uptake of other services in some poor populations in Mesoamerica, and highlights the need for continued and varied efforts in these populations to increase uptake and improve effectiveness of ANC in encouraging positive and lasting effects on women's participation in health services.

Abstract #: *2.002_WOM*

Exploring Variations in Perceptions of Neonatal Airway Management with Traditional Birth Attendants and Midwives Practicing in Rural Uganda: A Qualitative Study

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Background: Each year worldwide, 2.8 million neonatal deaths occur, and 25% are caused by hypoxic events, also referred as birth asphyxia. The World Health Organization (WHO) recognizes the need to educate the developing nation's physicians, nurses and midwives to reduce the neonatal mortality rate, to address the Millennium Development Goal (MDG). Although trained health care workers decrease the neonatal mortality rate, the limited numbers are unable to cover rural areas. Therefore, Traditional Birth Attendants (TBAs) remain the primary healthcare providers in the rural areas. Yet a need exists to train and assimilate the TBAs with the facility-based midwives to provide culturally appropriate educational resources in rural areas to manage birth asphyxia.

Aim: This study captured the "voices" of TBAs and midwives practicing in rural Uganda at Masindi-Kitara Medical Center (MKMC) and affiliated villages to assess their perceptions of safety in neonatal airway management, the need for modifying educational resources, such as Helping Babies Breathe (HBB) guidelines, that is cultural appropriate and enhances learning preferences for better adaptation in local contexts.

Methods: A qualitative focused ethnographic method was used to collect data by field-notes during observation of births, interviews with the MKMC management, midwives, TBA facilitator and a focus group discussion with seven TBAs.

Findings: The analysis confirms that the facilitators are the best practices of the MKMC midwives who are competent in providing neonatal airway management training, while the TBAs have barriers to performing optimal neonatal airway management due to lack of resources, a limited knowledge base and cultural practices. The learning preferences of the TBAs are "demonstration" and the "time honored" method through created song in the local language to remember the importance of neonatal airway management.

Interpretation: The knowledge gained in this study will contribute to development and dissemination of culturally tailored educational intervention to enhance the TBAs understanding of effective neonatal airway management by re-demonstration and verbalizing the HBB steps. The joint effort of midwives and TBAs (facility/home-based) in creating a preferred learning method to implement the HBB guidelines may address a sustainable approach for future transition from MDG ending in 2015 to a Sustainable Development Goal.

Abstract #: *2.003_WOM*

Evaluating the Feasibility, Acceptability and Clinical Impact of Implementing New Pregnancy Dating and Fetal and Newborn Growth Standards in Peri-Urban Nairobi, Kenya

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Background: The INTERGROWTH-21st Project, which involved 60,000 mothers and infants across the world, produced the only comprehensive, scientifically-based platform to assess gestational age, fetal growth, and newborn size at birth.

Despite overwhelming evidence about the importance of prenatal growth and development, few facilities and providers are equipped with the measurement tools necessary to successfully determine gestational age (GA) and monitor and evaluate fetal and newborn growth.

This study will assess the feasibility, acceptability and clinical impact of integrating obstetric ultrasound for gestational dating into routine antenatal care (ANC), fetal growth assessment into high-risk ANC, assessment of newborn size at birth and size for gestational age. The clinical tools for gestational dating, fetal growth and newborn size at birth use the INTERGROWTH-21st growth curves, which have been validated in the Kenyan population and internationally.

Methods: We are using a pre-post study design to evaluate the implementation of the package of INTERGROWTH-21st standards as well as the association between package implementation and clinical decision-making and provider and client satisfaction. Using quantiative, descriptive, and qualitative data from chart reviews, focus group discussions, and key informant interviews, we will assess the acceptability, adoption, appropriateness, feasibility, fidelity, penetration and efficiency of implementing the INTER-GROWTH-21st tools; if providers are able to offer women an evidence-based approach to pregnancy dating and growth monitoring during ANC visits; if more accurate dating and growth monitoring is associated with changes in clinical decision-making (including appropriate referrals); and if accurately assessing size at birth is associated with newborn clinical care management and appropriate referrals. The project will work within Jacaranda Health's high-quality, low-cost maternal and newborn health service delivery model, with targeted outreach to low-income and middle-income women in Nairobi, Kenya.

Findings: This project will finish in April 2018, therefore, we will present preliminary results at CUGH 2017. These preliminary results will summarize the implementation process dimensions of the INTERGROWTH-21st standards and the process and analysis of training providers in ultrasound and neonatal anthropometry.

Interpretation: The implementation of new technologies in low-resource contexts is a complex process that must balance various stakeholders and clinical considerations.

Abstract #: *2.004_WOM*

Exploring Access to Cervical Cancer Screening Through At-home Self-collection and HPV Testing: Lessons Learned in the Two Rural Resource-Limited Settings of Southwest Virginia, USA and Bluefields, Nicaragua

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Background: Significant preventable morbidity and mortality are associated with cervical cancer, of which 70-90% of cases are caused by human papillomavirus (HPV). Early screening and detection of cervical lesions through Pap tests can significantly increase better health outcomes. However, barriers to screening in rural resource-limited settings are pervasive at the individual, family, community, and systems levels. This presentation aims to describe exploring the cultural acceptability and feasibility of increasing cervical cancer screening through at-home self-collection of HPV DNA samples, in two rural resource-limited settings: Southwest Virginia, USA and Bluefields, Nicaragua.

Methods: We analyzed data from two different research projects with similar aims in two different settings. In Southwest Virginia, three focus groups were conducted along with an environmental scan consisting of 50 telephone-based interviews. In Bluefields, Nicaragua, researchers conducted five focus groups and 12 key informant interviews as part of an environmental scan focused on describing available resources and current screening procedures. The Socio-Ecological model was used to guide data collection specific to barriers to current screening practices in each setting. All interviews were audio-recorded and transcribed verbatim. Transcripts were analyzed using thematic analysis, and interviews were analyzed in the language they were conducted in (English or Spanish).

Findings: In Southwest Virginia, results focused on community-member participation in developing feasible study procedures, as well as on provider-identified barriers to current cervical screening resources in the region. In Bluefields, researchers described the broader landscape of cervical cancer prevention and screening, with emphasis on barriers to current screening practices. Barriers in both settings were identified at the individual, family, community, and systems levels.

Interpretation: Rather than compare or contrast cultural acceptability or feasibility of at-home self-collection for HPV DNA testing in two very different cultures and locations, this analysis instead seeks to describe lessons learned via community-based participatory inquiry into two rural resource-limited settings. Cultural context has an inextricable link to the acceptability and feasibility of innovative screening modalities, and so must be assessed and integrated via community-based partnerships. Such lessons have the potential to impact future research and ultimately can impact culturally appropriate cervical cancer screening models.

Abstract #: *2.005_WOM*

Association of Maternal Prenatal Stress, Methylation Changes in IGF-1 and IGF-2, and Birth Weight in Mother-Newborn Dyads

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Background: Maternal stress has been previously linked to low birth weight in newborns through various mechanistic theories. One theory, which draws from the developmental origins of health and disease paradigm, posits that epigenetic changes at certain candidate genes may occur as a result of prenatal maternal stress, leading to lower birth weight in infants. In this study, we sought to explore the potential association between prenatal stress, birth weight and methylation at two candidate genes related to newborn birth weight: IGF-1 and IGF-2. These two genes have been implicated in intrauterine and postnatal growth and development, although the underlying mechanistic pathways are likely different since IGF-2 is under imprinting control.

Methods: Twenty-four mother-newborn dyads living in the high conflict zone of the eastern Democratic Republic of Congo were enrolled. Detailed ethnographic interviews were conducted with mothers at the time of birth to gather culturally relevant chronic and war-related stressors. DNA methylation data were generated from maternal venous, placental and cord blood samples. Multivariate regressions were used to test for an association between stress measures, birth weight and methylation in each of the three tissue types.

Findings: We found a significant negative association between rape-related stress and cord blood IGF-1 methylation (p = 0.0015). We also found a significant positive association between IGF-2 methylation in maternal blood and birth weight (p = 0.003).

Interpretation: Extreme maternal stress may modulate the methylation patterns of IGF-1 in newborns, though the relationship between IGF-1 methylation and birth weight is less clear. It is possible that increased IGF-1 methylation may have more complex effects than simply lowering birth weight through decreased IGF-1 expression. In addition, the associations we found between maternal IGF-2 methylation and newborn birth weight have not previously been reported. As IGF-2 is an imprinted gene in which the maternal allele is usually silenced in offspring, these findings may represent a novel investigative focus for understanding the relationship between IGF-2 and birth weight.

Abstract #: *2.006_WOM*