect of the growing mass.

Conclusion: With increasing publication of case reports, female ovarian GTS is becoming more recognized, reducing delay in diagnosis and with standardization of management with surgery alone.

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ANALYSIS OF HPV RESULTS INDICATING THE PROPORTION OF HIGH-RISK GENOTYPES AT A PRIVATE REFERRAL LAB IN KENYA

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Introduction: Cervical cancer, a major public health concern in Kenya, is the most common cause of cancer deaths in the country. It can easily be prevented and controlled through HPV vaccination and screening. It is now well established that persistent infection with a high-risk human papillomavirus (HR-HPV) is a prerequisite for the development of high-grade cervical neoplasia and cervical cancer, of which types 16 and 18 account for over 70% of cervical cancer cases in Kenya. All major guidelines now recommend HPV molecular testing over PAP smear and VIA for cervical cancer screening. The FDA approved Cobas 4800 test is able to detect and sub-type HPV-16, HPV-18 and 12 other HR- HPV genotypes. In this retrospective presentation, we present data in the HPV positive rates since we launched the Cobas 4800.

Methodology: Data on the HPV molecular tests done on the Cobas 4800 at Pathologists Lancet Kenya's main reference laboratory was extracted from our laboratory information system for the period from August, 2016 – November, 2018. The parameters

that were used for comparison included number of positive vs negatives for any of the 14 high risk HPV's and age of the females screened (where available).

Results: A total of 2709 samples were tested for HR-HPV. The mean age was 40 years with a median age of 39 years and an age range of 65 years (n= 2148). HR-HPV was detected in 861 (32%) of the cases, of which type 16 was 159 (6%), type 18 was 88 (3%) and non-16, non-18 was 614 (24%). The data compares to previous published results from Kenya which showed that women with normal cytology had type16 prevalent in 5.7% and type 18 prevalent in 3.4%.

Conclusion: The rate of HR-HPV type 16 and type 18 in this setting correlates to that reported in the literature. In this setting, non -16/18 HPV is the commonest HR-HPV seen in women undergoing molecular HPV testing for cervical cancer screening.

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METASTATIC GESTATIONAL CHORIOCARCINOMA IN AVIABLE NEAR-TERM PREGNANCY

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Summary: Gestational choriocarcinoma is a malignant trophoblastic neoplasm that commonly arises after any type of gestation but can also infrequently arise during a normal pregnancy. Choriocarcinoma coexisting with a viable pregnancy is a rather rare occurrence with an incidence of 1 per 160 000 pregnancies. A 25-year-old para 1+1 G3 at 32 weeks' gestation was admitted to our facility as a referral with a 2-week history of right sided hemiparesis predominantly of the upper limb, unexplained severe anemia unresponsive to multiple transfusions but no history of per vaginal bleeding. A brain MRI showed multiple intra-axial hyper-intense brain lesions on T2 weighted and FLAIR sequences with perilesional edema. With differential diagnoses of cerebral abscesses or metastatic brain tumor considered and while on treatment for the former the patient passed on prior to extensive evaluation for metastatic brain tumor. Autopsy and subsequent histopathology confirmed choriocarcinoma with extensive metastases to the brain, lungs, liver, kidneys, intestines and spleen with a coexisting normal intrauterine pregnancy. Although rare, choriocarcinoma in the setting of a viable intrauterine pregnancy can have variable and unusual presentations depending on the site of metastasis. This case highlights the need for a high index of suspicion to facilitate early diagnosis and prompt treatment for this often curable but life threatening disease.

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SUBCUTANEOUS METASTASIS OF CANCER OF THE ENDOMETRIUM AT A TERTIARY FACILITY IN KENYA: A CASE REPORT

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Summary: Endometrial cancer is the third most common gynecological cancer after cancer of the cervix and ovary in Kenya. It is the most common in the United States. The most common endometrial cancer type is Endometrioid adenocarcinoma. It is mostly confined to the uterus and less aggressive. We present a case of a 45-year-old female, Para 5 + 0 who presented to the gynaeoncology clinic with a swelling on the pretibial surface of the right leg for 6 months, 2months after Radical Hysterectomy. The swelling was progressively increasing in size. The Swelling on the right leg was warm, shiny and tender. She has been on follow up at the gynaeoncology clinic where she was referred for chemotherapy after she had undergone Radical hysterectomy for Cancer of Endometrium in May 2017. Histology results of the specimen taken during surgery showed endometrial Ca stage 2, grade 3; after which she was referred for chemotherapy of which she received 6 cycles of carboplatin and Paclitaxel. Biopsy of the swelling

of the leg showed endometrioid adenocarcinoma. Subcutaneous metastasis are unusual sites of metastasis for endometrial cancer.

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FACTORS ASSOCIATED WITH DETECTION OFONCOGENIC HUMAN PAPILLOMAVIRUS IN HUMAN IMMUNODEFICIENCY VIRUS-INFECTED AND -UNINFECTED KENYAN WOMEN

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Introduction: Cervical cancer is one of the most common malignancies in women living in sub-Saharan African countries. Oncogenic types of human papillomaviruses (HPV) are the causative agents of cervical cancer. HIV-infected women have a higher incidence of cervical cancer, but the full impact of HIV on oncogenic HPV infection and persistence is not well understood. In addition, the associations of anti-retroviral therapy (ART), biological factors, and behavioral factors with oncogenic HPV detection have not been fully examined among African women living with HIV.

Methodology: Women without cervical dysplasia were enrolled in a longitudinal cohort study at MTRH. Data from study enrollment are presented in this report as a cross-sectional analysis. Demographic and behavioral data was collected, and HPV typing was performed on cervical swabs. HIV-uninfected women (n=105) and HIV-infected women (n=115) were compared on their demographic and behavioral characteristics using t-tests, Chi-square tests, Wilcoxon sum rank test or Fisher's exact test, and on HPV detection using logistic regression models or negative binomial models adjusted for demographic and behavioral characteristics.

Results: HIV-infected women were older, had more lifetime sexual partners, were less likely to be married, and were more likely to regularly use condoms during sexual intercourse, and were more likely to have detection of HPV 16, other oncogenic HPV types, and multiple oncogenic HPV types. In addition to HIV infection, regression models showed that more lifetime sexual partners was associated with a higher number of oncogenic HPV types detected (incidence rate ratio 1.007, 95%CI 1.007 - 1.012) and greater travel distance to the clinic were associated with increased HPV detection; older age (aOR for HPV 16 detection: 0.871, 95%CI 0.764 - 0.993) and more lifetime pregnancies (aOR for detection of oncogenic HPV types: 0.706, 95%CI, 0.565 - 0.883) were associated with reduced detection.

Conclusion: HIV infection, more lifetime sexual partners and greater travel distance to a health-care facility were associated with a higher risk of oncogenic HPV detection in Kenyan women, in spite of ART use in those who were HIV-infected.

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HEALTH POLICY AND IMPLEMENTATON SCIENCE

LEADERSHIP AND MANAGEMENT OF HEALTH SYSTEMS: WHAT IS OUR ROLE?

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The crucial role of leadership and governance in health is anchored in the WHO building blocks of health systems. It requires data collection, analysis and synthesis and communication & use of that information. Management is the art of inspiring the followers to perform their duties willingly, competently and enthusiastically without coercion. The levels of leadership in the health sector are as diverse as the various cadres. In order to optimize health outcomes, multiple management skills are required, ranging from technical, human and conceptual skills. Ideally, one should strive to be a leader, and not merely a boss. In order to succeed, the leader must first understand himself, epitomize integrity and develop emotional intelligence if he is to successfully lead others. The ideal scenario is to be "managers that lead" by empowering the health system to successfully navigate the complex scenario of our continuously evolving society. Ultimately, in order to effect transformational leadership, integrity, objectivity, effective conflict resolution, accountability, customer focus and management are the drivers necessary for success in the increasingly complex and volatile environment of our continually evolving health sector and society.

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CHAMAS FOR CHANGE: AN INTEGRATED COMMUNITY-BASED STRATEGY OF PEER SUPPORT IN PREGNANCY AND INFANCY IN KENYA

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Introduction: Globally, women and children face pregnancy and infancy-related challenges without appropriate social, financial or governmental support. To address this problem, the Academic Model Providing Access to Healthcare (AMPATH) and Kenyan Government launched Chama cha MamaToto, a Community Health Volunteer (CHV) operated peer-support model empowering women during early pregnancy. Central to this approach is the holistic integration of health, social and financial literacy to improve Maternal, Newborn and Child Health (MNCH) outcomes. 'Chamas' have a longstanding cultural presence in East Africa and serve as networks for social fundraising and community building. Using this cultural script, chamas offer a contextually appropriate approach to addressing challenges faced by rural Kenyan families. In addition to learning key health and social topics, chama women engage in a microfinance program that enables members to sustainably finance healthy practices.

Methodology: In 2012, we conducted a prospective cohort study in Bunyala Sub-County to evaluate the impact, acceptability and sustainability of our program. Government-trained CHVs recruited over 400 pregnant women to 16 chamas. Upon joining, women pledged to participate in biweekly meetings for one year and uphold self-selected goals of their chama, such as to: support each other, attend prenatal care visits, deliver in a health facility, exclusively breastfeed for 6 months, adopt long-term family planning, save money, and engage in entrepreneurship. We compared data from this cohort to a control group of women not participating in chamas, matched for age, parity, and prenatal care location.

Results: Analyses from our sample of 222 chama women and 115 controls revealed chama women were 73% more likely to attend four prenatal visits (64% vs 37%), 67% more likely to give birth in a health facility (84% vs 50%), 75% more likely to exclusively breastfeed to 6 months (82% vs 47%), and 98% more likely to receive a CHV home-visit within 48 hours of birth (76% vs 38%) as compared to controls. All results statistically significant.

Discussion: Participation in chamas may increase health services uptake during pregnancy and infancy. This intervention demonstrates potential to achieve long-term population-level MNCH benefits by empowering women with peer and financial support to independently sustain change.

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EVALUATING THE IMPACT OF CHAMAS FOR CHANGE ON MATERNAL, NEWBORN AND CHILD HEALTH OUTCOMES IN WESTERN KENYA

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Introduction: Chama cha MamaToto (Chamas) is a Community Health Volunteer (CHV) operated peer-support program, co-founded by the Academic Model Providing Access to Healthcare (AMPATH) and the Kenyan Ministry of Health (MOH) that empowers women in rural Western Kenya with health, social and microfinance knowledge. In 2012, a prospective cohort study revealed chamas not only demonstrably increase health services uptake and positive health behaviors, but also are financially sustainable. Our objectives are to validate chamas' causal impact on improving population-level MNCH outcomes, and to demonstrate the program's efficacy and replicability as a service-delivery platform.

Methodology: A cluster randomized controlled trial is ongoing to investigate chamas' impact. In 2017, CHVs recruited pregnant women from health facilities across 77 active community units in Trans Nzoia county to participate in chamas or receive the MOH standard of care (control). Women in chamas participate in biweekly CHV-led health, social and microfinance lessons for 12 months. We aimed to recruit 760 mother-infant pairs to each arm to sufficiently power our study (1 –? > 0.80 = 0.05). We will employ a mixed-methods analysis to evaluate the program's acceptability sustainability and impact. Our primary outcome is attending at least four prenatal care visits. Secondary outcomes include rates of: facility delivery, CHV home visits within 48 hours of delivery, exclusive breastfeeding, female empowerment, parental stress, maternal and infant morbidity/mortality, and cost-effectiveness. We will use paired T-tests and multinomial logistic regression to analyze impact and generate predictive models.

Results: Baseline data revealed most participants, across intervention (n=1603) and control (n=1320) arms, are between 18-24, married, multiparous, and not currently enrolled in the National Hospital Insurance Fund. Among previously pregnant women (n=1852), 56.3% and 37.9% report attending four or more ANC visits and delivering in a facility, and 62.7% report exclusively breastfeeding for at least six months. Sample sizes and demographic variables are well-matched.

Next Steps: If we validate results in 2019, next steps include: replicating a pilot in a new region, scaling-up chamas throughout the AMPATH catchment, formalizing a platform to provide technical support to implementing partners, and facilitating open-source sharing of our service delivery model.

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COMMUNITY-BASED PROVISION OF URINE PREGNANCY TESTS AS LINKAGE TO REPRODUCTIVE HEALTH SERVICES

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Introduction: Proven interventions to prevent maternal mortality include comprehensive antenatal care (ANC) and family planning (FP) care, yet only 20% of women attend ANC in the first trimester. Community health volunteers (CHVs) providing urine pregnancy tests (UPT) and post-test counseling and referral has been shown to be effective in

improving linkages to ANC and FP services. Our pilot study aims to determine whether no-cost CHV provision of UPTs and CHV or phone-based post-test counseling and referral is a feasible and acceptable method of enhancing access to ANC/FP. care. We will present the qualitative data that informed the planning and implementation of this program.

Methodology: Focus group discussions (FGDs) were conducted in Kiswahili among CHVs and women in Turbo and Bunyala sub-counties, audio-recorded, and transcribed into English. A modified DEPICT analysis strategy was used to develop themes.

Results: 32 CHVs and 32 women participated in four FGDs. Women were age 20-51 years, mostly married (78%), with at least one child (97%), and at least a primary school education (91%). CHVs included 26 women and 6 men, age 28-85 years. There was congruence in themes between the two groups. Both groups reported that CHV-provided UPTs would save women time and money and would facilitate linkages to care. This program was seen as a means to prevent abortion by diverting women considering abortion to further counselling and ANC. Both groups identified that significant stigma exists for specific groups of pregnant women, especially adolescents. Both groups saw a CHV-provided UPT as an opportunity for male engagement, but also with potential negative relationship implications. Women expressed interest in counselling from CHVs due to their familiarity, as well as phone-based counselling due to concerns around confidentiality.

Conclusions: This data suggests that CHVs and women are interested in this program. Issues around care of adolescents, those considering abortion, and male involvement need to be carefully considered to safely and sensitively operationalize this program. Next steps included FGDs with men in the community, a participatory design process, CHV training, and program implementation. Endpoint data and feedback will be correlated with initial FGD data to plan for potential scale-up.

BUILDING NATIONAL CAPACITIES FOR MPDSR USING THE MATERNAL AND PERINATAL DYAD: THE PERINATAL PROBLEM IDENTIFICATION PROGRAM 3 (PPIP3)

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Introduction: Identifying the problem, collection of data, analyzing and generating evidence important for reduction of mortality amongst mothers and neonates! Maternal and perinatal disease surveillance and response(MPDSR) has been conducted using evolving capture and analytical tools. Unfortunately, despite progress made in addressing maternal deaths the perinatal deaths review progress has been slower. An integrated tool, the PPIP3 captures maternal and perinatal processes and final causes of demise; failures in clinical and patient factors and outlines drawbacks in the health system. In addition, it in cooperates the ICD 10 Codes and analytical permutations advanced from MaMMAS and DHIS2.

Objective: Capacity building amongst health stewards in PPIP3 an MPDSR tool.

Methodology: Capacity through didactic and practical sessions performed in – country groups that simulated: Identifying the problem with death cases; assessing the cases, uploading the data and analyzing the data with display either in tables or in graphic format. Entry of facilities as a data set or data pyramids abstracted from case data sheets. Samples of various permutations of data sets and pyramids were entered imported or exported and analyzed with outputs such as proportions, maternal and perinatal performance indicators, trend analysis, primary and secondary causes of death and their analysis, cost implications, identifying avoidable factors and providing summative evaluation of plausible interventions and strategies in response.

Results: Lessons included: assessment of cases with the need to optimize comprehensive documentation; recommendation that death reviews be undertaken soon after the event in the unit. Entry of data using the ICD 10 coding for standardization. Analysis with interpretation of results and subsequent messages relayed on quality of care and priorities especially where the deaths could have been prevented. The need to maintain confidentiality in these processes. Critical was maintaining the maternal and perinatal dyad in the evaluation of their health outcomes.

Conclusion: PPIP3 addresses the maternal and perinatal dyad. Accords an opportunity utilizing evidence to improve response towards quality and safety in providing care; strengthening of the health system towards optimizing favorable maternal and neonatal outcomes; positive patient experience and accountability ultimately impacting on Vision 2030 and SDG's.

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BREAKING THE MINISTERIAL DEPARTMENT SILOS THROUGH AN INNOVATIVE SECTOR WIDE APPROACH TO ADDRESS SRHR CHALLENGES IN KAJIADO COUNTY

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Introduction: Teenage pregnancies, maternal and perinatal mortality are alarmingly high in Kajiado County. Programs associated with communicable and non-communicable diseases an inter-sector approach has been embraced, but a similar approach has been slower with sexual and Reproductive health issues. Factors aggravating obtaining solutions include the complex nature of these problems; lack of resources; social fragmentation; weak accountability to communities or their active engagement and failure to acknowledge the changing society over time. In addition, the county has unique problems associated with poor access and coverage, inequities, cultural drawbacks and weak public; health and research systems. This project aimed to address inter-ministerial departments capacity in leadership and advocacy utilizing evidence for improved SRHR outcomes.

Methodology: Independent meetings were conducted with Ministry of Health, Ministry of Education and Ministry of Youth, Sports, Gender and social services in Kajiado County where it became increasingly apparent that silo approaches; weak evidence generation; hardly any sharing of knowledge products or advocacy were being undertaken to address SRHR outcomes. An inaugural collaborative workshop between the three Ministries was undertaken to build capacity on leadership and advocacy utilizing evidence for improving SRHR outcomes. During the workshop areas covered included: understanding performance indicators in SRHR and the current situation in Kajiado County; can an inter-sector approach improve SRHR outcomes; searching for evidence at county, national and internationally; the purpose of monitoring and evaluating of key performance indicators; identifying the problems/ gap in the public , health and research systems; conducting root cause analysis and interrogating PESTEL; hierarchy of evidence ; creating evidence based knowledge products; dissemination platforms; etiquette and communication skills ; planning and conducting advocacy based on evidence.

Results: Insights that each sector brought a wealth of knowledge and experience but also gave an opportunity for a holistic perspective on community needs. There is need to have regularly shared forums, generate contextualized knowledge products and further planning to inform evidence based oversight, policies, advocacy and resource allocation.

Conclusion: An inter-ministerial caucus was formed to strategize provision of leadership and advocacy utilizing an evidence based partnership for improving SRHR outcomes in Kajiado County.

AUDIT VS RESEARCH AND CLINICAL GOVERNANCE-LESSONS FROM ACROSS OCEANS

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Introduction: Clinical audit is defined as a quality improvements process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria. The audit process is continuous and goes through the clinical audit cycle that starts with a question going through the data collection process, dissemination of findings, recommendations and more important, the re-audit process.

There are differences between research and audits as well as what is historically considered as maternal mortality and morbidity audits now essentially known as case reviews. Research involves discovering the right things to do, while audits ensure we do the right things.

Both research and audit can be rigorous dependent on the protocols and the processes and both can produce flawed results that do not lead to improvements of clinical practice. Audits do not necessarily require ethical approval but must still be conducted in ethical manner. They can be conducted at national as well as local levels and they can be published.

We can learn from systems already established in other parts of the world without reinventing the wheel. How are we looking at evidence, how does this translate and how do we ensure it does actually translate to clinical practice? Where and how do we do conduct these? Who runs the audits? What is the role of clinical audits? Multiple questions arise regrading this topic all around the world. In the UK the practice of clinical audit is still a prominent topic and its story goes back to 1989. Prior to this audit activity was isolated and infrequent. It has since grown and we can take lessons from this.

Objectives:

1. To share and shed light to the conduct of Clinical audits in the UK.
2. To provide examples of audits done at a facility in UK and discuss the roles of junior doctors and trainees in the conduct of audits.
3. To share examples of tools used in clinical audits.

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ANALYSIS OF HIGH VAGINAL SWAB RESULTS FOR BACTERIAL VAGINOSIS AND BACTERIAL CULTURE SEEN AT A PRIVATE REFERRAL LABORATORY: A TWO-YEAR EXPERIENCE

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Introduction: The most common cause of vaginal infection is vulvovaginal candidiasis and bacterial vaginosis accounting for estimated 17%-39% and 22%-50% of symptomatic women respectively. In this study we sought to analyze and characterize the etiological findings in HVS, the antibiotic sensitivity profiles for bacteria causing vaginitis and to describe microbiological findings for bacterial vaginosis.

Methodology: This was a retrospective study done for period of two years between January 2017 and November 2018 incorporating results from all HVS samples as extracted from our LIS. Data was extracted for microscopy and culture including microscopy for presence of clue cells using the Nugent Scoring System] and bacterial culture with sensitivity determined by the Kirby-Bauer Method; as well as microscopy and culture from Sabouraud Dextrose and sub-culture on germ tube for candidiasis;

Results: A total of 1619 HVS results were retrieved for the two-year period. The mean age of the patients tested was 32.8 years with a median age of 31 years and an age range of 7 to 83 years. Positive microbiological result was found in 1571(97%) of

all the cases. Bacterial vaginosis (BV) NSS scoring was as follows: 349(26.62%) had 0-3, 767(58.5%) had 4-6, 182(13%) had 7-8 and 8(0.6%) had >9. The microorganisms isolated on culture were as follows: 1009(64.2%) Candida albicans, 416(26.8%) Candida species, 61(3.9%) E. coli, 57(3.6%) Group B Streptococcus, 11(0.7%) K. pneumonia. Bacteria isolated were considered significant if the white cell count was high and Kirby- Bauer disc sensitivity test was done. E. coli isolates had 44.4% resistant on Amoxicillin, 33.3% resistant on Co-Trimoxazole and 22.2% resistant on Cefepime, Ceftriaxone, Ciprofloxacin and Amox-clavulinic drugs. The Escherichia coli isolates were all sensitive to Amikacin, Doripenem and Meropenem. Group B streptococcus was sensitive to Vancomycin and Penicillin but 50% resistant to Tetracycline, 27% to Azithromycin and 10% to both Clindamycin and Levofloxacin.

Conclusion: Candida is the commonest microorganism isolate on HVS while E. coli, group B strep and Klebsiella are the most frequent bacterial isolates. The majority of women with BV on HVS have a NSS of 4-6. Resistance to penicillin-based and other B-lactamase antibiotics is fairly common.

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QUALITY AND AFFORDABILITY OF MATERNAL, NEW-BORN AND CHILD HEALTH SERVICES

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Introduction: Kenya has unacceptably high maternal and new-born mortality at 510/100,000 and 22/1000 live births respectively. Health managers lack actionable, timely data to inform decisions that would contribute to improved health outcomes. This is despite regular supportive supervision as tools are not designed to optimally derive information and package it as useful insights for managers.

Objectives:

1. To determine the acceptability of a comprehensive digital tool for supervision of MNH services in Embakasi, Nairobi
2. To determine the ability of the tool to provide timely and actionable data for decision making
3. To determine whether the use of this data results in improved quality of MNH services and outcomes

The study was conducted in 9 Health facilities in Embakasi sub-county, Nairobi County. A supervision mobile tool was developed in the quarter of October to December 2017.

Methodology: A cross-sectional study was conducted in Embakasi sub county, Nairobi County using a mixed-methods approach that included both qualitative and quantitative data.

Key informant interviews (KII) were conducted at Embakasi sub-county for Health Management Team (SCHMT) who play a critical role in supervision and oversight of MNH services and resource allocation. It explored current supervision practices and their experience on supervising MNH services and other systems. A recommendation of sighting various documents and tools to confirm the verbal responses was brought on board. A questionnaire was administered to Health Facility managers to assess availability and quality of MNH services.

Results: Most facilities operated the maternal and child health (MCH) department daily, while others did not like, (Komarock and Reinha Rosary). Services like post-abortal care were only provided in 4 out of 9 facilities. Few deliveries were recorded and some facilities also recorded none (Embakasi HC) in the quarter before assessment. Some indicators were recorded as poor performing and only few facilities were providing like equipment and also health workers were not adequately trained on MNH-related courses like (AMTSL).

Conclusion: There is need to develop a supervision tool.

ENGAGING VOLUNTEER NURSES TO SUPPORT PROVISION OF MATERNAL, NEWBORN AND CHILD HEALTH SERVICES IN DIFFICULT-TO-STAFF HEALTH FACILITIES IN BARINGO COUNTY

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Introduction: Like many countries in sub-Saharan Africa, Kenya continues to experience a health workforce shortage. Baringo County is among the hardest hit by understaffed health facilities. The county's Department of Health has 1,244 staff in total, which is 20% less than targeted, across all cadres of health workers. Most facilities are manned by one staff, making provision of 24/7 maternity services a challenge. As a result, staff face challenges providing services to all women who need them, and in particular, women often have limited options for delivery outside of normal clinic hours. To mitigate this situation, the Afya Uzazi Program and the DOH engaged existing, but unemployed, trained nurses to support maternal, newborn and child health services in selected health facilities on voluntary basis.

Objective: To increase the uptake of skilled birth deliveries, 4th antenatal care (ANC) visits and postnatal care (PNC) services in selected facilities in Baringo County.

Methodology: In collaboration with Baringo County Health Management Team, Afya Uzazi Program used the Workload Indicators for Staff Needs and estimated number deliveries in each facility to identify 15 health facilities with health staff shortages. The team also identified 15 unemployed nurses to support service delivery in the selected facilities on a volunteer basis, one nurse per facility based on the workload. To measure the effect of adding volunteer nurses to the facility, the nurses completed daily activity reporting and performance monitoring forms and data was aggregated on monthly basis. The program monitored key performance indicators including: 4th ANC visits, facility-based deliveries, and PNC within the first 2-3 days. Additionally, the program conducted monthly supportive supervision and organized feedback sessions with the volunteer nurses, during which their overall performance was relayed, and the volunteer nurses shared their experiences.

Results: There was increased in all three indicators during the four-month period of implementation (June-September 2018) compared to the previous four-month period (February-May 2018). Uptake of 4th ANC services increased by 30%, skilled deliveries by 27%, and PNC services by 42%.

Conclusion: Engaging nurses to support health service delivery in low-staffed facilities has the potential to increase uptake of healthcare services.

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QUALITY IMPROVEMENT COLLABORATIVE: TOWARDS INCREASED SKILLED BIRTH ATTENDANCE IN MOGOTIO SUB-COUNTY, BARINGO COUNTY

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Introduction: Afya Uzazi Program implements a quality improvement (QI) initiative that aims to improve the quality of health services through work improvement teams (WITs). A formative assessment conducted by Afya Uzazi Program established that women living in Mogotio sub-county prefer delivering their babies with the assistance of traditional birth attendants (TBAs) because of their availability and respectful care. Poor service delivery coupled by poor staff attitude at the health facilities was identified as some of the major reasons leading to high utilization of the traditional birth attendants. The QI initiative aimed at averting the situation and increasing skilled birth deliveries within the sub-county.

Objective: To increase uptake of skilled delivery in the five selected facilities in Mogotio Sub-county by 150% over a 6-month period.

Methodology: In collaboration with the sub-county Health Management team the program formed WITs and trained them on QI principles using the Leadership Development Program Plus guide. The roles of WITs were to analyze their own systems and processes of care, identify and test changes in the organization of care to improve quality and efficiency, and measure the results of those changes. Of the 11 health facilities offering delivery services in Mogotio sub-county, the program identified five facilities with very few deliveries. These facilities reported only 12 combined deliveries in March 2018., and were therefore targeted for WITs support, implementing an intervention package that included: community mobilization through the community units; engagement of relevant stakeholders; refresher training of health staff on Emergency Obstetric and Neonatal Care; enhanced monthly supportive supervision; and staff follow-up with mothers coming for their 4th antenatal care service to encourage delivery at the facility. Data on delivery was collected every month from the five facilities and validated during monthly coaching visits.

Results: The 5 facilities that implemented WITs achieved up to 43 deliveries over the six-month period which surpassed their target of 32 deliveries.

Conclusion: The increase in women delivering in the 5 facilities targeted with WITs during the 6 months of intervention is encouraging. A more thorough evaluation of the approach to determine its effectiveness to increase facility-based delivery is warranted.

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TRANSLATING LINDA MAMA INITIATIVE TO IMPROVED SKILLED BIRTH ATTENDANCE THROUGH RESPECTFUL MATERNITY CARE AT KERINGET SUB-COUNTY HOSPITAL, NAKURU COUNTY

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Introduction: Kenya, like many other developing countries, experience the burden of maternal deaths. The country's maternal mortality ratio (MMR) of 362 deaths per100,000 live births (2007-2014) is attributed to the low rate of skilled birth attendance (SBA). In 2017, the SBA coverage for Kuresoi South sub county was only 40.8%, attributed in part to cost of seeking and utilizing maternity services. A baseline assessment conducted by Afya Uzazi Program at Keringet sub county Hospital established gaps in quality of care at the maternity section due to infrastructure challenges. One strategy to address maternal mortality is to increase the proportion of skilled births by encouraging pregnant women to enroll into NHIF's Linda Mama initiative.

Objective: To increase uptake of SBA and improve quality of care at the maternity section of Keringet Sub-County Hospital.

Methodology: Afya Uzazi Program supported training of healthcare workers on respectful maternity care in order to address the elements of disrespect and abuse which included lack of privacy and confidentiality. The project further facilitated facility linkage to Linda Mama initiative. Funds reimbursed through Linda Mama were used to address infrastructure gaps to ensure enhanced staff motivation and clients' privacy. The program supported availability of reporting tools, OJT and mentorship of partograph use in management of labour. Maternal and perinatal deaths surveillance reviews and response audits were supported as quality assurance/quality improvement measures. Data from DHIS 2 was analyzed to determine monthly coverage of skilled deliveries at the facility. Patrograph data was analyzed from 10 randomly selected cases per month.

Results: SBA coverage increased from 28% (Dec 2017-May 2018) to 46% (Jun-Nov 2018). Quality of care also improved as correct usage of partograph in labour management rose from 53% to 90% in the same period. In addition, staff motivation was enhanced and clients reported satisfaction with quality of maternity services they received.

Conclusion: Utilizing Linda Mama as a supplementary model of health financing to improve health infrastructure, enhance staff motivation and client satisfaction, combined with other Afya Uzazi-supported QI measures was associated with improved quality of service delivery. The sum effect of these combined interventions could lead to increased SBA coverage.

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