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KENYA OBSTETRICAL AND GYNAECOLOGICAL SOCIETY 49TH ANNUAL SCIENTIFIC CONFERENCE ABSTRACTS

Contents

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Editorial

The focus of reproductive health research and innovations at the close of the first quarter of the 21st Century in Kenya

Paul Kamau Koigi

Welcome to the 49th Annual Kenya Obstetrical and Gynaecological Society (KOGS) Annual Scientific Congress (ASC) that is being held at the Sarova Whitesands Hotel, Mombasa from the 19th to the 21st February, 2025. It is indeed an auspicious occasion in the realm of Reproductive Health (RH), as this KOGS ASC marks the end of the first quarter of the 21st century.

Numerous historical gains have been made in our RH indicators in Kenya. For instance, there have been gains made in enhancing access to skilled birth attendance [1]; improving the contraceptive prevalence rate [2]; enhancing access to gynaecological malignancy prevention and care services [3]; strengthening local, regional and global collaborations [4]; reducing abortion-related morbidity and mortality through objective structured training in Value Clarification and Attitude Transformation of healthcare providers; enhancing the competency of Obstetricians and Gynaecologists in the use of Point-of-care Ultrasound (POCUS) [5]; and enhanced focus on advocacy, social media education and private-public partnerships, among many other initiatives. We have also been able to survive the challenges that were instigated by the Covid-19 pandemic [6] and the perennial challenge of paucity of resources, and we have sought mechanisms to enhance our collective national reproductive health resilience. The key lesson that is evident is the fact that it is only possible to optimize health indicators via equitable multi-stakeholder engagement.

In the KOGS 2025 ASC, based on the submissions, the main foci of interest are Maternal-Fetal Medicine, Benign Gynaecology and Reproductive Endocrinology and Fertility. This implies that there is a growing interest in enabling more couples in Kenya to attain motherhood and to optimize the safety of their journey of pregnancy. There is also a rising proportion of the submissions that have centred on the intricacies of advocacy, the challenges associated with research methodology and the application of Artificial Intelligence in the RH space. These are indicators in the diversification of the avenues of pursuing RH sustainability and resilience. These are bound to become vital considerations in the present and in the future in relation to enhancing the processes and the progress of realizing RH gains and optimizing our capacity to develop the resilience necessarily to sustain the realized gains.

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References:

1.Lang'at E, Mwanri L, Temmerman M. Effects of implementing free maternity service policy in Kenya: An interrupted time series analysis. BMC Health Serv Res [Internet]. 2019 Sep 6 [cited 2020 Jun 10];19(1):645. Available from: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-4462-x

2.Moon TD, Okoth V, Starnes JR, Opiyo E, Ressler DJ, Rogers A. Determinants of modern contraceptive prevalence and unplanned pregnancies in Migori County , Kenya : results of a cross-sectional household survey Study design. 2021;25(February):29–40.

3.Mwaliko E, Hal G Van, Bastiaens H, Dongen S Van, Gichangi P, Otsyula B, et al. Early detection of cervical cancer in western Kenya : determinants of healthcare providers performing a gynaecological examination for abnormal vaginal discharge or bleeding. 2021;1–11.

4.Elliott M, Odhiambo CJ. Global North and Global South Collaboration in Training to achieve 'Good Health and Wellbeing'. In: Afolabi T, Hakib AK, Smith B, editors. Applied Theatre and the Sustainable Development Goals [Internet]. 1st Editio. Routledge; 2024. Available from: https://www.taylorfrancis.com/chapters/edit/10.4324/9781003334842-10/global-north-global-south-collaboration-

training-achieve-good-health-wellbeing-matthew-elliott-odhiambo

5.Onsongo LN, Bett SC, Gachuiri GW, Njuguna SN, Masika JW, Otieno GO, et al. Perspectives of health care providers on obstetric point-of-care ultrasound in lower-level health facilities in Kenya. Midwifery [Internet]. 2025;140(August 2024):104196. Available from: https://doi.org/10.1016/j.midw.2024.104196

6.How COVID-19 pandemic has affected the healthcare system in Kenya: The Standard [Internet]. [cited 2020 Jun 9]. Available from: https://www.standardmedia.co.ke/health/article/2001369644/how-covid-19-pandemic-has-affected-the-healthcare-system-in-kenya.

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Plenary Abstracts

Burden of disease in Rhesus alloimmunization: A case report

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Background: Rhesus (Rh) alloimmunization occurs when an Rh-negative mother develops antibodies against the Rh-positive red blood cells of her Rh-positive fetus. This condition is commonly triggered by blood group incompatibility during pregnancy or childbirth when maternal and fetal blood mix. The primary consequence of Rh alloimmunization is its impact on subsequent pregnancies, where increasing antibody titers can lead to progressively severe hemolytic disease of the newborn (HDN). This case report describes an unusual presentation of Rh autoimmunity with extraordinarily high antibody titers, which may represent a novel immunological response pattern with important implications for understanding and managing maternal-fetal blood group incompatibility.

Case presentation: A 28-year-old female (P3+0, G4) with one living child presented with a history of two term pregnancy losses due to HDN at 13 weeks + 4 days gestational age. Her indirect Coombs test titres were significantly elevated (Table 1). The patient is Rh-negative and has experienced two previous pregnancies complicated by HDN, despite the fact that Anti-D prophylaxis was not administered in those cases.

Table 1: Indirect coombs test titres

Year	Test Provider	Titres
2023	Lancet South Africa	1:252
2023	Aga Khan University Hospital	1:4000
2024 – January	Netherlands	1:32,000
2024 – March	Pathcare	1:64

Her obstetric history was as follows 2012: Term pregnancy, low birth weight infant (LFI), spontaneous vaginal delivery (SVD), 3.6 kg, anti-D administered; 2022: Term pregnancy, intrauterine fetal demise (IUFD), cesarean section (C/S), placental abruption, anti-D not administered; and 2023: Term pregnancy, elective C/S, hemolytic disease of the newborn, neonate died on day 4, anti-D not administered. Throughout her current pregnancy, fetal anatomy was normal, and the growth trajectory was acceptable. On ultrasound Doppler, the Middle Cerebral Artery peak systolic velocity (MCA-PSV) during follow-up was as in table below:

Table 2: Middle cerebral artery

Gestational age (weeks)	16	19	26	28	30	34	36	37	Birth
MCA – PSV (cm/s)	23.13	22.60	44.64	59.23	52.72	52.60	59.90	69.10	-
MoM	1.1	0.9	1.3	1.6	1.3	1.1	1.1	1.2	-
Estimated Hb	–	12.4	8.1	6.2	10.6	14.5	14.0	13.2	7.3

Her hemoglobin was 13.9 g/L, blood Group: A-negative, HIV/VDRL/HBsAg: Negative, RBS: 3.9 mmol/dL, and urinalysis routine and normal. The birth plan included an elective cesarean section at 38 weeks. The outcome was a term, C/S delivery of a low birth weight infant (2910 g), with an Apgar score of 9/10/10, who was jaundiced at birth. Management involved a double exchange transfusion, phototherapy, and intravenous immunoglobulin (IVIG) therapy (three doses).

Conclusion: Red blood cell antibodies, particularly in the context of Rh alloimmunization, present a significant disease

burden for both the fetus and neonate. The prevention of alloimmunization through the prudent use of Anti-D prophylaxis remains a critical strategy in managing maternal-fetal blood group incompatibility.

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COMOC-MG: An innovative surgical technique to combat postpartum hemorrhage

Despite advancements in obstetric emergency care and maternal health interventions, postpartum hemorrhage (PPH) remains the leading cause of maternal morbidity and mortality in low- and middle-income countries. Common causes of PPH include uterine atony, genital tract lacerations, retained placenta, placenta accreta spectrum, coagulation disorders, and uterine inversion.

The B-Lynch technique was the first uterus-preserving suturing technique developed to control PPH and has since been modified by various centers worldwide. However, the B-Lynch technique has several limitations, including multiple uterine wall punctures (six in total), persistent bleeding from the mid-uterine portion after suturing, the requirement for a specialized wide-curved needle, and challenges in performing the procedure on an oversized uterus.

COMOC-MG (Compression of Myometrium and Occlusion of the Uterine Artery by Dr. Mahesh Gupta) is a modified B-Lynch technique designed to address these concerns. This novel approach offers an effective alternative for managing placenta accreta spectrum, enabling cesarean section and uterine conservation in a single procedure.

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Developing a legal roadmap to enhance the uptake of portable point-of-care ultrasound (POCUS) by midwives in lower-level health facilities in Kenya

This study aimed to develop a legal roadmap to facilitate the uptake of portable point-of-care ultrasound (POCUS) by midwives in lower-level health facilities in Kenya. The objectives included reviewing historical and ongoing evidence to identify policy gaps, unifying stakeholder perspectives on antenatal care (ANC) and pregnancy risk stratification, and securing broad support for a policy roadmap to integrate POCUS into ANC workflows.

The study adopted a mixed-methods approach, incorporating both qualitative and quantitative data collection. The quantitative sample size was determined using Fischer's formula, with structured interviews conducted among 209 pregnant women and 198 nurses providing ANC services. Qualitative data collection included desk reviews, 70 key informant interviews, 16 focus group discussions, and a participatory workshop involving 20 stakeholders.

The findings highlighted the limited availability and utilization of POCUS, with only 22% of surveyed women accessing POCUS services during pregnancy, primarily in Level 2 facilities and gynecology clinics. Notably, POCUS facilitated the identification of high-risk pregnancy cases, such as fetal presentation abnormalities, enabling timely referrals to higher-level facilities. Additionally, stakeholders expressed strong support for expanding POCUS access to improve maternal and fetal health outcomes. However, challenges persist in integrating POCUS into routine ANC services at lower-level facilities. These challenges included limited resources for POCUS device procurement, insufficient training, the absence of standardized training guidelines, and low staff confidence in performing POCUS. Furthermore,

qualitative insights emphasized the need for continuous training, technological advancements, and comprehensive data collection at healthcare facilities. National-level workshops underscored a consensus on the critical role of POCUS in reducing maternal and neonatal mortality.

The study recommends scaling up POCUS services in lower-level facilities, integrating POCUS into ANC workflows, engaging communities to raise awareness, developing sustainable financing models to improve affordability and access, and establishing standardized training guidelines and monitoring frameworks for effective implementation.

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Evaluation of ovarian reserve and recurrence rate after dual wavelength laser system (DWLS) diode laser ovarian endometrioma vaporization.

Background: This prospective, single-arm, multicenter clinical trial aimed to evaluate the effectiveness of the dual wavelength laser system (DWLS) diode laser for the treatment of ovarian endometrioma (OMA). The study assessed ovarian reserve and recurrence rates following ablation and vaporization of the cystic capsule, avoiding the stripping technique.

Methods: Seventy patients with symptomatic OMA underwent surgical treatment using diode laser vaporization for primary unilateral or bilateral symptomatic OMA. Following the procedure, patients were enrolled in a 12-month surveillance protocol, which included regular clinical assessments to evaluate ovarian reserve, pregnancy rates, and the recurrence of cysts and/or symptomatic relapse.

Results: At the 3-month follow-up, anti-Müllerian hormone (AMH) levels showed a significant difference from baseline ($p = .034$), demonstrating a return to nearly presurgical values in subsequent months. The antral follicle count (AFC) of the operated ovary significantly increased at the 6-month and 12-month follow-ups ($p = .005$ and $p = .002$, respectively). Pregnancies were documented in 48.3% (14/29) of infertile patients who underwent treatment. OMA recurrence was observed in 4 patients (5.7%) at 12 months. No patient experienced a significant relapse of symptoms compared to baseline values.

Conclusion: The findings of this study suggest that diode laser treatment is a promising approach for OMA, as it minimally impacts surrounding healthy ovarian tissue, demonstrates a favorable pregnancy rate, and is associated with low recurrence rates.

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Male infertility: Beyond convention - latest trends and innovations in management and the role of multi-nutrient supplementation

Maureen Owiti

Background: Infertility affects 1 in 6 individuals of reproductive age, with a global prevalence of approximately 16.7%. Male infertility contributes to up to 50% of infertility cases. However, unlike female infertility, male infertility receives limited attention and remains poorly understood. Assessing changes in semen parameters and biomarkers, such as sperm DNA fragmentation, is essential for evaluating male reproductive health.

Objective: This presentation provides insights into the latest trends and innovations in male infertility management, including changes in semen parameters over time, emerging technologies for assessing male fertility beyond conventional semen analysis, and targeted management strategies. The discussion

emphasizes the role of multi-nutrient supplementation and its benefits in improving male fertility outcomes.

Conclusion: Currently, most recommendations in male infertility management are based on expert opinion rather than high-quality evidence. This underscores the need for greater research focus on male reproductive health and the synthesis of available data to develop evidence-based clinical guidelines for managing male infertility.

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Pale to pink: Breakthrough technology in oral iron therapy

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Iron deficiency anemia (IDA) is a widespread global health issue, disproportionately affecting women compared to men. The condition arises from multiple factors, including increased physiological demands during pregnancy and lactation, heavy menstrual bleeding, and postoperative blood loss. Oral iron therapy remains a primary approach for preventing and treating IDA. However, conventional oral iron supplements, primarily ferrous salts, vary in elemental iron content and frequently exhibit low bioavailability, leading to poor patient tolerance due to gastrointestinal side effects. These adverse effects often result in reduced adherence to treatment and diminished therapeutic benefits.

Recent advancements in oral iron delivery technology have introduced micronization and microencapsulation as promising strategies. Micronization reduces iron particle size, enhancing solubility and bioavailability by increasing surface area. Microencapsulation involves coating micronized iron with substances such as lipids or lecithin, protecting it from enzymatic degradation in the mouth and stomach while preventing oxidation. These innovative approaches are associated with enhanced bioavailability and a reduced incidence of gastrointestinal side effects, potentially improving patient adherence to therapy.

Effectively addressing IDA requires not only an understanding of its etiology and clinical manifestations but also advancements in treatment strategies to enhance patient compliance and health outcomes. The development of next-generation oral iron formulations represents a significant advancement in the management of this common yet impactful condition.

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PARP inhibitors in ovarian cancer: A tsunami of evidence

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Advanced ovarian cancer is a chronic disease characterized by multiple relapses. Patients typically undergo multiple treatment lines, with progressively shorter periods of remission between regimens. Relapse may occur during or after treatment, leading to significant limitations in daily activities to varying degrees. The standard of care for ovarian cancer includes surgery followed by carboplatin and paclitaxel, with or without bevacizumab. There is an ongoing need to improve progression-free survival (PFS), overall survival (OS), and the cure rate.

DNA damage and repair are intrinsic biological processes. PARP inhibitors exploit synthetic lethality in tumor cells with dysfunctional

homologous recombination repair (HRR). Study 19: Olaparib maintenance therapy improved PFS in patients with high-grade serous ovarian cancer (HGSOC), both with and without BRCA mutations. At the final data cutoff (DCO), OS improved in the overall population. More than 10% of platinum-sensitive recurrent ovarian cancer (PSR OC) patients remain on olaparib for ≥6 years. SOLO-2: Olaparib maintenance therapy significantly increased PFS compared to placebo. Olaparib exhibits a better side effect profile and a lower discontinuation rate than other PARP inhibitors.

BRCA mutation testing helps identify patients at higher risk for developing certain cancers, enabling preventive measures. It also serves as a prognostic factor, predicting sensitivity to specific therapies. The PFS benefit of olaparib maintenance therapy was sustained beyond the end of treatment. Improved OS was observed at 7 years. Olaparib did not diminish a patient's ability to benefit from subsequent therapies. Maintenance olaparib should be considered standard treatment following platinum-based chemotherapy for women with newly diagnosed advanced ovarian cancer and a BRCA mutation (BRCAm).

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Value-based procurement: A sustainable approach to improving maternal and newborn health outcomes

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Background: Value-based procurement (VBP) is the practice of evaluating products, services, and solutions to maximize overall value for money (VFM) rather than focusing solely on the lowest purchase price. A significant challenge in low- and middle-income countries (LMICs), including Kenya, is the poor quality of uterotonics used for maternal health. Findings from a study on the quality of oxytocin and tranexamic acid for the prevention and treatment of postpartum hemorrhage in Kenya, Nigeria, South Africa, and Tanzania revealed that only 6 of 17 unique oxytocin products contained adequate active ingredients and had no related substances exceeding the recommended limits. Additionally, 10 of 14 tranexamic acid samples met quality standards. In the public sector, procurement has traditionally been driven by cost minimization, with little consideration for total value to the patient. This has contributed to stagnation in key maternal health indicators. Adopting VBP can significantly enhance maternal and newborn health outcomes by prioritizing product quality, effectiveness, and long-term value over lowest cost alone.

Objective: This plenary session aimed to explore how Kenya can adopt procurement practices based on total value rather than solely prioritizing the lowest prices to ensure the procurement of high-quality maternal and newborn health (MNH) commodities. Additionally, it sought to demonstrate how VBP can be leveraged to improve maternal and newborn health outcomes.

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Diagnostic markers in ovarian cancer – BRCA mutant

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Background: Ovarian cancer is one of the most common gynecologic malignancies, following cervical and endometrial cancers. Effective population-based screening tools are yet to be established, leading to frequent late-stage presentations. Additionally, aggressive histologic subtypes, particularly high-grade endometrioid and serous carcinomas, contribute to poor prognosis and high mortality rates, with five-year survival rates below 50%. Risk factors include advanced age, family history, and obesity. Notably, mutations in the BRCA1 and BRCA2 genes significantly increase the lifetime

risk of ovarian cancer, with estimates reaching up to 50%. Pathogenic variants in other genes involved in double-strand DNA break repair also confer an elevated risk.

PARP inhibitors and biomarker testing: Poly (ADP-ribose) polymerase inhibitors (PARPis) have received regulatory approval and strong recommendations for the management of ovarian, breast, prostate, and pancreatic cancers. These agents provide substantial benefits in progression-free survival and reduce the risk of cancer progression or mortality. This presentation will provide an overview of the pathology of ovarian cancer, with a focus on approaches to testing for both germline and somatic BRCA1 and BRCA2 mutations. Key topics will include appropriate sample types, indications for testing, and interpretation of BRCA1/BRCA2 results. Additionally, emerging biomarkers such as homologous recombination deficiency and loss of heterozygosity will be discussed.

Objective: This presentation aims to raise awareness of the infrastructure, expertise, and accessibility of BRCA1/BRCA2 testing in Kenya, with the goal of increasing the identification of patients who could benefit from PARPi therapy, thereby improving clinical outcomes across Africa. Furthermore, expanding testing to first-degree relatives could enable primary prevention through early cancer screening and risk-reducing surgical interventions. Despite challenges related to genetic counseling, testing availability, and access to PARPis, a multisectoral and multidisciplinary approach will be essential in overcoming these barriers.

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Cosmetic Gynecology

Horseshoe retractor for vaginoperineoplasty: A case report

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Background: Self-retaining retractors, including the Horseshoe retractor, are commonly used in various transvaginal procedures, such as pelvic floor repair, reconstruction, and vaginoplasty, with notable improvements in surgical outcomes.

Case presentation: A 40-year-old para 2+0 woman with a history of vaginal deliveries of macrosomic infants (each weighing 4000 g) presented with complaints of decreased vaginal sensitivity, vaginal laxity, and pelvic floor dysfunction. She requested a vaginoperineoplasty, which was successfully performed using a Horseshoe self-retaining retractor, resulting in improved surgical efficiency and patient outcomes.

Discussion: The Horseshoe retractor provided enhanced surgical visualization, reduced operative time, and improved overall patient outcomes.

Conclusion: Self-retaining vaginal retractors improve surgical exposure and visualization, making them particularly useful in resource-limited settings where surgical assistance and expertise may vary. The Horseshoe retractor is a simple yet effective tool that facilitates pelvic surgery.

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Vaginal Botox, serial sedation, and at-home vaginal dilatation for treatment of primary vaginismus: A case report

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Background: Vaginismus is a vaginal penetration disorder that affects fewer than 10% of women worldwide. It is characterized by persistent, painful, and involuntary contraction of the perineal muscles surrounding the lower third of the vagina and introitus. Studies over the past decade have demonstrated that botulinum toxin (Botox) injections, in conjunction with various therapeutic approaches, are effective in treating this condition, enabling painless penetration.

Case presentation: A 39-year-old married nulliparous woman with no prior history of coitarche presented after several years of unsuccessful attempts at penetration, including the inability to insert a digit or tampon. She underwent sedated intravaginal Botox administration, serial sedation, and at-home vaginal dilation, resulting in successful, painless penetration.

Discussion: Vaginismus and other sexual dysfunctions cause significant psychological distress and relationship challenges, in addition to severe pain upon attempted penetration and cultural stigma. Intravaginal Botox is a viable and effective treatment for vaginismus, with high success rates.

Conclusion: When combined with various adjunct therapies, intravaginal Botox is an effective and minimally invasive treatment that alleviates physical and psychological distresss, helping women overcome stigma and achieve intimate wellness.

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Data Sharing and Research Collaboration

Challenges of retrospective study, lessons and opportunities

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Background: A retrospective study retrieves previously collected data to analyze relationships between exposures and outcomes. Such studies play a crucial role in informing clinical practice and lay the foundation for future research. Retrospective designs are particularly advantageous for analyzing large sample sizes and assessing rare conditions. However, they pose inherent challenges related to data quality, storage, and potential biases.

Methods: In this study, we evaluated the performance of the Pre-eclampsia Integrated Estimate of Risk–Machine Learning model (PIERS-ML) by validating it against routinely collected demographic, clinical, and laboratory data, as well as observations during the admission period. The study cohort included 2000 pregnant women from a private tertiary hospital and a public referral hospital.

Results: Key challenges encountered included limited storage facilities, a lack of an organized filing system, and inconsistencies in documentation. These issues increase the potential for bias, hinder causal inference, and limit the reliability of conclusions. Additionally, data quality was often suboptimal, as clinical records were not initially intended for research purposes.

Conclusion: To enhance the reliability of retrospective studies, investment in electronic health records (EHRs) is essential. EHR implementation would improve data quality, facilitate forecasting, enable patient tracking, and standardize care. Furthermore, improving documentation and filing systems would provide a more dependable data source, ultimately enhancing research outcomes and evidence-based practice. Addressing these challenges and leveraging available opportunities can significantly improve the utility and applicability of retrospective studies, advancing both clinical research and practice.

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Digital Health Solutions and Maternal Health

Collaborative Partnerships and AI-Driven Innovation to Prevent Maternal Mortality Across Kenya

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Background: Maternal mortality remains a critical issue in Kenya, with a rate of 342 deaths per 100,000 live births. Contributing factors include delays in care-seeking, lack of health education, and limited access to timely healthcare. Jacaranda Health's PROMPTS program (Promoting Mothers During Pregnancy Through SMS) integrates human and artificial intelligence (AI), along with strategic partnerships, to address these challenges. Collaborations with Rescue.co and the Kenya Red Cross have strengthened referral systems, provided psychosocial support, and enhanced maternal health education to improve maternal and neonatal outcomes.

Methods: From January 1 to December 25, 2024, Jacaranda Health received 2,190,651 messages from pregnant and postpartum mothers. Of these, 149,263 (7%) were flagged as danger signs and escalated for immediate follow-up. Large Language Models (LLMs) resolved 1,082,066 (49%) of messages, while the remaining cases were managed by Jacaranda Health's helpdesk team. The top five general inquiries included estimated due date (EDD) (3.7%), fetal movement (3.0%), medication-related queries (3.0%), discharge-related concerns (2.5%), and intercourse-related inquiries (2.5%).

Results: A total of 80,465 (54%) of escalated cases were successfully reached, with patients either reporting resolution or receiving care. The most common maternal and neonatal danger signs included baby fever (7.4%), vaginal bleeding (7.0%), and decreased fetal movement (6.6%). LLMs resolved 49% of messages, while psychosocial support interventions addressed pregnancy and baby loss, depression, and gender-based violence.

Conclusion: The PROMPTS program demonstrates how AI and collaborative partnerships can enhance maternal healthcare delivery. The identification of top 10 general inquiries and maternal danger signs can guide targeted health education during clinic visits, ensuring healthcare workers are prepared to address common concerns. Tailoring this approach at the county level can further enhance provider training, emergency response, and overall maternal health outcomes, contributing to a reduction in maternal mortality across Kenya.

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Safe Mama Tech: Using digital innovations to improve maternal and child health in Kisumu County

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Background: The Safe Mama Tech Project aims to improve maternal and child health outcomes in Kisumu County by leveraging artificial intelligence (AI)-driven screening tools and value-based care models to facilitate early risk detection and referral.

Methods: Since the launch of the pilot phase in October 2024, the Safe Mama Tech Project has been implemented in eight healthcare facilities across Kisumu County. A total of 2,626 antenatal

visits have been recorded in the Wonder Health electronic medical record (EMR) system. Among these, 363 red alerts were flagged, prompting referrals for senior medical reviews. Healthcare workers, trained through a 5-minute instructional video, successfully conducted 212 ultrasound scans on 182 pregnant women. These scans identified 12 high-risk cases that required further medical intervention. Additionally, the implementation of the SafeCare framework to enhance service quality and promote value-based care adoption is ongoing.

Results: Since the pilot's launch in October 2024, the program has been implemented in eight facilities. A total of 2,626 antenatal visits have been recorded in the Wonder Health electronic medical record (EMR) system, with 363 red alerts flagged, leading to referrals for senior medical reviews. Healthcare workers trained using a 5-minute instructional video have conducted 212 ultrasound scans on 182 pregnant women, identifying 12 high-risk cases that required further medical intervention. Implementation of the SafeCare framework to improve service quality and promote value-based care adoption is ongoing.

Conclusion: The Safe Mama Tech Project provides a scalable model for integrating AI and digital health tools into primary care networks, aligning with Kenya's digital health strategy and Universal Health Coverage (UHC) goals.

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Family Planning and Contraception

Accelerating postpartum and post-abortion family planning integration into primary healthcare in Kenya

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Background: Postpartum and post-abortion family planning (PPFP) ensures timely access to contraception, which is essential for reducing maternal and child mortality and morbidity associated with closely spaced pregnancies. However, uptake remains low in many low- and middle-income countries (LMICs), which bear the highest burden of maternal and perinatal morbidity and mortality. Poor integration of PPFP services at health facilities and low community awareness significantly hinder access and utilization.

Methods: The Accelerating Post-Pregnancy Family Planning Integration Project in Kenya was implemented in four counties. The project employed a cost-effective, three-pronged mentorship cascade approach to enhance PPFP integration: Blended learning: A combination of on-the-job training and self-directed learning; Mobile social learning: Continuous peer-to-peer learning via a WhatsApp platform; and eMentoring: Virtual mentorship between mentor–mentee pairs. Fifty-four mentors from high-level county hospitals were each paired with four mentees. The project collaborated with four community-based organizations and engaged community champions, including religious and male leaders, to disseminate PPFP information, address cultural and social norms, and increase demand for services.

Results: At project initiation, the average immediate PPFP uptake (within 48 hours of delivery) at supported health facilities across the four counties was 6%, increasing to 26% over 14 months (compared to the national average of 6.6%). Additionally, overall PPFP uptake rose from 1% to 56% during the same period (compared to the national average of 13.8%).

Conclusion: The Accelerating Post-Pregnancy Family Planning Integration Project in Kenya has significantly improved PPFP uptake. This demonstrates the effectiveness of a comprehensive, cost-effective, and sustainable mentorship approach in enhancing family planning integration within primary health care.

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Driving last mile solutions to ensure access to family planning commodities: A case of UNFPA Last Mile Assurance process in Meru, Isiolo, and Tharaka Nithi Counties

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Background: The availability of reproductive health commodities is essential to ensuring that individuals have access to the products they need to achieve their reproductive health goals. The Last Mile Assurance (LMA) process aims to enhance visibility into how UNFPA program supplies are managed at different levels of the supply chain, enabling improved programming, targeted supply chain system-strengthening interventions, enhanced accountability for UNFPA and its implementing partners (IPs), and better fulfillment of UNFPA's fiduciary obligations to donors. In 2024, the Ministry of

Health, in collaboration with ICRHK and with support from UNFPA, conducted the LMA process at the Kenya Medical Supplies Authority (KEMSA) and in three counties: Meru, Isiolo, and Tharaka Nithi.

Methods: This evidence-based process involved data collection from 15 health facilities across the three counties. The spot-check assessed 12 reproductive health commodities, including Implanon, Jadelle, male condoms, Depo-Provera, Sayana Press, female condoms, emergency contraceptive pills, and hormonal and non-hormonal intrauterine devices (IUDs) delivered to the Ministry of Health and managed jointly with KEMSA between January 1, 2023, and June 30, 2024. One national warehouse at the KEMSA headquarters and 15 health facilities across the three counties were evaluated. The spot-check included inspection of inventory records and tracing samples of deliveries to verify that they were received in the correct quantities and condition.

Results: Inconsistent stock counts, missing records, inaccurate bin card entries, and prolonged stockouts. Inadequate space, mixing of pharmaceuticals with non-pharmaceuticals, lack of pallets, and absence of temperature monitoring charts. Lack of evidence of manuals, standard operating procedures (SOPs), or policies.

Conclusion: The LMA process emphasizes human resource capacity development as a core component of supply chain management. LMA methodologies and tools are standardized and applicable across different countries, making them adaptable for government-led routine supply chain monitoring to enhance commodity availability and accountability.

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Enhancing postpartum family planning uptake in resource-limited settings: Insights from a structured and blended mentorship approach in Makueni County, Kenya

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Background: Postpartum family planning (PPFP) is a high-impact intervention that improves maternal and child health outcomes. In Kenya, PPFP is essential for increasing the modern contraceptive prevalence rate (mCPR) from 57% to 64% by 2030. However, the integration of PPFP into maternal and child health services remains suboptimal. A structured and blended mentorship approach was implemented to strengthen healthcare providers' capacity to deliver PPFP services effectively.

Methods: The mentorship approach in Makueni County involved training a pool of mentors through a PPFP standardization workshop. Each mentor supervised four mentees across different healthcare facilities. The mentorship process included six key components: online courses, skill demonstrations using humanistic models, return demonstrations, practical skill-building with clients, monitoring and evaluation through data review meetings, and final competency assessments. Data on PPFP uptake were analyzed from the Kenya Health Management Information System (KHIS) before and after the intervention.

Results: PPFP uptake within 48 hours of delivery increased from 2.9% in April 2023 to 48.5% in July 2024. PPFP use between three days and six weeks postpartum rose from 20.7% to 31.7% during the same period. Additionally, post-abortion family planning service uptake increased from 9.4% to 30.6%.

Conclusion and recommendations: The structured mentorship approach significantly improved PPFP uptake in Makueni County. This success was attributed to on-site mentorship,

online progress tracking, effective commodity management, and improved documentation. To sustain these gains, targeted mentorship should be expanded to additional facilities, with continuous monitoring and evaluation to enhance PPFP service delivery.

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Knowledge, attitudes, and practices of men aged 18-35 years towards contraceptive methods in Kiambu Level V Hospital, Kenya

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Background: In Kenya, 48% of pregnancies are unplanned, reflecting significant unmet contraceptive needs and a discrepancy between reproductive intentions and behaviors. While extensive research has focused on women of reproductive age, understanding men's knowledge, attitudes, and practices regarding contraception is essential for developing effective interventions and promoting family planning as a shared responsibility.

Objective: To assess the knowledge, attitudes, and practices of men aged 18–35 years regarding contraceptive methods.

Methods: A cross-sectional descriptive study was conducted at Kiambu Level V Hospital using a modified 28-item questionnaire, adapted from existing studies and World Health Organization (WHO) resources on contraception. A total of 190 men aged 18–35 years participated. Quantitative data were analyzed using SPSS version 21.0, with univariate and multivariate analyses. Statistical significance was determined using the chi-square test ($P<0.05$).

Results: The majority of respondents (62.1%) demonstrated low knowledge of contraceptive methods. A significant proportion (44.7%) cited a lack of contraceptive counseling as a barrier to access; however, most participants (91.0%) identified healthcare providers as their primary source of information. Attitudes toward contraceptive use were primarily influenced by the desire to prevent unintended pregnancies and concerns about potential side effects. Regarding contraceptive practices, 76.3% reported having used a contraceptive method, 70.5% sought their partner's approval before use, and 71.1% discussed contraception with their partners.

Conclusion: The study findings indicate a low level of knowledge regarding contraceptive methods, including available options, permanent methods, and methods offering protection against both pregnancy and sexually transmitted infections. Knowledge of contraception was significantly associated with residence, marital status, and educational level.

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Strengthening family planning using the total market approach (TMA)

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Background: The Total Market Approach (TMA) is a strategic framework designed to optimize public-private sector coordination, ensuring market efficiency, equity, and sustainability in family planning (FP). TMA facilitates targeted subsidy allocation, mitigates the risk of crowding out the commercial sector, and improves access across diverse population groups. In response to declining donor funding, the gradual phase-out of FP commodity

donations, and persistently high unmet FP needs, Kenya's Ministry of Health, with support from UNFPA, developed the TMA for the National Family Planning Strategy (2020–2025). This strategy aims to achieve four key objectives: (1) strengthening regulatory frameworks and compliance, (2) diversifying FP commodity supply, (3) increasing market participation, and (4) enhancing FP market stewardship.

Methods: UNFPA, through ICRHK, supported the Ministry of Health in strengthening TMA stewardship, improving FP commodity availability, and fostering private-sector engagement. The ministry facilitated multi-stakeholder collaboration, conducted an FP market segmentation study, and convened key actors to analyze data and develop strategic interventions.

Results: A total of 42 health facilities participated in the study, comprising government-operated (50%), private (43%), and NGO-managed (7%) facilities. Government facilities (50%): The primary providers of FP services, ensuring widespread public access. Private facilities (43%): Significant contributors, highlighting opportunities for enhanced public-private collaboration. NGO facilities (7%): Limited role in direct service provision, with a primary focus on advocacy and programmatic support. FP commodities were sourced primarily from the Kenya Medical Supplies Authority (KEMSA) (76%) and private suppliers (24%). The heavy reliance on KEMSA underscores potential vulnerabilities in the supply chain, necessitating strengthened private-sector participation to enhance resilience and sustainability.

Conclusion: Kenya's FP market remains highly dependent on government supply chains, posing significant risks during supply disruptions. Expanding the TMA framework can improve FP access, ensuring sustainability, equity, and broader socioeconomic benefits.

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The Challenge Initiative (TCI) in East Africa: An inclusive, and innovative partnership model for scaling community engagement interventions to overcome barriers to contraceptive uptake

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Background: Community engagement in family planning provides opportunities to address sociocultural norms, myths, and misconceptions surrounding contraception. It empowers women and couples to make informed reproductive health decisions, adopt positive health behaviors, and seek timely access to healthcare services.

Methods: TCI collaborates with 63 sub-national governments across Kenya, Uganda, and Tanzania to implement cost-effective family planning (FP) and adolescent and youth sexual and reproductive health (AYSRH) high-impact interventions. Through the development of joint program designs within government-led processes, TCI fosters government ownership of FP and AYSRH interventions, ultimately leading to the allocation of domestic resources for sustainability. Key community engagement interventions include intergenerational community dialogues, integrated family planning outreach programs, and community radio talk shows. These strategies aim to address contraceptive barriers and increase access to reproductive health services.

Results: TCI has successfully advocated for FP and AYSRH prioritization among sub-national governments, leading to the mobilization of $7.5 million in domestic resources (Uganda: $1.6 million; Tanzania: $2.2 million; Kenya: $3.6 million) for implementing high-impact interventions. A portion of these funds has supported community engagement activities, resulting in over 450,600 successful community referrals for FP. This has significantly contributed to the 1.9 million additional FP

clients reached across the three East African countries.

Conclusion: Strengthening community engagement is critical to creating demand for family planning services and increasing contraceptive uptake, ultimately contributing to improved maternal and child health outcomes.

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Gynecology

Abnormal uterine bleeding due to obstrusive endocervical synechiae: A case report

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Background: Abnormal uterine bleeding (AUB) significantly impacts the quality of life of affected individuals and presents diagnostic and management challenges.

Case presentation: This case report describes AUB resulting from obstruction of the cervical canal due to intracervical synechiae in a nulliparous patient. She presented with a one-year history of prolonged dark blood spotting following menstruation, significantly affecting her quality of life. Each episode lasted approximately 10 days and was consistently recurrent throughout the year. Additionally, she experienced chronic pelvic pain with a baseline level that worsened premenstrually. Despite consulting multiple physicians and specialists in Europe and Kenya over a two-month period, she did not receive a definitive diagnosis. Before returning to Europe, she sought evaluation at our clinic. A thorough history and physical examination were performed, revealing severe pelvic tenderness in all pelvic regions. Transvaginal ultrasound (TVS) demonstrated a hyperintense lesion within the cervical canal, low echogenicity in the utero-cervical region, and fluid retention in the endometrial cavity. A well-circumscribed upper cervical polyp was also identified. A diagnosis of obstructive endocervical synechiae was established. Based on these findings, the patient underwent endocervical dilatation, synechiolysis, and hysteroscopy. Hysteroscopy revealed scattered synechiae within the endometrial cavity. Following the procedure, the abnormal dark blood spotting resolved. Subsequent email correspondence confirmed the resolution of symptoms.

Conclusion: Gynecologists should be aware of obstructive AUB as a potential etiology and should develop proficiency in performing TVS for accurate diagnosis and management.

Keywords: abnormal uterine bleeding, polyps, synechiae, quality of life

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Gynecological Oncology

Conception after breast cancer: A case report

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Objective: Among women of reproductive age, breast cancer is the most common malignancy. With improved survival rates and delayed childbearing, a growing number of breast cancer survivors are inquiring about pregnancy and whether conception may increase the risk of disease recurrence after treatment. Historically, physicians have advised against conception after breast cancer due to concerns about recurrence, particularly among hormone receptor–positive tumors. As a result, up to 35% of pregnant women with a history of breast cancer have undergone elective pregnancy termination. However, emerging evidence suggests that conception may be associated with improved overall survival.

Case presentation: We present a case of a 37-year-old gravida 2, para 1+0 woman who conceived spontaneously. She was diagnosed with breast cancer in 2003 and had been in remission for 20 years. She had undergone a right mastectomy followed by chemotherapy and radiotherapy. Her antenatal course was uneventful, with normal laboratory and imaging findings.

Conclusion: Pregnancy after breast cancer should not be universally contraindicated, as recent studies demonstrate no statistically significant difference in disease-free survival rates. Improved overall survival rates have also been observed, particularly among patients with hormone receptor–positive disease.

Keywords: breast, breast cancer, pregnancy

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Endometrial osseous metaplasia and its impact on reproductive health: A case report

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Background: Endometrial osseous metaplasia is a rare clinical condition characterized by bone formation within the endometrium. Several theories have been proposed to explain this phenomenon, with the most widely accepted being stromal cell metaplasia into osteoblastic cells, leading to ectopic bone formation. Approximately 100 cases have been documented globally, with an estimated incidence of 0.3 per 1,000 individuals. We present a case of a 38-year-old woman who presented with pelvic pain, dysmenorrhea, and heavy menstrual bleeding.

Case Presentation and Discussion: A 38-year-old para 1+0 woman presented with a 2-month history of moderate dysmenorrhea and right-sided periovulatory pelvic pain. She also reported heavy menstrual bleeding on the third day of her cycle. On examination, lower abdominal tenderness was noted. Pelvic ultrasound revealed an endometrial mass measuring 1.76 cm and a 4.8-cm simple right ovarian cyst. Hysteroscopy revealed features suggestive of endometrial osseous metaplasia on the right uterine wall, which was resected and confirmed on histology.Endometrial osseous metaplasia is associated with infertility and is commonly reported following miscarriage. It has also been linked to recurrent pregnancy loss, pelvic pain, dyspareunia, menstrual irregularities, dysmenorrhea, endometritis, and vaginal discharge. Although our patient did not have fertility concerns at the time of presentation, hysteroscopic resection was performed to alleviate her symptoms and potentially improve future conception outcomes.

Conclusion: This case contributes to the limited literature on endometrial osseous metaplasia and underscores the importance of clinician

awareness regarding its reproductive implications.

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Impact of percutaneous nephrostomy on clinical outcomes in advanced carcinoma cervix with obstructive uropathy at Kenyatta National Hospital

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Objective: This retrospective study aimed to determine the impact of percutaneous nephrostomy (PCN) on quality of life (QOL) and renal function in women with advanced carcinoma of the cervix and obstructive uropathy at Kenyatta National Hospital.

Methods: Data were collected from 2016 to 2019, with a follow-up patient interview in 2020. Sociodemographic data from patient records were reported using descriptive statistics. Serum urea, hemoglobin, and creatinine levels were measured before PCN placement and at 72 hours, 1 month, and 3 months post-procedure. Changes were analyzed using a paired t-test. QOL data before and after PCN insertion were collected using the Functional Assessment of Cancer Therapy—Cervix (FACT-Cx) questionnaire. Responses were scored, and an aggregate score was computed. QOL and renal function parameters before and after PCN placement were compared, with statistical significance set at $P < .05$.

Results: A total of 58 participants were enrolled, with 80% power to detect a 5-fold change in renal function. PCN placement resulted in an overall improvement in QOL (FACT-Cx total, $P = .041$) with significant changes in physical well-being ($P = .018$) and additional concerns, including sexual function, self-esteem, appearance, urinary function, appetite, and gastrointestinal function ($P \leq .001$), but not in other QOL domains. At 72 hours post-PCN insertion, improvement was observed in 62% of patients' serum urea ($P = .033$) and 64% of creatinine levels ($P \leq .001$); however, these improvements were not sustained at 1 month, and renal function did not normalize. Hemoglobin levels showed no significant improvement.

Conclusion: PCN provided short-term benefits in the management of obstructive uropathy in advanced cervical cancer, improving two QOL domains and leading to temporary reductions in serum urea and creatinine levels without sustained functional renal recovery.

Keywords: carcinoma cervix, FACT-Cx, kidney function, percutaneous nephrostomy, quality of life, urinary obstruction

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Vaginal spindle cell epithelioma- diagnostic and management approach of a rare vaginal tumor.

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Introduction: Vaginal spindle cell epithelioma, also known as a mixed vaginal tumor, is a rare neoplasm composed of both epithelial and mesenchymal elements. Due to its rarity, accurate diagnosis and appropriate management remain challenging. This report presents a case of vaginal spindle cell epithelioma, detailing the clinical presentation, diagnostic approach, management strategy, and a literature review to provide insight into this rare entity.

Case Presentation: A 49-year-old woman presented with a painless vaginal mass and urinary discomfort. Pelvic ultrasound initially suggested a 10-cm partially cystic mass,

suspected to be a Bartholin's cyst. However, pelvic MRI revealed a 10 × 7 × 5-cm solid paravaginal mass extending into the puborectalis muscle, exerting a mass effect on the urethra and extending to the ipsilateral anal fossa.

The mass was surgically excised, and histopathological analysis confirmed a low-grade spindle cell tumor with benign squamous epithelial components. Immunohistochemistry was positive for Desmin and estrogen receptor (ER). The patient recovered well, and at the 3-month follow-up, no signs of recurrence were noted.

Discussion: First described in 1953, vaginal spindle cell epitheliomas originate from pluripotent cells and are extremely rare, with approximately 50 reported cases globally. These tumors can grow rapidly, leading to symptoms related to mass effect. MRI plays a crucial role in diagnosis and surgical planning. Surgical excision is curative, and histopathology with immunohistochemistry is essential for confirmation. Although generally benign, a few cases of recurrence have been reported.

Conclusion: Vaginal spindle cell epithelioma should be considered in the differential diagnosis of vaginal masses. Accurate diagnosis, imaging, and histopathological evaluation are critical. Complete surgical excision is curative, with a low risk of recurrence.

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Maternal-Fetal Medicine

Advancing maternal health outcomes through obstetric point-of-care ultrasound (POCUS): Innovations and collaborative partnerships

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Background: Maternal mortality remains a significant challenge in maternal health. Kenya's maternal mortality rate is 355 per 100,000 live births, which is substantially higher than the Sustainable Development Goal (SDG) target of less than 70 per 100,000 live births. Kenya has made notable progress in improving maternal health through enhanced antenatal care and expanded access to obstetric ultrasound, with recommendations for at least one scan during pregnancy. Innovations in maternal-fetal medicine, such as obstetric point-of-care ultrasound (POCUS), offer transformative solutions to bridging gaps in maternal healthcare, particularly in resource-limited settings.

Objective: To utilize collaborative partnerships for scaling maternal health innovations, specifically the integration of POCUS into antenatal and obstetric care, to reduce maternal mortality and drive systemic change.

Methods: The Kisumu Medical and Education Trust (KMET) collaborated with county health departments and stakeholders to enhance health system capacity for providing obstetric POCUS services and assessing readiness for POCUS integration in Kenya. The project evaluated POCUS technology across multiple counties to improve diagnostic capabilities, optimize patient outcomes, and increase healthcare accessibility. Key interventions included integrating POCUS into routine clinical practice by training and task-shifting responsibilities to healthcare providers; engaging stakeholders, including healthcare providers, policymakers, and community health workers, to implement POCUS guidelines in the Lake Region Economic Bloc (LREB); and utilizing various data collection tools to assess implementation and impact.

Results: POCUS has enhanced early detection of obstetric complications, including placenta previa, fetal anomalies, and hypertensive disorders of pregnancy. These findings have facilitated timely referrals, leading to a reduction in maternal and perinatal morbidity. Collaboration among stakeholders has played a crucial role in resource mobilization, policy alignment, and community acceptance of POCUS as a maternal health innovation.

Conclusion: POCUS is an effective solution for improving maternal and fetal outcomes by reducing delays in diagnosis and intervention during pregnancy and childbirth, ensuring personalized care based on real-time ultrasound findings. Achieving systemic change requires sustained collaboration to scale these innovations, integrate them into national health systems, and address inequities in maternal healthcare access.

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Bacterial vaginosis in pregnancy and its obstetric outcomes in Kenya: A systematic review

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Background: Bacterial vaginosis (BV) is common vaginal dysbiosis among pregnant women that is associated with adverse obstetric outcomes, such as miscarriage and preterm birth (PTB). Despite its clinical significance, there are limited data on BV and its obstetrical outcomes in Kenya. This systematic review aims to assess the prevalence, risk factors, and obstetrical outcomes associated with BV in Kenya.

Methods: We systematically searched the literature in the African Journal Online (AJOL), Google Scholar, and PubMed databases without restrictions on publication dates. Clinical trial, cohort studies, and observation studies reporting on BV prevalence, risk factors, and obstetric outcomes were included.

Results: A total of 14 studies were included. BV prevalence in pregnancy ranged from 13.4% to 38.4%, varying with diagnostic criteria (Amsel's vs Nugent), study population, and study setting. Risk factors for BV in pregnancy included co-infections with sexually transmitted infections, such as HIV, uncircumcised partners, primiparity, vaginal douching. BV was significantly associated with adverse obstetrical outcomes including, miscarriage, PTB, and small for gestational age (SGA) babies. However, other studies reported non-significant associations with PTB. Co-infections with STIs further exacerbated adverse pregnancy outcomes.

Conclusion: BV is a significant yet overlooked contributor to adverse obstetric outcomes in Kenya. Considering its significant association with miscarriage, preterm birth, and SGA babies, routine screening, diagnosis, and interventions should be integrated in antenatal care. Further research is needed to assess treatment efficacy, recurrence rates, and long-term neonatal outcomes, with a meta-analysis planned to quantitatively evaluate these associations.

Keywords: bacterial vaginosis, Kenya, Nugent score, obstetric outcomes, pregnancy, preterm birth

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Correlation between intrapartum ultrasound-derived angle of progression and duration of second stage of labor: A prospective cohort study

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Background: Ultrasonography during labor is underutilized, and there are no established guidelines regarding the optimal timing, approach, or parameters for transperineal ultrasound assessment. Prolonged duration of the second stage of labor is associated with both immediate and long-term maternal and neonatal complications. A reliable and reproducible method for predicting prolonged second-stage labor could facilitate alternative management strategies to prevent adverse outcomes. This study aimed to assess the association between transperineal ultrasound measurements and the duration of the second stage of labor as well as mode of delivery.

Methods: This prospective cohort study recruited 130 term participants in latent labor. Two-dimensional transperineal ultrasound scans were performed to measure the angle of progression. The anteroposterior diameter of the levator ani muscle was also measured in both the relaxed state and during the Valsalva maneuver. Among the participants, 100 had vaginal deliveries, while 30 underwent emergency cesarean sections. A narrow angle of progression was defined as less than 95.30°. Prolonged second-stage labor was defined as any duration exceeding 63.1 minutes (90th percentile). Univariate analysis was performed using Fisher exact test and Pearson correlation coefficient. A logistic regression model was used to control for potential confounders.

Results: A narrow angle of progression during the latent phase of labor was associated with a twofold increase in the odds of prolonged second-stage labor after adjusting for parity, age, co-activation, body mass index (BMI), and fetal birth weight (adjusted odds ratio [AOR], 2.92; 95% CI, 0.52-10.17; P = .275). Similarly, a narrow angle of progression was associated with a 3.5-fold increase in the odds of emergency cesarean section (odds ratio [OR], 3.50; 95% CI, 1.42-8.61; P = .006). Co-activation was associated with 2.19 times higher odds of prolonged second-stage labor compared with participants without co-activation (95% CI, 0.56-8.50; P = .257). The anteroposterior diameter of the levator ani muscle, measured in both the relaxed state and during the Valsalva maneuver, showed a statistically significant negative correlation with labor duration (P = .010 and P = .012, respectively).

Conclusion: Sonographic measurements taken during the latent phase of labor, including the angle of progression, assessment of levator ani co-activation, and levator ani hiatal dimensions, provide valuable insights into labor outcomes. These measurements may serve as a useful adjunct to traditional digital vaginal examinations.

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Fetal intracranial hemorrhage - challenges in management: A case series

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Background: Fetal intracranial hemorrhage (ICH) is a rare condition characterized by prenatal bleeding into the fetal brain′s ventricles, subdural space, or parenchyma, occurring in approximately 1 in 10,000 pregnancies. Early detection is critical due to its association with poor neonatal outcomes**.** In this report, we present three cases of fetal ICH managed at our institution.

Case series

Case 1: A 27-year-old primigravida at 37 weeks′ gestation was referred to our fetal medicine unit due to ventriculomegaly. Ultrasound evaluation at our unit revealed grade 3 intraventricular hemorrhage and fetal anemia. Screening for cytomegalovirus and toxoplasmosis was negative. A cesarean delivery was performed, and the neonate required a ventriculoperitoneal (VP) shunt. At 12 weeks of age, the infant exhibited encephalomalacia and is currently undergoing seizure prophylaxis and occupational therapy.

Case 2: A 37-year-old para 2 was referred to our fetal medicine unit at 29 weeks′ gestation with ventriculomegaly and agenesis of the corpus callosum following warfarin therapy for deep vein thrombosis (DVT). Ultrasound findings revealed severe subdural hemorrhage with midline shift. Unfortunately, an intrauterine fetal demise occurred before 31 weeks′ gestation, and the patient subsequently underwent vaginal delivery.

Case 3: A 38-year-old para 4 was referred to our fetal medicine unit at 27 weeks′ gestation with

suspected fetal ICH. Ultrasound examination identified a large, 4-cm multicystic mass displacing cerebral tissue and the corpus callosum. TORCH screening and antiplatelet antibody tests were negative. Follow-up imaging demonstrated resolution of the lesion, and the patient delivered at term.

Discussion: Identifying the underlying cause of fetal ICH is essential. However, fetal interventions remain limited, particularly when no identifiable risk factors are present. In cases of alloimmune fetal thrombocytopenia, maternal administration of steroids or intravenous immunoglobulin, in conjunction with fetal platelet transfusions, may be warranted. Despite advances in perinatal care, the prognosis for fetal ICH remains poor. Careful monitoring via ultrasound is crucial, and pregnancy termination should be discussed when appropriate.

Conclusion: These cases underscore the challenges in managing fetal ICH. Early detection and targeted intervention strategies are critical to optimizing fetal and neonatal outcomes, despite the frequently poor prognosis.

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Implementing and optimizing risk screening for preeclampsia: Preventing pre-eclampsia: Evaluating AspiRin Low-dose regimens following risk Screening (PEARLS) Trial

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Background: Preeclampsia is a leading cause of maternal and neonatal morbidity and mortality worldwide, contributing to approximately 14% of the 287,000 maternal deaths that occur annually. Timely identification and management are essential for improving maternal and neonatal health outcomes. Despite advancements in screening and prevention, the implementation of standardized risk screening protocols and effective prevention strategies remains a challenge. Current clinical practices are inconsistent, highlighting the need for evidence-based approaches to optimize preeclampsia screening, prevention, and management. This trial aims to address these gaps by implementing and evaluating a risk screening algorithm, assessing the prevalence of trial outcomes, and standardizing clinical practices related to preeclampsia.

Objectives: To compare the effect of daily 150 mg versus 75 mg aspirin on the incidence of preeclampsia-related births at <37 weeks' gestation. To compare the effect of daily 150 mg versus 75 mg aspirin on the occurrence of a composite measure of postpartum hemorrhage (PPH)-related treatment.

Methods: The trial adopts a mixed-methods approach. The formative phase involves focus group discussions (FGDs) with pregnant women and healthcare providers to gather qualitative insights into current practices, barriers, and enablers affecting participation. Additionally, in-depth interviews with stakeholders and research midwives will assess the feasibility and challenges of implementing the intervention. Healthcare provider surveys will be conducted to collect data on current practices, knowledge, and attitudes regarding preeclampsia screening and management. A comprehensive Fetal Medicine Foundation (FMF) risk screening algorithm will be applied to identify high-risk women, who will then receive the intervention. Additionally, an intelligent ultrasound scan will be performed on pregnant women before 20 weeks' gestation to assist in further risk stratification. The intervention includes the administration of 150 mg aspirin to the intervention group, with a comparator group receiving 75 mg aspirin, along

with calcium supplementation for high-risk pregnant women. Participants will be followed throughout pregnancy until delivery.

Results: Data will be collected through surveys, FGDs, in-depth interviews, and clinical monitoring to assess the feasibility, effectiveness, and impact of the intervention. Preliminary results will focus on identifying key barriers to participation and engagement in the trial, as well as challenges related to the uptake of the risk screening algorithm and adherence to prescribed interventions.

Conclusion: By addressing barriers and enablers for both pregnant women and healthcare providers, this study seeks to provide evidence-based recommendations for integrating preeclampsia screening and prevention into routine maternal care. The findings will inform future clinical practices and public health policies aimed at reducing the burden of preeclampsia and improving maternal and neonatal outcomes.

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Late and post-term deliveries and associated perinatal outcomes, modified by labor type: A Sub-Saharan Africa and South Asia prospective cohort

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Background: Late-term (41+0 to 41+6 weeks) and post-term (≥42 weeks) pregnancies are associated with increased perinatal morbidity and mortality. Many clinical guidelines recommend induction of labor (IOL) at or before 41 weeks to optimize perinatal outcomes. However, in sub-Saharan Africa and South Asia —regions with the highest global perinatal mortality rates—IOL utilization remains low, ranging from one-fifth to just over half of the rates observed in high-income countries.

Objective: To evaluate late-term (LT) and post-term (PT) delivery rates and their associated perinatal outcomes by labor type across Ghana, India, Kenya, Pakistan, and Zambia.

Methods: Data were analyzed from the Pregnancy Risk, Infant Surveillance, and Measurement Alliance (PRISMA), a prospective cohort study conducted across Ghana, North and South India, Kenya, Pakistan, and Zambia. Pregnant women were enrolled at ≤20 weeks' gestation (ultrasound-confirmed) and followed through labor, delivery, and up to one year postpartum. Women who reached term gestation (≥37 weeks) between September 2022 and September 2024 were included. Outcomes assessed included stillbirth, birth asphyxia, cesarean delivery (planned and emergent), and severe postpartum hemorrhage. Multivariate generalized linear models were used to evaluate associations between LT/PT deliveries and perinatal outcomes, with sensitivity analyses restricted to spontaneous labor cases.

Results: A total of 5,651 women were included in the study. LT/PT delivery rates were highest in Kenya (14.9%/4.9%) and lowest in South India (1.8%/0.4%), whereas the IOL rate was highest in South India (36.8%) and lowest in Kenya (7.9%).

Stillbirth rates (2%/4%), birth asphyxia (8%/7%), severe postpartum hemorrhage (4%/5%), and emergent cesarean delivery (ECD: 22%/21%) were higher in LT/PT deliveries. After adjusting for maternal age, early pregnancy BMI, parity, and IOL, PT deliveries had a four-fold higher risk of stillbirth (95% CI: 1.44–12.4) and a 1.6-fold higher risk of ECD in LT deliveries (95% CI: 1.29–1.95) compared to full-term (FT) deliveries. Among spontaneous labor cases, stillbirth risk increased eight-fold in PT deliveries (95% CI: 2.29–28.22), and the risk of ECD was 1.9-fold higher in LT deliveries (95% CI: 1.48–2.43) compared to FT deliveries.

Conclusion and recommendations: LT and PT deliveries, particularly following spontaneous labor, are associated with significantly increased risks of stillbirth and ECD. To mitigate these adverse outcomes, policy efforts should focus on increasing IOL utilization, particularly in Kenya, where rates remain low.

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Measles in pregnancy resulting in severe maternal illness and pregnancy loss: A case report

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Background: Measles is a highly contagious viral infection. In 2022, the World Health Organization (WHO) reported an 18% increase in global measles cases and a 43% increase in measles-related deaths. Pregnant women are at increased risk of infection and severe complications, which may lead to adverse obstetric outcomes. We present a case of severe maternal illness in pregnancy complicated by pregnancy loss and highlight available evidence on the disease course and outcomes in pregnancy.

Case presentation: A 27-year-old gravida 2, para 1 woman at 20 weeks' gestation was admitted with a one-week history of worsening respiratory and gastrointestinal symptoms, along with fever. She later experienced spontaneous drainage of yellow, foul-smelling amniotic fluid. On examination, she appeared acutely ill, with injected conjunctiva and signs of viral enanthem. Her condition deteriorated, with persistent fever, tachycardia, and low peripheral capillary saturation of oxygen (SpO_2) requiring oxygen supplementation. Inflammatory markers were elevated, and a chest computed tomography (CT) scan revealed lobar pneumonia. Given the concern for chorioamnionitis and worsening clinical status, medical termination of pregnancy was performed. She expelled a fresh stillbirth after a single dose of misoprostol. The patient gradually improved with medical and supportive care. Serologic testing showed negative measles immunoglobulin G (IgG) and positive immunoglobulin M (IgM), indicating an active infection in a non-immune individual. Placental culture grew Escherichia coli. The mother recovered fully and was discharged.

Discussion: Pregnant women are at higher risk of hospitalization, severe complications, and mortality compared to nonpregnant women. Common maternal complications include pneumonia, diarrhea, and gastroenteritis. Fetal complications may include fetal loss, intrauterine growth restriction, preterm birth, and neonatal death. Non-immune individuals are at higher risk of severe illness and adverse obstetric outcomes.

Conclusion: Pregnant women are at higher risk of hospitalization, severe complications, and mortality compared to nonpregnant women. Common maternal complications include pneumonia, diarrhea, and gastroenteritis. Fetal complications may include fetal loss, intrauterine growth restriction, preterm birth, and neonatal death. Non-immune individuals are at higher risk of severe illness and adverse obstetric outcomes.

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Mesenteric venous thrombosis with large gut ischemic perforation: A case report

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Background: Mesenteric venous thrombosis (MVT) is a rare but potentially fatal condition characterized by nonspecific symptoms, often leading to delayed diagnosis and high morbidity and mortality. Bowel ischemia is the primary underlying pathology. In cases of insidious and progressively worsening abdominopelvic pain, contrast-enhanced computed tomography (CT) and venography can facilitate early diagnosis and timely intervention. A multidisciplinary approach is crucial, requiring heightened awareness, a high index of suspicion, and strong diagnostic acumen among surgeons, physicians, and gynecologists. Septicemia, septic shock, and cardiovascular dysfunction significantly increase the risk of mortality. Despite historical challenges in diagnosing MVT, the increased use of contrast-enhanced CT and venography has improved early detection. As a result, early initiation of anticoagulation therapy has reduced the reliance on laparotomy for diagnosis and the need for extensive bowel resection. This case highlights the diagnostic and therapeutic challenges associated with this rare clinical entity.

Case presentation: A female patient presented with progressively severe, recurrent left iliac fossa pain and tenderness, along with a 6-cm pedunculated, highly mobile fibroid. A presumptive diagnosis of recurrent pedunculated fibroid torsion was made, and a myomectomy was performed. Despite surgery, her symptoms persisted, and a CT scan revealed intraperitoneal gaseous distension, necessitating an urgent laparotomy. During surgery, a 1.5-cm circular perforation was identified at the cephalad end of the sigmoid colon. The perforation was freshened, and a loop colostomy was performed. Most of the bowel and omentum appeared bluish, desquamating, adynamic, and devoid of the usual pulsatility, indicative of ischemic necrosis. Postoperatively, the patient was managed in the intensive care unit, where she developed renal, cardiovascular, and respiratory dysfunction, ultimately culminating in her demise on postoperative day three.

Conclusion: A more liberal use of CT scanning and venography is warranted in cases of suspected MVT to facilitate early diagnosis. Enhanced training and a concerted multidisciplinary approach are essential for improving clinical outcomes.

Keywords: cardiovascular dysfunction, ischemic necrosis, pelvic pain, metabolic disarray

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Multidisciplinary approach to recurrent acute pancreatitis in pregnancy: A case report and literature review

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Background: Acute pancreatitis in pregnancy is a rare condition associated with increased maternal and fetal morbidity and mortality. This case report documents a rare presentation of recurrent acute pancreatitis in pregnancy, providing valuable clinical insights and highlighting the importance of a multidisciplinary approach in management. Additionally, it discusses the clinical challenges encountered and contributes to the limited literature on recurrent acute pancreatitis in pregnancy.

Case presentation: A 28-year-old patient first presented at 15 weeks of gestation with persistent epigastric pain and vomiting. On

examination, she had epigastric tenderness. Laboratory investigations revealed significantly elevated amylase (2050 IU/mL) and lipase (>3500 IU/mL) levels, along with mildly elevated liver enzymes and triglycerides. Magnetic resonance imaging findings of interstitial edematous pancreatitis confirmed the diagnosis of acute pancreatitis, and she was managed conservatively. She experienced two additional episodes requiring hospitalization at 30 and 34 weeks of gestation, presenting with similar symptoms and receiving similar conservative management. At 35 weeks, a multidisciplinary team recommended delivery via cesarean section following the administration of antenatal corticosteroids. Five weeks postpartum, she was diagnosed with uncomplicated cholelithiasis and underwent a laparoscopic cholecystectomy, with an uneventful recovery.

Conclusion: Acute pancreatitis in pregnancy presents a clinical challenge regarding optimal management. A multidisciplinary approach involving multiple specialties is essential to achieving favorable maternal and fetal outcomes.

Keywords: acute pancreatitis, cholelithiasis, recurrent pancreatitis, ulinastatin

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Obstetric point-of-care ultrasound: Current status in Kenya

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Background: Access to and utilization of ultrasound technology are expanding due to reductions in equipment costs and technological advancements, allowing for the increased availability of portable devices. Pregnant women accessing level 2 and level 3 health facilities in Kenya have limited access to standard ultrasound services. Obstetric point-of-care ultrasound (OPOCUS) has the potential to improve pregnancy outcomes for both mothers and newborns. Several partners have initiated OPOCUS training and provision in an unstructured manner. In response, the Ministry of Health (MOH), with partner support, developed national OPOCUS guidelines.

Methods: A standardized approach was used to develop the guidelines, including: (i) identification of priority questions and outcomes; (ii) evidence retrieval and synthesis; (iii) assessment of the evidence; (iv) formulation of recommendations; and (v) planning for dissemination, implementation, impact evaluation, and guideline updates. Scientific evidence supporting the recommendations was assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) framework for quantitative evidence and the Confidence in the Evidence from Reviews of Qualitative Research (GRADE-CERQual) approach for qualitative evidence. Due to time constraints, the team relied on published systematic reviews and other scientific literature.

Results: National OPOCUS guidelines were developed, approved, and launched, covering six key indications: gestational dating (age, weight), cardiac activity/fetal viability, placenta localization, amniotic fluid assessment, multiple pregnancy assessment, and fetal presentation/lie. These examinations can be performed by nurses and clinical officers with midwifery responsibilities, medical officers, and obstetrician-gynecologists following appropriate training (approximately 180 hours) by certified trainers. Annual recertification is required for OPOCUS practitioners. The guidelines provide recommendations for the first, second, and third trimesters, as well as for the labor and delivery phases. Recommendations are categorized as positive or negative and as either strong or conditional, with the level of evidence graded from A to D according to GRADE or based on best practices. Additional recommendations address training programs, equipment requirements, implementation considerations, and priority research questions. The guidelines also include a section on their interpretation. The

target audience for these guidelines includes reproductive health service providers, policymakers, and other relevant stakeholders.

Conclusions: Kenya has established OPOCUS guidelines to standardize services, ultimately contributing to improved maternal and newborn outcomes. These guidelines provide clarity on indications, scope of practice, equipment specifications, and training requirements. However, OPOCUS does not replace standard ultrasound examinations.

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Prenatal diagnosis and management of fetal cervical teratoma -insights into intrauterine neck masses: A case report

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Background: Fetal cervical teratoma is a rare congenital germ cell tumor arising in the neck. This report presents a case of a fetus diagnosed with an anterior neck mass, histologically confirmed as an immature teratoma. This uncommon condition underscores the importance of timely prenatal diagnosis and appropriate perinatal intervention to optimize neonatal outcomes.

Case presentation: A 35-year-old gravida 4, para 1+2, with no known chronic illness, presented in good health. An oral glucose tolerance test was negative, glycated hemoglobin was 4.6%, and blood pressure remained within normal limits. A routine ultrasound at 28 weeks and 5 days of gestation identified a fetal neck mass. The patient was referred to Kenyatta National Hospital for specialist care. During follow-up, she developed progressive abdominal discomfort and severe polyhydramnios, with a significantly elevated amniotic fluid index.

Conclusion: Fetal cervical teratomas are rare and require close ultrasound monitoring. If indicated, fetal magnetic resonance imaging provides further anatomical detail. The ex utero intrapartum treatment (EXIT) procedure or tumor resection with placental support may improve neonatal survival. Cesarean delivery is the preferred mode of delivery to reduce perinatal risks and optimize postnatal outcomes.

Keywords: EXIT surgery, fetal cervical teratoma, polyhydramnios

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Spontaneous conception following a B-lynch for atonic Couvelaire uterus: A case report

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Background: Postpartum hemorrhage (PPH) remains a leading cause of maternal mortality in sub-Saharan Africa. Anticipatory management and timely emergency interventions are critical in mitigating its impact. Since its introduction, the B-Lynch brace suture has been the most widely used uterine compression suture, with a reported success rate of 99.5%. Application of the B-Lynch suture within one hour of PPH onset has been associated with improved outcomes, whereas delays in intervention increase the risk of hysterectomy. Documented complications of compression sutures include pyometra, uterine synechiae, and uterine necrosis.

Case presentation: We present the case of a 36-year-old para 1+0 woman who conceived

spontaneously nine months after undergoing a B-Lynch procedure for hemorrhage following the surgical management of an intrauterine fetal death. She was followed as a high-risk patient due to perioperative complications. Postpartum lupus screening revealed positive beta-2 glycoprotein antibodies, and she was subsequently referred to a rheumatologist. She later experienced a missed miscarriage and is currently undergoing optimization for future conception.

Conclusion: There are no large-scale studies evaluating fertility outcomes following uterine compression sutures. Limited studies report future pregnancy rates of up to 75%; however, follow-up durations have been insufficient to draw definitive conclusions regarding long-term fertility in patients who have undergone B-Lynch suturing. Further large-scale studies and multiple case reports are needed to assess fertility and pregnancy rates following B-Lynch suture placement for PPH management.

Keywords: abruption placentae, anembryonic pregnancy, conception, Couvelaire uterus

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The use of ultrasound and other markers for prediction and prevention of early-onset preeclampsia: A review

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Background: Preeclampsia (PE) is a multisystem disorder of pregnancy, classically characterized by the onset of hypertension after 20 weeks of gestation in the presence of proteinuria. PE affects approximately 2%–8% of pregnancies and remains a leading cause of maternal and perinatal morbidity and mortality. This review examines the evolution of preeclampsia screening and evaluates the most effective biomarkers for first-trimester screening. Additionally, it explores their use both individually and as part of an algorithm to optimize detection rates.

Results: Screening using a combination of maternal risk factors, uterine artery Doppler, mean arterial pressure, maternal serum pregnancy-associated plasma protein A (PAPP-A), and placental growth factor (PlGF) can identify approximately 75% of preterm PE cases at a false-positive rate of 10%. This represents a significant improvement over traditional methods, which relied solely on maternal characteristics to predict preeclampsia risk. Maternal risk factors alone have been shown to predict only one-third of preeclampsia cases, highlighting the limitations of this approach. The incorporation of additional biomarkers into screening protocols has enhanced the ability to identify women at high risk for developing PE.

Conclusion: Early identification of patients at high risk for PE allows for the implementation of appropriately tailored antenatal surveillance and prophylactic pharmacological interventions. These measures, such as aspirin therapy, aim to improve placentation and ultimately enhance outcomes for both the mother and fetus.

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Theca lutein cysts in spontaneous singleton pregnancy: A case report and literature review

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Background: Theca lutein cysts in pregnancy, also known as hyperreactio luteinalis, are a rare condition that arises from excessive ovarian stimulation by β-human chorionic gonadotropin (β-hCG). This β-hCG elevation may be endogenous (as seen in multiple gestation and gestational trophoblastic disease) or exogenous (as in ovarian hyperstimulation syndrome

following fertility treatment). While hyperreactio luteinalis is most common in the third trimester, it can occur at any stage of pregnancy. Ultrasound findings typically include bilaterally enlarged, multicystic ovaries with a characteristic spoke-wheel appearance and thin septae separating fluid-filled cysts. The condition is usually asymptomatic but may present with pelvic pain due to hemorrhage into the cysts, ovarian torsion, or increased intra-abdominal pressure from ovarian enlargement.

Management is primarily conservative, unless complications such as cyst rupture with hemorrhage or ovarian torsion necessitate surgical intervention. The prognosis is favorable, with spontaneous resolution of symptoms and normalization of ovarian morphology during the puerperium. However, cases of iatrogenic oophorectomy have been reported due to misdiagnosis as ovarian tumors, particularly mucinous adenocarcinomas. This highlights the importance of a multidisciplinary approach to optimize patient outcomes.

Case presentation: We present a case of a 36-year-old para 2+1 woman who was incidentally diagnosed with theca lutein cysts during the first trimester and managed conservatively throughout pregnancy. The condition resolved spontaneously postpartum, demonstrating the importance of accurate diagnosis and conservative management.

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Von Willebrand disease and pregnancy: A case report

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Background: Von Willebrand disease (VWD) is the most common hereditary bleeding disorder, characterized by impaired platelet adhesion and clot formation due to a deficiency or dysfunction of von Willebrand factor (VWF). Pregnancy in women with VWD requires multidisciplinary management and careful monitoring to mitigate the risk of severe bleeding complications during delivery and the postpartum period, ensuring favorable maternal and neonatal outcomes.

Case Presentation: A 31-year-old Gravida 2, Para 1+0 woman with a known history of VWD was admitted to the labor ward for delivery following an uneventful antenatal period. Throughout pregnancy, she had been closely monitored by a hematologist. She had a prior vaginal delivery, during which factor VIII replacement therapy was administered. Laboratory investigations during this admission revealed a normal factor VIII coagulant level. Upon progressing to active labor, she received 6 units of fresh frozen plasma (FFP) prophylactically to reduce the risk of bleeding complications associated with VWD. She delivered a healthy male neonate weighing 3620 g, with Apgar scores of 8, 9, and 10. Following delivery, the patient received 5 units of cryoprecipitate to further optimize hemostasis. Preparations were made for potential postpartum hemorrhage (PPH), including readiness of uterotonic agents, surgical backup, and intensive care support. However, the postpartum period was uneventful, with no significant bleeding. Both the mother and neonate recovered well and were discharged in stable condition on postnatal day 4.

Conclusion: Pregnancy and delivery in women with VWD require an individualized, multidisciplinary approach to ensure hemostatic stability and prevent bleeding complications. This case highlights the importance of timely interventions and close monitoring in achieving favorable maternal and neonatal outcomes. It also underscores the need for coordinated management among obstetricians, hematologists, and transfusion services to optimize patient care.

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Maternity and Quality Improvement

Blood collection drape for early detection of postpartum hemorrhage innovation: The game changer for maternal health

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Background: Postpartum hemorrhage (PPH) remains one of the leading causes of maternal morbidity and mortality worldwide. Early detection and prompt management of PPH are critical to improving maternal survival rates. However, traditional methods for estimating blood loss in the immediate postpartum period are often imprecise and subjective, leading to delayed interventions. This challenge is particularly significant in low- and middle-income settings, where healthcare providers may lack confidence in assessing hemorrhage severity. To address these issues, an innovative blood collection drape has been developed to facilitate more accurate and timely blood loss detection, thereby enhancing clinical decision-making and improving maternal outcomes.

Methods: The blood collection drape is a cost-effective, disposable tool designed to capture and quantify blood loss during and after childbirth. It features color-coded calibrations to assist healthcare providers in estimating blood volume more accurately. In this study, midwives at several public hospitals were trained to use the drape, and its impact on their confidence levels and ability to detect PPH was assessed through pre- and post-intervention surveys, interviews, and objective structured clinical examinations (OSCEs). Additionally, hospital records were reviewed to compare clinical outcomes before and after the drape's introduction, focusing on the timeliness and accuracy of PPH detection.

Results: The use of the blood collection drape significantly increased midwives' confidence in assessing blood loss and managing PPH. Before using the drape, many midwives reported uncertainty in estimating blood volume, which sometimes led to delays in initiating treatment. After implementation, 90% of midwives indicated greater confidence in identifying PPH and making timely intervention decisions. Preliminary data also indicate that the drape's introduction resulted in faster initiation of treatments such as uterotonics, blood transfusions, and surgical interventions, ultimately improving maternal outcomes.

Conclusion: The blood collection drape represents a transformative advancement in maternal healthcare. Its routine use could significantly reduce maternal morbidity and mortality associated with PPH. Given the demonstrated improvements in provider confidence and clinical outcomes, we strongly recommend scaling up this technology in healthcare facilities. To maximize its impact, county leadership should commit to funding the procurement of these drapes for hospitals.

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Early experiences on use of heat-stable carbetocin as first line for PPH prevention and the WHO first response bundle for PPH treatment in Makueni County in Kenya

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Background: To document early experiences with the use of heat-stable carbetocin (HSC) as first-line therapy for postpartum hemorrhage (PPH) prevention and the implementation of the WHO first response bundle for PPH treatment in 36 public health facilities in Makueni County, Kenya.

Methods: With support from Unitaid, the Accelerating Measurable Progress and Leveraging Investment for PPH Impact (AMPLI-PPHI) project—a consortium of Jhpiego, the International Federation of Gynecology and Obstetrics (FIGO), and PATH—donated a three-year supply of HSC for PPH prevention and tranexamic acid (TXA) for PPH treatment as part of the WHO first response bundle, starting in January 2024. Interventions included facility- and simulation-based multi-cadre training, awareness creation, dissemination of patient education materials, quality improvement initiatives, and advocacy. Ongoing health facility data collection is being conducted to monitor progress.

Results: From January to August 2024, 98% (n=11,386) of women who gave birth at supported facilities received HSC for PPH prevention. The fresh stillbirth rate was 0.64% (n=106) pre-implementation and 0.65% (n=76) post-implementation. The proportion of uterine rupture was 0.08% (n=13) before implementation and 0.09% (n=10) after implementation. All PPH cases (100%, n=301) received the WHO first response bundle for treatment. The number of maternal deaths due to PPH decreased from 12 in 2022 to zero in both 2023 and 2024. Due to its effectiveness, HSC has been colloquially referred to as the "dryer." As a result of these positive outcomes, Makueni County is expanding the intervention countywide.

Conclusion: The recent WHO recommendations for PPH prevention and management can be safely introduced in clinical practice. Early implementation experiences have yielded promising results, suggesting that scaling up this intervention package has the potential to significantly reduce PPH-related morbidity and mortality.

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Enhancing emergency obstetric and newborn care (EmONC) knowledge and skills competency through a focused mentorship in Kuria West sub-County, Migori county

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Background: Despite targeted interventions by Kenya's Ministry of Health and non-governmental partners, the maternal mortality ratio (MMR) in Migori County decreased from 673 per 100,000 live births to 412 per 100,000 live births. However, this remains higher than the national MMR of 355 per 100,000 live births. Findings from a 2017 confidential inquiry into maternal deaths revealed that 28.1% were due to inadequate clinical skills, while 12.5% were attributed to the absence of trained staff on duty.

Methods: In April 2024, Lwala Community Alliance, in partnership with the Ministry of Health, conducted a 5-day training on emergency obstetric and newborn care (EmONC) for 32 county-based facility mentors. Twelve mentors were drawn from health facilities in Kuria West Sub-County. After the training, these mentors facilitated the implementation of mentorship programs for health providers across 34 maternity units. Progress was tracked from June 2024 to December 2024 using the Kobo Collect tool. Successful completion of the training modules required a minimum passing score of 85%. Each mentor was assigned 2 to 3 health facilities.

Results: Health facilities demonstrated improvements in clinical practice, building on the knowledge and skills acquired through mentorship. All 34 health facilities implemented standardized obstetric emergency protocols and equipped emergency trays to enhance the efficiency and effectiveness of emergency management. The Obstetric Rapid Response Team remained active during shifts, improving the turnaround time for emergency management. Additionally, a structured communication network was established, facilitating frequent interactions between mentors and mentees while on duty. All 86 mentees successfully completed the 13 modules of the EmONC curriculum, achieving scores greater than 85% on the final assessment.

Conclusion: Facility-based mentorship enhances competency development through frequent mentor-mentee interactions, allowing for individualized learning approaches and targeted skill improvement. Additionally, this approach expands the mentorship pool, enabling more mentees to be trained with minimal resource investment. Establishing a functional skills laboratory at the sub-county and facility levels is essential for scaling up skills practice and retention.

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Implementation of the EMOTIVE interventions for early detection and management of postpartum hemorrhage post-trial period: A success story across 19 healthcare facilities in Kenya

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Background: Postpartum hemorrhage (PPH) remains one of the leading causes of maternal morbidity and mortality worldwide, posing significant challenges, particularly in low-resource settings. Early detection and timely intervention are critical to improving maternal outcomes. The EMOTIVE intervention was implemented to address this challenge by training healthcare providers in a standardized PPH management bundle, with an emphasis on using calibrated drapes for precise blood loss measurement.

Objectives: To evaluate the impact of EMOTIVE bundle implementation on PPH rates across 19 healthcare facilities. To assess the effectiveness of healthcare provider training on the use of calibrated drapes for early PPH detection. To determine the role of mentorship and facility-based support in ensuring successful bundle implementation. To advocate for the scaling up and sustainability of the intervention at the county level.

Methods: A total of 19 healthcare facilities were selected for the EMOTIVE intervention. Midwives and other relevant healthcare providers were trained in a comprehensive PPH management bundle, including the introduction of calibrated drapes. Training sessions emphasized accurate blood loss measurement and early intervention strategies. Following the training, continuous facility-based mentorship sessions were conducted by trained champions within maternity departments to reinforce knowledge and skills. PPH rates and severity were monitored over a 12-month period to evaluate the impact of the interventions.

Results: PPH rates across the 19 healthcare facilities decreased to 5%, representing a notable improvement compared to baseline data. This reduction indicates more effective early identification and management of PPH. The overall severity rate of PPH across these facilities remained low at 1%, suggesting that early intervention—enabled by accurate blood loss measurement and prompt treatment—was successful in mitigating severe hemorrhage.

Healthcare providers demonstrated increased confidence in implementing the PPH bundle. Post-training assessments indicated that midwives felt empowered to use calibrated drapes for accurate blood loss measurement and to initiate appropriate interventions when needed. Ongoing mentorship sessions, facilitated by designated champions, have been critical in supporting PPH bundle implementation. These sessions provided continued education to 2,155 healthcare providers, addressed challenges, and reinforced adherence to protocols.

Conclusion: The findings of this intervention demonstrate that the EMOTIVE bundle, including the use of calibrated drapes, has successfully reduced PPH rates and severity across multiple healthcare facilities. Midwives' increased confidence in using these tools has contributed to these improved outcomes. To ensure sustainability and a broader impact, we strongly advocate for scaling up these interventions at the county level, with support from county leadership. Expanding the EMOTIVE intervention will help institutionalize best practices and equip more healthcare facilities to effectively manage PPH, ultimately leading to improved maternal health outcomes.

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Job satisfaction amongst Kenyan obstetricians and gynecologists

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Background: This grounded theory study explores the level and determinants of job satisfaction among consultant obstetricians and gynecologists in Kenya, a lower-middle-income country with a limited healthcare workforce. Despite the critical role these specialists play in maternal and reproductive health, no prior studies have specifically examined their job satisfaction in Kenya.

Methods: Using a grounded theory approach, this qualitative study employed structured online interviews with 14 consultant obstetricians and gynecologists to identify key themes influencing their job satisfaction.

Results: The study identified several core themes affecting job satisfaction, including perceived opportunities for professional growth, alignment of work with remuneration, working hours, workload and responsibilities, and the balance between autonomy and task delegation. Consultants emphasized the need for improved career advancement opportunities and more equitable remuneration that reflects their workload and responsibilities. Excessive working hours and high workloads were reported as major stressors, often leading to burnout and diminished job satisfaction. Additionally, the ability to maintain autonomy in clinical decision-making while effectively delegating tasks emerged as a crucial factor influencing professional fulfillment.

Conclusion: The findings suggest that enhancing job satisfaction among these specialists requires targeted interventions focusing on professional development, fair compensation, manageable workloads, and supportive working conditions that foster both autonomy and efficient task delegation. Understanding the determinants of job satisfaction among obstetricians and gynecologists in Kenya is essential for several reasons. First, it can inform healthcare workforce policy decisions aimed at improving working conditions and retaining this vital group of providers. Second, it provides insight into how job satisfaction influences the quality of care provided to women in Kenya. Finally, this study contributes to the body of knowledge on healthcare workforce management in low- and middle-income countries, offering potential lessons for similar contexts.

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Maternal mortality at the Kenyatta National Hospital: A one-year review

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Background: Sustainable Development Goal (SDG) 3.1 aims to reduce the maternal mortality ratio (MMR) from 355 to 70 per 100,000 live births by 2030. Kenyatta National Hospital (KNH), the region's largest referral and teaching hospital, provides critical data on maternal mortality determinants to identify trends and inform targeted interventions.

Methods: A retrospective chart review was conducted for all maternal deaths at KNH from January to December 2024. Variables included patient demographics, obstetric characteristics, and cause of death, categorized according to the World Health Organization (WHO) framework for maternal mortality: direct, indirect, and late causes. Descriptive statistics were used to summarize trends. In 2024, there were 6,527 live births and 76 maternal deaths, equating to an MMR of 1,164 per 100,000 live births.

Results: The mean age of maternal mortality was 30.93±7.18 years. A total of 15.8% of maternal deaths occurred during pregnancy, while the remainder occurred in the antenatal or postpartum periods. Of the 76 maternal deaths, 85.5% were among referred patients, with an MMR of 995 per 100,000 live births. In comparison, 13.1% were walk-ins (MMR: 153 per 100,000 live births), and 1.3% were Kenyatta National Hospital clinic attendees (MMR: 15 per 100,000 live births). Two-thirds (66.7%) of maternal deaths occurred within the first 24 hours of admission. Hypertensive disorders were the leading direct cause of maternal deaths (36%), with 59.2% attributed to eclampsia and 40.7% to preeclampsia with severe features. Other direct causes included postpartum hemorrhage (9%), sepsis (9%), cesarean complications (7%), and complications from unsafe abortion (4%). Indirect causes accounted for 18% of maternal deaths. A total of 69.7% of maternal deaths occurred at ≥28 weeks' gestation, while 30.3% occurred at <28 weeks' gestation.

Conclusion: Hypertensive disorders remain the leading cause of maternal mortality at KNH. More than one-third of maternal deaths occurred within 24 hours of admission. These findings highlight the urgent need for policy and clinical interventions to improve maternal outcomes at KNH and beyond, including enhanced early recognition and management of preeclampsia at lower-level health facilities.

Keywords: hypertensive disorders, maternal mortality, maternal mortality ratio

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Reducing obstetric fistula surgical backlog through a routine service delivery model in Makueni County, Kenya: A promising approach

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Background: Obstetric fistula (OF) is a significant burden for women in low- and middle-income countries. In Kenya, the estimated prevalence of OF is 1%, though underreporting and limited access to healthcare contribute to uncertainty regarding the true burden of disease. The World Health Organization (WHO) estimates that between 50,000 and 100,000 new cases of OF occur annually worldwide. Jhpiego, with funding from

Johnson & Johnson, is collaborating with the Ministry of Health and the County Government of Makueni to establish a fistula repair center, which will serve as a blueprint for replication in other counties.

Methods: To establish OF repair services in Makueni County, a multidisciplinary OF care team was formed, consisting of a surgeon, nurses, anesthetists, a physiotherapist, a counseling psychologist, and a nutritionist. The surgeon underwent a six-week training program, while the remaining OF care team members participated in a two-week training. Client mobilization and awareness campaigns were conducted through media outreach, trained community health promoters (CHPs), and community engagement activities. The routine OF care model integrates obstetric fistula management into standard health services, ensuring continuous access to care.

Results: Since the launch of the fistula repair center and services in March 2023, a total of 146 fistula repair surgeries have been performed, and more than 1,000 clients have been screened for OF. Additionally, 826 CHPs have been trained in community-based verbal screening and referral processes. More than 30,000 community members have been reached through OF awareness messaging.

Conclusion: The successful establishment of a fistula repair center requires key components, including training of the fistula care team, adequate infrastructure, essential equipment and supplies, and strong community engagement. Community involvement is particularly critical for identifying hidden cases and supporting reintegration and rehabilitation efforts. The routine service delivery model presents a sustainable and scalable approach to reducing the obstetric fistula surgical backlog and improving long-term maternal health outcomes.

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Role of preanesthetic care in high-risk patients in Obstetrics and Gynecology: A case report

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Background: Maternal mortality remains disproportionately high in low- and middle-income countries. Nearly 60% of women require some form of anesthesia during delivery. Anesthesia accounts for approximately 2.8% of all maternal deaths. In alignment with the Sustainable Development Goals, the global objective is not only to reduce maternal mortality but also to create safe and enabling environments that promote the health and well-being of all patients. The World Health Organization recognizes access to emergency and essential anesthesia and surgical care as critical components of achieving universal health coverage.

Case presentation: A 35-year-old primigravida presented to a private facility in Nairobi at 35 weeks of gestation for antenatal care. She had been managed at a peripheral facility for preeclampsia (PE), with well-controlled blood pressure. The patient had kyphoscoliosis and was scheduled for an elective cesarean section (CS) at 37 weeks due to cephalopelvic disproportion (CPD) and PE. Three days before the scheduled CS, she experienced spontaneous labor with meconium-stained amniotic fluid (grade 2) and was admitted for an emergency CS. Endotracheal intubation was difficult, and the newborn was delivered with a low fetal index (LFI) and Apgar scores of 5, 6, and 8. The patient experienced intraoperative cardiac arrest, and resuscitation efforts were unsuccessful. Postmortem findings revealed esophageal intubation, leading to severe hypoxia.

Conclusion: With the rising number of cesarean sections globally, particularly among high-risk

patients, preanesthetic care is essential to ensure patient safety. Anesthesia providers should be integrated into the obstetric team, and patient optimization prior to surgery is crucial for improving maternal and perinatal outcomes. Proper preparation, as well as timely and appropriate referral for obstetric airway emergencies, is necessary to enhance patient safety and prevent fatal complications.

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When addressing resources is not enough: Lessons learned from a respectful maternal and neonatal care provider training intervention evaluation in Kenya and Tanzania

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Background: Respectful maternal and neonatal care (RMNC) upholds a pregnant individual's dignity, privacy, informed choice, and confidentiality, ensuring care free from harm and mistreatment. RMNC aims to promote a positive pregnancy and postpartum care experience for both pregnant individuals and their families while preventing obstetric violence. Although RMNC is widely recognized as a priority in obstetric care, a gap persists in resources and support tools for healthcare providers to fully understand and implement RMNC principles, particularly regarding long-standing practices such as non-humanized cesarean sections. MSI Reproductive Choices (MSI) manages 31 maternity facilities across seven countries with a zero-tolerance approach toward disrespectful maternity care and obstetric violence. To address this issue, MSI developed and implemented a hybrid training package comprising an online module and a 1-day in-person workshop designed to help healthcare providers explore their beliefs and attitudes toward RMNC. The training incorporates methodologies from values clarification and attitude transformation (VCAT) workshops and behavior change approaches.

Methods: The impact of this training intervention was assessed from the perspectives of both healthcare providers and patients. Patient experiences of respectful or disrespectful care were gathered through a cross-sectional survey of antenatal and postnatal patients attending MSI maternity facilities in Kenya and Tanzania before and after the RMNC training intervention. Healthcare providers completed pre- and post-workshop surveys on days 1, 90, and 180 to assess changes in their knowledge, attitudes, and perceived behaviors related to RMNC.

Results: Findings indicate that healthcare provider knowledge, attitudes, and perceived RMNC practices improved following the training intervention. Patients also reported a more positive experience of maternity care after the training.

Conclusion: RMNC is a patient-centered care priority in all MSI maternity facilities. This training intervention helps bridge the gap in resources available to support shifts in healthcare providers' attitudes and behaviors regarding RMNC. Ensuring that health system infrastructure supports compassionate obstetric care represents only the first step toward achieving RMNC. The evaluation results demonstrate that healthcare provider knowledge and attitudes can act as a bottleneck in the provision of RMNC, which can be addressed through VCAT and behavior change approaches.

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Minimally Invasive Gynecologic Surgery

Abdominal wall endometriosis at a laparoscopic port site: A case report

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Background: Abdominal wall endometriosis (AWE) is characterized by the presence of endometrial-like tissue within the subcutaneous fat, muscle, and fascia of the abdominal wall. AWE is a rare condition that poses diagnostic challenges and commonly presents as a subcutaneous mass beneath or near a previous surgical scar, often associated with cyclic pelvic pain and swelling during menstruation. This report describes a case of AWE occurring at a secondary laparoscopic port site.

Case presentation: A 32-year-old nulliparous woman presented with a four-month history of a swelling in the left iliac fossa, located at the site of a previous laparoscopic procedure. The swelling was associated with cyclic pain that began at the onset of menses and resolved at the end of menstruation. She reported an interval increase in size during menses, followed by a slight reduction thereafter. Her surgical history included a myomectomy performed three years prior, initially attempted laparoscopically but later converted to laparotomy. A transabdominal ultrasound revealed a 20 × 17 mm hypoechoic, solid mass with irregular margins in the left lower abdominal quadrant. Color Doppler imaging demonstrated internal vascularity within the lesion. The patient underwent surgical excision via laparotomy, and the mass was found to be attached to the rectus sheath. Following excision, the fascial defect was closed by re-approximation, and the subcutaneous tissue and skin were sutured. Additionally, a bilateral cystectomy was performed for concurrent bilateral endometriomas. Histopathological examination confirmed endometriosis.

Conclusion: This case highlights the importance of maintaining a high index of suspicion for AWE in reproductive-age women with a history of pelvic or gynecologic surgery who present with a mass and cyclic pelvic pain. AWE should be considered among the differential diagnoses for abdominal wall masses associated with catamenial pain, particularly in women with a history of abdominopelvic surgery. Although imaging modalities such as ultrasound or MRI are nonspecific, they may aid in delineating disease extent and surgical planning. With the increasing number of cesarean sections, pelvic surgeries, and laparoscopic procedures, the incidence of AWE is expected to rise, necessitating greater awareness among clinicians.

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Advancing hysteroscopy: Outcomes and acceptability in an outpatient setting

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Background: Advancements in technology have enabled hysteroscopy to be performed in an outpatient setting, reducing the need for hospital admissions.**Objective:** To evaluate patient acceptability, procedural efficiency, and cost-effectiveness of outpatient hysteroscopy.

Methods: Patient acceptability was assessed through anonymous feedback collected over six months, while procedural efficiency was evaluated via an audit of cases requiring conversion to an operating theatre over a three-month period.

Results: Over six months, patient feedback from the outpatient hysteroscopy unit demonstrated

high levels of satisfaction. All patients (100%) reported receiving written information, with 92% confirming they understood what to expect during the procedure. Additionally, 85% were offered the opportunity to discuss pain relief options, including alternative anesthesia and sedation. Patients consistently reported positive experiences, with 100% stating they were treated with respect and dignity, and 93% experiencing no or only slight distress. While 66% of patients felt in control during the procedure, an equal proportion (66%) reported experiencing slight pain. Despite this, 92% rated their overall experience as good, and 98% indicated they would choose outpatient hysteroscopy again if necessary. Furthermore, 50% of patients reported moderate to low levels of discomfort or pain during the procedure. Regarding procedural efficiency, 536 outpatient hysteroscopy procedures were performed over a three-month period. Of these, 10% were abandoned and subsequently rebooked for theatre, highlighting areas for further optimization.

Conclusion: Outpatient hysteroscopy is well-accepted by patients and provides a cost-effective, efficient alternative to inpatient procedures. Its success depends on skilled practitioners, comprehensive patient education, and a well-equipped, private clinical environment to ensure safety and comfort.

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Laparoscopic management of heterotopic pregnancy with ovarian torsion: A case report

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Background: Heterotopic pregnancy, defined as the simultaneous occurrence of intrauterine and ectopic pregnancies, is a rare but potentially life-threatening condition with an incidence of approximately 1 in 30,000 spontaneous conceptions. Identified risk factors include assisted reproductive technologies, pelvic inflammatory disease, and previous ectopic pregnancies. Early recognition through clinical evaluation and ultrasonography is essential for timely intervention.

Case presentation: A 29-year-old woman, gravida 2, para 1, presented with lower abdominal pain and vaginal spotting at 6 weeks' gestation. Her last menstrual period was 6 weeks prior. She had no significant medical or surgical history. On examination, the patient was hemodynamically stable but reported moderate-to-severe left lower quadrant tenderness without guarding or rebound tenderness. Transvaginal ultrasonography revealed a 5-week intrauterine pregnancy with a yolk sac, a left adnexal mass concerning for a left tubal ectopic pregnancy without cardiac activity, and a left twisted ovarian cyst with reduced Doppler flow. The patient underwent emergency laparoscopic surgery due to the risk of rupture and ovarian torsion. Intraoperative findings confirmed a left tubal ectopic pregnancy and a twisted hemorrhagic ovarian cyst. A left salpingectomy and detorsion of the ovary were performed, preserving ovarian function. The postoperative course was uneventful, and progesterone support was initiated.

Discussion: Heterotopic pregnancy presents a diagnostic challenge due to overlapping symptoms with other early pregnancy complications. In this case, the absence of traditional risk factors underscores the need for maintaining a high index of suspicion for heterotopic pregnancy in symptomatic early pregnancy patients. Transvaginal ultrasonography remains the cornerstone of diagnosis, and emergent surgical intervention is warranted when complications such as rupture or torsion are suspected. Management strategies are guided by the patient's clinical stability, with laparoscopic surgery preferred for prompt resolution and fertility preservation. This case highlights the critical role of interdisciplinary collaboration among obstetricians, radiologists,

and surgical teams in managing such emergencies.

Conclusion: Heterotopic pregnancy, though rare, should be considered in cases of early pregnancy complications, even in the absence of conventional risk factors. Timely diagnosis and prompt surgical intervention can be life-saving and fertility-preserving.

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Vaginal natural orifice transluminal endoscopic surgery (vNOTES) - experience with a novel surgical approach at Aga Khan University Hospital, Nairobi: A case series

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Background: Natural orifice transluminal endoscopic surgery (NOTES) allows access to the abdominopelvic cavity through a natural orifice. Vaginal NOTES (vNOTES) involves an incision through the posterior fornix, followed by the insertion of a single-port device for laparoscopic surgery. First described in 2012, vNOTES has demonstrated advantages over conventional laparoscopy and vaginal hysterectomy. The first documented vNOTES gynecological procedure in Kenya was performed at our institution, and we have since conducted five additional cases. This case series presents our experience with vNOTES, highlighting its benefits, challenges, and a review of available evidence on its clinical utility.

Case series: Five patients underwent vNOTES procedures in 2024. Two patients with pelvic organ prolapse successfully underwent vNOTES high uterosacral ligament colposuspension. One attempted vNOTES hysterectomy failed due to difficulty in manipulating a bulky fibroid uterus; the procedure was converted to vaginal hysterectomy followed by vNOTES bilateral salpingectomy. The average blood loss in patients who underwent vaginal hysterectomy with adjunct vNOTES pelvic surgery was 150 mL. One patient with fibroids successfully underwent vNOTES hysterectomy and bilateral salpingectomy with a blood loss of 50 mL. All patients recovered well and were discharged on postoperative day one. An attempted vNOTES procedure in a case of ruptured ectopic pregnancy with hemoperitoneum failed due to poor visualization after port placement, necessitating conversion to conventional laparoscopy.

Discussion: Compared with vaginal hysterectomy, vNOTES is associated with reduced blood loss, overcomes the challenge of uterine descensus, and offers greater surgical flexibility. Compared with conventional laparoscopy, vNOTES provides shorter recovery time and eliminates abdominal wall incisions. However, vNOTES is not ideal for ruptured ectopic pregnancy, dense pelvic adhesions, or large pelvic masses, which may be challenging to manipulate.

Conclusion: vNOTES offers a novel surgical approach that combines the visualization benefits of laparoscopy while avoiding the risks associated with transabdominal entry. It is a safe and feasible option for select benign gynecologic conditions.

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Pediatric and Adolescent Gynecology

Transverse vaginal septum complicated with hematometrocolpos in a preteen girl: A case report

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Background: A transverse vaginal septum (TVS) is a congenital anomaly resulting from embryonic fusion or canalization failure. It typically presents with menstrual and reproductive symptoms. Diagnosis involves imaging, and management requires surgical intervention with long-term follow-up to prevent complications.

Case presentation: An 11-year-old girl with a five-month history of severe cyclical abdominal pain was diagnosed with hematometrocolpos secondary to a transverse vaginal septum following ultrasound and magnetic resonance imaging (MRI). Preoperative evaluation revealed no associated anomalies. After a previously unsuccessful surgical attempt, the patient underwent vaginoplasty under general anesthesia, which included septum dissection, hematometra drainage, and marsupialization, followed by catheter placement to prevent stenosis. Postoperative care involved close monitoring and scheduled follow-ups. The patient was discharged in stable condition with a plan for ongoing urogynecological evaluation to ensure proper healing and prevent recurrence.

Conclusion: Early detection, thorough clinical evaluation, and advanced imaging techniques are essential for diagnosing congenital genital anomalies. Specialized surgical management and long-term follow-up are crucial for achieving optimal outcomes and improving reproductive health in young girls.

Keywords: cyclical pelvic pain, hematometrocolpos, preteen girl, transverse vaginal septum

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Transverse vaginal septum management and challenges: A case report

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Background: A transverse vaginal septum is a Müllerian duct anomaly hypothesized to result from a failure of vaginal plate canalization or defective fusion between the urogenital sinus and Müllerian tubercle. This condition is rare, with an estimated incidence ranging from 1 in 2,100 to 1 in 72,000. Patients typically present after menarche with hematocolpos, abdominal swelling, and cyclical lower abdominal pain. Diagnosis is based on clinical examination, transperineal ultrasound, or magnetic resonance imaging (MRI) in complex cases. Surgical management is the mainstay of treatment.

Case presentation: We report the case of a 12-year-old nulliparous female who presented with a 6-month history of lower abdominal swelling, cyclical abdominal pain, and constipation. On examination, she was found to have a lower imperforate transverse vaginal septum. MRI findings revealed a distended uterus containing

623 mL of fluid, along with associated hydronephrosis. She underwent vaginal surgical excision of the transverse septum; however, she subsequently developed postoperative stenosis, necessitating revision surgery and stent placement.

Conclusion: A transverse vaginal septum is a rare anomaly of the female reproductive system. Early diagnosis through clinical examination and imaging modalities facilitates timely intervention. Surgical excision remains the definitive treatment; however, postoperative complications, such as stenosis or stricture formation, may require additional interventions.

Keywords: hematocolpos, surgical excision, transverse vaginal septum

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Pelvic Health and Rehabilitation

Obstetric fistula stigma reduction through rehabilitation and reintegration strategies: Learnings from Makueni County, Kenya

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Background: Obstetric fistula (OF) is a debilitating childbirth injury characterized by an abnormal opening between the birth canal and the bladder and/or rectum, resulting in urinary and fecal incontinence. Women with OF often experience significant psychological distress, yet mental health disorders in these patients are rarely screened for or adequately addressed. Even after surgical repair, many women continue to struggle with psychosocial challenges, which remain largely unaddressed. Jhpiego, with funding from Johnson & Johnson, has implemented a comprehensive OF program in Makueni County that extends beyond surgical repair to include psychosocial support, rehabilitation, and reintegration efforts aimed at reducing stigma.

Methods: The program utilizes a comprehensive, multidisciplinary model, where clients receive care from a specialized fistula team, including surgeons, counselors, nutritionists, physiotherapists, and nurses. Women are screened for mental health conditions and linked to appropriate services. Post-discharge, the multidisciplinary team conducts home visits, supported by community health promoters (CHPs), to assess patients' social and economic reintegration. Additionally, facility progress meetings and client experience-sharing forums are held to foster community support.

Results: Since the project's implementation, the team has conducted post-discharge visits for more than 50 clients. A total of 826 CHPs have been trained in client follow-up, and 19 journalists have been trained to debunk myths and misconceptions about OF. Additionally, over 20,000 community members have been reached with fistula-related education. The project also organized experience-sharing meetings with 35 women who had undergone fistula repair, incorporating patient champions who shared their recovery journeys.

Conclusion: A holistic approach to OF management which extends beyond surgical repair to include psychosocial support and community reintegration is essential for improving patient well-being and reducing stigma. Strengthening facility- and community-based reintegration strategies is critical to ensuring comprehensive care for women recovering from OF.

Keywords: mental health, multidisciplinary care team, obstetric fistula, rehabilitation, reintegration

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Urodynamic studies, diagnostic and therapeutic approaches to female voiding dysfunction: A retrospective review

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Background: Voiding dysfunction in women is a complex and relatively uncommon condition that presents diagnostic and management challenges. This study summarizes our experience at the Aga Khan University Hospital's urogynecology department, focusing on urodynamic study findings, diagnostic techniques, and therapeutic approaches for bladder emptying disorders.

Methods: We conducted a retrospective review of medical records from 10 women treated for voiding dysfunction between August 2022 and November 2024. These cases accounted for approximately 5% of all urodynamic studies performed during that period. Diagnostic tools utilized included transperineal ultrasound (TPS), pressure-flow studies, voiding cystourethrography (VCUG), uroflowmetry, electromyography (EMG), and urethral pressure profilometry (UPP). The most common diagnosis was detrusor underactivity (6 cases), followed by urethral stricture, dysfunctional voiding, and primary bladder neck obstruction.

Results: Each patient received a personalized treatment plan based on their diagnosis. Intermittent self-catheterization (ISC) was the primary management approach for detrusor underactivity and led to significant symptom improvement. One patient responded well to neuromodulation, achieving complete symptom resolution. A patient with recurrent urethral stricture underwent dorsal urethroplasty after multiple failed urethral dilatations. Dysfunctional voiding and suspected strictures were managed with urethral dilatation. Primary bladder neck obstruction was treated with either a bladder neck incision or alpha-blocker therapy. In two cases of detrusor underactivity, conservative management was chosen over immediate intervention.

Conclusion: This review highlights the importance of a personalized, multidisciplinary approach in the management of female voiding dysfunction. Urodynamic studies, in conjunction with other diagnostic modalities such as voiding cystourethrography and transperineal ultrasound, aid in accurate diagnosis. ISC remains an effective management strategy for functional voiding disorders, while surgical interventions are preferred for structural abnormalities. Neuromodulation may offer symptom relief in select patients with detrusor underactivity. Given the complexity of female voiding dysfunction, further research is needed to enhance diagnostic accuracy and improve treatment outcomes.

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Policy and Advocacy for Maternal Health

A sub-national government led collaborative approach to sustainably unlock domestic resources for addressing teenage pregnancy across East Africa

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Background: Teenage pregnancy is defined as pregnancy occurring in girls aged 15 to 19 years. In East Africa, teenage pregnancy rates exceed the global average, with rates of 15% in Kenya and 25% in both Uganda and Tanzania. Adolescent pregnancy is associated with an increased risk of adverse maternal and perinatal outcomes. Limited access to sexual and reproductive health (SRH) services is a significant driver of teenage pregnancy.

Methods: The Challenge Initiative (TCI) is a platform designed to enhance the impact and sustainable scale of reproductive health programs. TCI currently supports 63 sub-national governments in Kenya, Uganda, and Tanzania through coaching and mentorship on the implementation of high-impact interventions. Key activities include expanding youth-friendly service delivery at the community level, increasing the number of youth-friendly health facilities, providing adolescents with accurate SRH information, and enhancing the visibility and utilization of age-disaggregated adolescent and youth (AY) data.

Results: TCI has successfully advocated for sub-national governments to prioritize adolescent and youth sexual and reproductive health (AYSRH), leading to domestic resource commitments totaling $1,406,383 (Kenya: $544,510, Uganda: $388,161, Tanzania: $473,712) toward AYSRH high-impact interventions. Additionally, 341 public health facilities have integrated youth-friendly services. As a result of these efforts, teenage pregnancy rates in TCI-supported regions have decreased by an average of 23% (Kenya: 30%, Uganda: 12%, Tanzania: 24%).

Conclusion: Sub-national governments can successfully mobilize domestic resources and implement impactful AYSRH programs to address the urgent challenge of rising teenage pregnancy rates.

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Bridging policy gaps for the deliberate integration of maternal mental health into Kenya's health strategies with community support systems

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Background: In Kenya, perinatal mental disorders, including postpartum depression, continue to cause significant harm. Their effects extend beyond the mother and infant, impacting overall maternal health and contributing to poor attendance at scheduled hospital visits. Despite this, maternal mental health care remains largely absent in Kenya's maternal health services, data collection, and policy discussions, effectively relegating it to the periphery of health care. Stigma toward individuals with maternal mental

health conditions further manifests in punitive policies, exacerbating the already high maternal and perinatal morbidity and mortality rates, both directly and indirectly.

Objective: To demonstrate that addressing maternal mental health through deliberate policy interventions could play a crucial role in improving overall maternal health outcomes. This study underscores the necessity for Kenyan policies to not only recognize and integrate maternal mental health into health systems but also establish a framework for collaboration with community health support systems to promote positive mental health. Additionally, this study compares policy documents and legislation from developed countries that have effectively integrated maternal mental health into healthcare systems with those from developing countries.

Methods: Using a critical policy analysis approach, this study examined and reviewed various health policies, legislation, strategies, and policy documents at both county and national levels. Additionally, interviews were conducted with county healthcare providers to assess the current landscape of maternal mental health policies and practices.

Results: The analysis revealed that while some policy documents acknowledge the importance of mental health in maternal care, none provide concrete strategies or implementable policies that address key aspects such as data collection, funding, provider training, and community involvement. Furthermore, little emphasis is placed on the emotional and psychological well-being of mothers, resulting in inadequate systems and programs that fail to holistically support maternal mental health.

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Challenges of menstrual hygiene management among women of reproductive age from four counties in Kenya: A cross-sectional study

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Background: Menstrual hygiene management (MHM) is a pervasive global issue. Many individuals who menstruate have long faced limited access to reproductive health education, menstrual hygiene products, and adequate menstrual hygiene management methods. This overlooked public health crisis has been termed "period poverty" by menstrual equity advocates. Period poverty is directly linked to Sustainable Development Goals (SDGs) 3, 4, 5, 6, and 8, underscoring the need for it to be addressed as a public health priority. While menstrual health research has primarily focused on school-going girls, with interventions such as the ten-year agenda for transforming girls' experiences (Menstrual Hygiene Management in Ten [MHM in Ten]), there is limited data on women of reproductive age. This study was conducted as part of a larger research initiative to document menstrual health challenges among women of reproductive age.

Methods: A mixed-method study design was used. A multilevel sampling approach identified four counties—Kakamega, Kiambu, Bungoma, and West Pokot—and further stratified enumeration areas (EAs) into urban and rural settings. Households were randomly selected from the EAs. Women aged 15 to 49 years were interviewed after providing informed consent, ensuring both visual and oral privacy. Data were collected using Open Data Kit (ODK), an open-source software program. Descriptive statistics are presented.

Results: Among the 3,975 women who participated in the study, the three most commonly reported menstrual products were disposable pads (89.2%), cloths (11.3%), and underwear (5.9%). Only 4.2% of participants

used reusable pads. Overall, 49.2% reported challenges in accessing menstrual hygiene products. More than 84.0% indicated they lacked sufficient financial resources to purchase menstrual products. Approximately 20.0% were uncomfortable asking someone else to buy products on their behalf, while 10.0% reported that the products they needed were unavailable in stores. Additionally, 18.0% of respondents were uncomfortable purchasing menstrual products themselves. Qualitative data corroborated these findings.

Conclusions: Approximately 50% of women of reproductive age in the study counties experienced period poverty, which may negatively impact their health. These findings highlight the need for policies that improve access to menstrual hygiene products, promote safe menstrual management practices, and enhance reproductive health education. Addressing period poverty may foster a sense of empowerment, autonomy, dignity, and equality for menstruating individuals.

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Media - a powerful tool in debunking myths and misconceptions and unmasking obstetric fistula. A case study in Makueni County, Kenya

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Background: Obstetric fistula (OF) is a severe childbirth injury characterized by an abnormal opening between a woman's birth canal and her bladder and/or rectum, leading to urinary and fecal incontinence. This condition places a significant burden on women in many low- and middle-income countries. In resource-limited settings, myths, misconceptions, stigma, lack of awareness, and limited access to healthcare facilities remain major barriers to timely medical intervention. The World Health Organization (WHO) estimates that between 50,000 and 100,000 new cases of OF occur annually. In Kenya, the prevalence of OF is estimated at 0.7% (Kenya Demographic and Health Survey 2022); however, underreporting is common, as OF patients are often a hard-to-reach population.

Objective: Jhpiego, with funding from Johnson & Johnson, is implementing a comprehensive OF program in Makueni County focused on prevention, awareness creation, and education about OF services, reducing the surgical backlog, identifying hidden cases, and supporting appropriate case management, rehabilitation, and reintegration. This study investigates the role of media in identifying and addressing obstetric fistula cases in Makueni County.

Methods: The project trained local media personnel, trained community health promoters (CHPs), and implemented OF-specific text message campaigns targeted at residents of Makueni County.

Results: Between January and December 2024, more than 400 women with suspected OF were screened, with 112 cases confirmed. According to service statistics: 44.8% of affected women reported first hearing about OF services through radio broadcasts, 26.6% learned about OF from CHPs, and 10.6% were informed by a friend. These findings underscore the significant role of media as a tool for disseminating OF-related messages and identifying previously undiagnosed cases.

Conclusion: This study highlights the importance of multidisciplinary collaboration between healthcare providers and media platforms in addressing obstetric fistula. Expanding media campaigns and integrating them into broader public health strategies is crucial for raising awareness, reducing stigma, and improving healthcare-seeking behavior among women with OF. Counties can leverage

media channels to enhance community engagement, promote timely diagnosis, and facilitate access to treatment and rehabilitation services.

Keywords: Media, obstetric fistula, stigma, healthcare-seeking behavior, awareness campaigns

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Policy advocacy for the implementation of the Clinical Handbook on the Prevention and Management of the Big 5 Direct Causes of Maternal Morbidity and Mortality in Kenya

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Background: In Kenya, early pregnancy complications are among the leading contributors to maternal morbidity and mortality. The withdrawal of the 2013 guidelines for managing unsafe abortion created a critical gap in maternal healthcare. In response, MSI Reproductive Choices Kenya, in collaboration with other stakeholders, advocated for the development of a Clinical Handbook addressing the five leading causes of maternal morbidity and mortality. Approved by the Director-General of Health in May 2023, the handbook provides clinical guidance on managing severe preeclampsia/eclampsia, early pregnancy complications, puerperal sepsis, postpartum hemorrhage, and obstructed labor.

Objectives: The primary objective is to ensure that the Ministry of Health and county governments disseminate the handbook by December 2025.

Methods: A 15-member Committee of Experts, including representatives from MSI Reproductive Choices Kenya and other key stakeholders, led the handbook's development. The process involved a series of workshops and retreats to design and refine the content. MSI Reproductive Choices Kenya contributed technical and financial resources and facilitated engagement with the Director-General of Health and key partners to advance the initiative.

Results: The Clinical Handbook was approved in May 2023 as a reference for trained healthcare professionals. Although the official launch is pending, the Ministry of Health has encouraged county governments to support its implementation to improve maternal health outcomes.

Conclusions: The Clinical Handbook serves as a vital reference for managing the five leading causes of maternal morbidity and mortality in Kenya.

Recommendations: MSI Reproductive Choices Kenya recommends the national and county-level dissemination of the handbook to ensure healthcare providers are equipped with standardized guidelines to address maternal health challenges.

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Sexual harassment of women of reproductive age from four counties in Kenya: A cross-sectional study

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Background: Sexual harassment is recognized as a form of sex-based discrimination and a violation of the principle of equal treatment between men and women, placing it within the spectrum of gender-based violence (GBV). Various forms of sexual harassment disproportionately affect younger women. The World Health Organization (WHO) defines sexual harassment as "any unwelcome sexual advance, unwelcome request for sexual favors, verbal or physical conduct or gesture of a sexual nature, or any other behavior of a sexual nature that might reasonably be expected or perceived to cause offense, humiliation, or intimidation to the targeted person." This study examines the frequency and forms of sexual harassment experienced by women of reproductive age in four counties in Kenya.

Methods: A mixed-method study design was used. Multilevel sampling was conducted to identify four counties: Kakamega, Kiambu, Bungoma, and West Pokot and enumeration areas (EAs) within urban and rural settings. Households were selected from the EAs. Women aged 15-49 years were interviewed at home, ensuring both visual and oral privacy, following informed consent. Data were collected using Open Data Kit (ODK), an open-source software platform. Descriptive statistics are presented.

Results: A total of 3,975 women participated in the survey, of whom 47.1% reported experiencing at least one form of sexual harassment in the past year. The three most commonly reported forms were staring or leering (38.3%), unwanted sexual comments, jokes, or gestures (34.1%), and unwanted sexual attention (29.9%). Reports from Kakamega County were higher than the average across the four counties. Overall, 74% of participants reported that, in their community, it is problematic for boys and men to make unwanted sexual comments or gestures toward girls or women. The highest reporting county was Kakamega.

Conclusion: Safety concerns for women and girls in public spaces remain significant, with nearly half of respondents reporting past-year experiences of sexual harassment. The majority of participants identified safety concerns in public places as a pressing issue within their communities. These preliminary findings highlight the need for further research to inform the development of effective prevention strategies based on data-driven insights.

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Strengthening policy advocacy for maternal health: Leveraging multi-stakeholder partnerships to reduce maternal mortality

Background: Despite advancements in obstetric and gynecologic care, structural barriers, including insufficient resource allocation, fragmented policy implementation, and inadequate community engagement continue to hinder progress toward equitable maternal health outcomes. This paper emphasizes the need for inclusive, evidence-based strategies that bridge policy and practice to reduce maternal mortality rates.

Objective: This study aims to present a roadmap for reducing maternal mortality by fostering equity-driven, actionable policy reform. Specifically, it outlines strategies to strengthen healthcare systems through multi-stakeholder collaboration, optimize resource allocation, and implement community-centered solutions to improve maternal health outcomes.

Methods: Using data from case studies in under-resourced settings, this study examines successful multi-stakeholder initiatives engaging healthcare providers, policymakers, researchers, and community advocates. It demonstrates the impact of data-driven decision-making, inclusive policy development, and advocacy efforts focused on accessibility and sustainability.

Results: Findings indicate that collaborations between policymakers and grassroots stakeholders enhance accountability and facilitate the adoption of sustainable maternal health practices. Case examples highlight the

importance of aligning advocacy efforts with targeted policy interventions, leading to improved access to obstetric care, more efficient resource utilization, and strengthened maternal health systems.

Conclusion: This study underscores the need for integrating multi-stakeholder approaches into maternal health frameworks to build sustainable, inclusive, and resilient healthcare systems. It provides actionable recommendations, including the establishment of interdisciplinary alliances, the use of evidence-based advocacy tools, and the development of frameworks for equitable resource allocation. These strategies are essential for addressing maternal health inequities and achieving long-term systemic change.

Keywords: gynecology, maternal health, multi-stakeholder partnerships, obstetrics, policy advocacy, , systemic reform

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Reproductive Endocrinology and Fertility

Ameliorating effects of vitamin D on anthropometric indices and lipid profiles in polycystic ovary syndrome patients at Mediheal Fertility Centre and Moi Teaching and Referral Hospital, Eldoret – Kenya

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Background: Despite growing evidence suggesting a link between vitamin D and insulin resistance, controversy remains regarding the efficacy of vitamin D supplementation in improving anthropometric indices and lipid profiles in women with polycystic ovary syndrome (PCOS).

Objective: To evaluate the ameliorating effects of vitamin D on novel anthropometric indices and lipid profiles in patients with PCOS attending Mediheal Fertility Centre and Moi Teaching and Referral Hospital in western Kenya.

Methods: A randomized controlled study was conducted involving 40 women with PCOS, who were randomized into two groups: one receiving 60,000 IU/week of vitamin D plus 500 mg/day of metformin (n = 20), and the other receiving 500 mg/day of metformin alone (n = 20) for 12 weeks. Data were analyzed using STATA version 15. The Mann-Whitney and Kruskal-Wallis tests were used for statistical comparisons, and continuous variables are presented as medians with interquartile ranges.

Results: Statistically significant improvements were observed from pre-intervention to post-intervention in the vitamin D plus metformin group for the following parameters: visceral adiposity index, lipid accumulation product, body roundness index, total cholesterol, low-density lipoprotein (LDL) cholesterol, triglycerides, LDL:HDL ratio, and Castelli's risk index ($p < 0.05$), compared to the metformin-only group, which did not show significant changes ($p > 0.05$). Additionally, a significant increase in high-density lipoprotein (HDL) cholesterol was observed in the vitamin D plus metformin group compared to the metformin-only group ($p < 0.05$). However, no statistically significant differences were found in body adiposity index, a body shape index, body mass index, waist-to-height ratio, or waist-to-hip ratio in either treatment group ($p > 0.05$).

Conclusion: Vitamin D may augment the effects of metformin in the management of obesity among women with PCOS, potentially alleviating insulin resistance.

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Embryo pooling in improvement of in vitro fertilization outcome: A case series

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Background: Embryo pooling is an in vitro fertilization (IVF) technique that involves cryopreserving embryos obtained from multiple

IVF cycles to enhance treatment success rates. Once all cycles are completed, the cryopreserved embryos are cultured to the blastocyst stage, and the highest-quality embryo is selected for transfer. Alternatively, sequential embryo transfer can be performed. This approach is particularly beneficial for women of advanced maternal age, those with poor ovarian reserve, poor-quality embryos, or multiple failed IVF cycles. Embryo pooling is also advantageous in preimplantation genetic testing cycles, particularly in cases of diminished ovarian reserve. By allowing for the accumulation of a sufficient number of high-quality embryos, embryo pooling not only increases the likelihood of implantation success but also reduces the emotional and psychological stress associated with repeated IVF failures.

Objective: To review and evaluate the role of embryo pooling in improving IVF outcomes.

Methods: A review of 2 IVF cycles successfully managed with embryo pooling at Creation Fertility Centre.

Conclusion: The accumulation of embryos through multiple IVF cycles allows for better embryo selection and the possibility of transferring multiple high-quality embryos, thereby improving pregnancy outcomes in women with poor prognostic factors, including those older than 35 years and those with poor ovarian reserve. Compared with a single-cycle approach, which carries a high risk of cycle cancellation, undergoing three repeated cycles significantly increases the likelihood of achieving at least one embryo transfer, including at least one euploid embryo.

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Hysterosalpingo-contrast sonography (HyCoSy): An underutilized but invaluable tool in fertility diagnostic evaluation – experience from a tertiary referral hospital: A case series

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Background: Hysterosalpingo-contrast sonography (HyCoSy) is a minimally invasive diagnostic procedure used to assess the uterus, fallopian tubes, ovaries, and pelvis via transvaginal sonography with contrast agents. Traditionally, hysterosalpingography (HSG) and laparoscopy have been the standard methods for these evaluations. However, emerging evidence demonstrates that HyCoSy offers a safer, more efficient, and effective diagnostic alternative for women with fertility concerns. This case series presents our experience with HyCoSy, highlighting its common indications, findings, and a review of its clinical utility in Kenya.

Case series: Between November 2022 and December 2024, a fertility specialist performed 155 HyCoSy procedures at Aga Khan University Hospital. The most common indications included infertility and suspected intracavitary lesions such as uterine polyps and fibroids. The evaluation assessed uterine size and shape, endometrial and myometrial pathology, and ovarian morphology. Fallopian tube patency was evaluated in real-time as saline and air contrast filled the tubes and pooled into the posterior cul-de-sac. Common findings included patent or blocked tubes, fibroids, and endometrial polyps. Other diagnoses included hydrosalpinx, polycystic ovaries, endometriosis, and, rarely, hematometra. Patients tolerated the procedure well, with no reported post-procedure complications. Challenges included occasional difficulty in advancing the catheter through the internal os.

Discussion: Current evidence supports HyCoSy as a safe, effective, and highly valuable tool in fertility evaluation. Unlike HSG, HyCoSy enables real-time assessment of the uterine cavity, ovarian morphology, and follicular count, with the added benefit of avoiding radiation exposure and iodinated contrast. With appropriate training, it can also facilitate further evaluation for endometriosis. Additionally, compared to laparoscopy and hysteroscopy, HyCoSy requires fewer technical and infrastructural resources,

making it a more accessible option for fertility assessment.

Conclusion: Our findings align with existing evidence supporting the clinical utility of HyCoSy in fertility evaluation. This case series highlights HyCoSy as a safe and highly effective diagnostic modality, advocating for its broader adoption in gynecologic evaluations without tubal assessment.

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Laser-assisted hatching in *in vitro* fertilization: A case series and literature review

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Background: In women older than 35 years and those with recurrent in vitro fertilization (IVF) failure (RIF), the inability of the zona pellucida (ZP) to rupture is believed to contribute to decreased implantation rates. The embryo is surrounded by the ZP, and prior to implantation, it must escape from the ZP, a process known as hatching. Normal embryo hatching is primarily facilitated by zona lysis rather than the pressure exerted by the expanding blastocyst. Failure of embryo hatching may be a limiting factor in human reproductive efficiency, particularly in IVF. Assisted hatching of human embryos prior to transfer in assisted reproductive technology (ART) programs has been proposed as beneficial, particularly in cases of embryos with a thick or dense ZP. A thick ZP may be associated with advanced maternal age, poor embryo quality, or suboptimal culture conditions.

Objective: To review and evaluate the role of laser-assisted hatching (LAH) in women of advanced maternal age, those with recurrent IVF failure, and those with a thick or dense ZP, focusing on its potential benefits.

Methods: A review of literature and studies on LAH, as well as an analysis of cases managed using LAH at Creation Fertility Centre.

Conclusion: Patients younger than 35 years have shown a significantly increased rate of multiple pregnancies following the utilization of LAH. The benefits of LAH in improving pregnancy rates after IVF or intracytoplasmic sperm injection (ICSI) have been observed in women of advanced maternal age (≥35 years), those with recurrent IVF failure, and those with a thick ZP.

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Parenthood from the grave - postmortem sperm retrieval and cryopreservation: A case report

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Background: Posthumous conception can occur under various circumstances, and sperm retrieval from deceased males is a recognized procedure for use in assisted reproduction. However, when physicians receive requests to retrieve sperm or ovarian tissue from a deceased or dying individual, they encounter profound ethical and legal challenges. The pleas of bereaved spouses or parents arise from tragic circumstances, evoking compassion and a desire to alleviate the survivor's suffering. Nevertheless, complying with such requests raises critical questions regarding informed consent, the identity of the authorized decision-maker, and whether the deceased retain procreative rights that must be respected.

Objective: To examine the ethical and legal framework surrounding postmortem gamete retrieval, cryopreservation, and conception.

Case presentation: A 38-year-old childless male suffered sudden death following a road traffic accident. His sperm and testicular tissue were retrieved posthumously and cryopreserved at the Creation Fertility Centre.

Conclusion: Postmortem conception is feasible through gamete retrieval and assisted reproductive techniques. However, this practice necessitates clear guidelines to determine the locus of decision-making authority. Should

legislative intervention be required, or should the matter remain within the realm of medical ethics? Furthermore, is it ethically and morally justifiable for conception to occur using gametes from a deceased individual?

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