

WOMEN'S HEALTH IS GLOBAL HEALTH – ISSUES ACROSS THE LIFESPAN

Lessons from Central America: Technology Training for Maternal Health Project Development in Low- and Middle Income Countries

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Program/Project Purpose: The MundoComm project, funded in 2015 by the United States National Institutes of Health Fogarty International Center, builds upon a 17-year partnership among researchers in the US, Costa Rica, and the Dominican Republic. Its goal is to develop an innovative training program to enhance the ability of community-based teams in Latin America to use Information Communication Technology (ICT) to improve maternal health. Progress in reducing maternal mortality has stalled or worsened in Latin America, despite overall health improvements in child health. ICTs technological innovations are evidence-based strategies to impact maternal mortality.

Structure/Method/Design: Faculty from the United States, Costa Rica, and the Dominican Republic trained 3 community based public health teams over a one-year period. The teams mentored course of training and follow-up included interactive on-line modules, and two in-person week-long “short courses” in Costa Rica. Team goals were to develop and test an innovative ICT project to address a local maternal health problem. A “collaboratory” environment provided ongoing mentoring and support. Summative and formative evaluations aided in assessment of the training model (content and platforms), leading to lessons learned in curriculum development, engagement, and evaluation of progress.

Outcome & Evaluation: Three teams (Costa Rica, Dominican Republic, and Honduras) completed two short courses and online training in bioethics, ICT options for maternal health improvement (e.g., Epi-Info, Cloud Computing, social networking), and project planning. Evaluation of the 12 participants indicated general satisfaction with the course elements (content and platforms), and increases in knowledge across content areas. MundoComm demonstrated the feasibility of recruiting and training public health teams across Central American countries to generate ICT-based projects to address local maternal health problems. Better practices for online, team-based and in-person trainings were developed to engage, track and evaluate learners. Team building strategies facilitated institutional capacity building, and are sustainable (e.g., robust despite turnover).

Going Forward: A one year post-training follow-up survey and 2 year site visit will assess retention of skills and barriers and facilitators of project implementation.

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Uptake of Antenatal Care, and its Relationship with Participation in Health Services and Behaviors: An Analysis of the Poorest Regions of Four Mesoamerican Countries

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Background: Antenatal care (ANC) is intended to identify high risk pregnancies, bring women into the health system, and educate them about when to return. Though poor women have a heightened need for ANC and are least likely to receive it, there is a concerning dearth of evidence detailing whether those who receive care are more likely to return for other maternal and child interventions. This analysis is the first to examine the relationship between ANC uptake and later uptake of health interventions.

Methods: With informed consent, we surveyed 4,844 women in Honduras, Guatemala, Mexico (state of Chiapas), and Nicaragua regarding the uptake and timing of ANC for their most recent delivery in the last two years. We conducted logistic regressions, controlling for demographic, household, and maternal characteristics, to understand the relationship between uptake of ANC and later participation in the continuum of maternal and child healthcare.

Findings: Uptake of four ANC visits varied by country from 17.0% in Guatemala to 81.4% in Nicaragua. In all but Nicaragua, ANC was significantly associated with in-facility delivery (Guatemala OR = 5.28, CI = 3.62-7.69; Mexico OR = 5.00, CI = 3.41-7.32; Honduras OR = 2.60, CI = 1.42-4.78) and postnatal care for infant (Guatemala OR = 4.82, CI = 3.21-7.23; Mexico OR = 4.02, CI = 2.77-5.82; Honduras OR = 2.14, CI = 1.26-3.64), but did not have any positive relationship with immediate or exclusive breastfeeding, or uptake of modern family planning methods postpartum, which may be more strongly determined by cultural influences. Only in Honduras and Chiapas was receipt of ANC associated with uptake of postpartum care for the mother (Honduras OR = 4.02, CI: 1.42-11.39; Mexico OR = 4.59, CI: 1.59-10.84). Nicaragua was the only country where uptake of four ANC was associated with child vaccine compliance for age (OR = 2.64, CI: 1.30-5.36).

Interpretation: Our results demonstrate that uptake of the WHO-recommended four ANC visits has limited effectiveness on

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.

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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.

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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 quantitative, 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 INTERGROWTH-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.