

access to clean water and sanitation. High prevalence of malnutrition, anemia and growth stunting resulted in several nutritional interventions. Finally, a sustained prevalence of disease despite improved infrastructure highlighted the need for behavioural interventions and a health curriculum.

**Outcome & Evaluation:** Between 2007–2015, the prevalence of malnutrition and growth stunting declined (height: 30.9% <3<sup>rd</sup> percentile to 17.0% ≤ 5<sup>th</sup> percentile, weight: 10.3% <3<sup>rd</sup> percentile to 7.6% ≤ 5<sup>th</sup> percentile). Similarly, scabies dropped from 35.2% to 7.2%. The prevalence of intestinal helminths slightly increased to 7.2% from 6.6%. In 2015, fifty-nine of the 517 students required further treatment and were referred to local physicians in a nearby village, sustainably engaging the population with the medical system.

**Going Forward:** Physical exams proved to be an invaluable tool. They will continue to guide and evaluate interventions, and screen for students requiring urgent treatment until permanent local medical staff is employed. The unique bond between volunteers and students has been essential to the continued success of the project. Eager to return, all 2015 volunteers have become leaders for 2016, and will focus on the completion of water and sanitation systems and the sustainable implementation of the health curriculum.

**Abstract #:** 1.011\_MDG

### Barriers to long-acting reversible contraception use in Kisoro, Uganda

E. Bryce<sup>1</sup>, S. Budongo<sup>2</sup>, M. Baganizi<sup>2</sup>, G. Paccione<sup>3</sup>, C. Kahn<sup>4</sup>;  
<sup>1</sup>Stanford University, Palo Alto, CA, USA, <sup>2</sup>Kisoro District Hospital, Kisoro, Uganda, <sup>3</sup>Albert Einstein College of Medicine, Bronx, NY, USA, <sup>4</sup>University of Michigan, Ann Arbor, MI, USA

**Background:** Despite its effectiveness and low cost, long-acting reversible contraception (LARC) is underutilized in many countries in sub-Saharan Africa. We aimed to identify obstacles to LARC use in rural Uganda.

**Methods:** We conducted a cross-sectional survey of reproductive age women presenting to seven different clinical sites for family planning services in Kisoro, Uganda. Semi-structured exit interviews with women were performed. Questions about contraceptive history, desired contraceptive method, concerns about contraceptive side effects, and satisfaction with overall care were asked. Survey questions were administered verbally, and answers were transcribed. In addition to descriptive statistics, Fisher's exact test was used to compare two categorical variables and independent sample t-tests were used to compare continuous variables with binary predictors.

**Findings:** Ninety-two women between the ages of 18 and 45 completed the survey. Of those participants who received contraception, 91% received depo-provera, and only 2% of women received LARC. Sixteen percent of women responded that they did not receive their contraceptive method of choice, primarily because the method was out of stock. However, 21% of these women reported that they were told by providers to use depo-provera instead of

LARC. Women who were told to use depo-provera by providers were significantly younger (mean age of 25 vs. 32; p=0.01) and had significantly fewer children (2 vs. 4; p=0.02). Additionally, although the majority of depo-provera users reported choosing this method because of few side effects, 16% of these women believed they should try depo-provera first before using other contraceptive methods.

**Interpretation:** Lack of consistent supply of methods was the most common reason for nonuse of LARC in Kisoro, Uganda. However, there also appeared to be significant provider bias towards depo-provera as a first-line contraceptive method, particularly when clients were younger and had fewer children, even when LARC was available. Additionally, many participants believed that depo-provera was a superior form of contraception. Research is needed to better understand bias towards depo-provera use and how to encourage LARC uptake.

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### Effects of a hospital-based pilot education program on breastfeeding knowledge in Santiago, Dominican Republic

M.S. Carrasco Arias<sup>1</sup>, A. Lockwood<sup>1</sup>, M. Ali<sup>1</sup>, K. Veras<sup>2</sup>, J. Olivares<sup>2</sup>, S. Bentley<sup>3</sup>, A. Dandekar<sup>4</sup>; <sup>1</sup>Icahn School of Medicine at Mount Sinai, New York, NY, USA, <sup>2</sup>Department of Family Medicine, Hospital Especializado de Salud Juan XXIII, Santiago, Dominican Republic, <sup>3</sup>Department of Emergency Medicine, Elmhurst Hospital, Icahn School of Medicine at Mount Sinai, New York, NY, USA, <sup>4</sup>Department of Family Medicine, Mount Sinai Hospital, Arnhold Global Health Institute, Icahn School of Medicine at Mount Sinai, New York, NY, USA

**Background:** In the Dominican Republic (DR), where neonatal mortality is 21 per 1000 live births, women breastfeed for a mean duration of 7.1 months and only 7.7% of women breastfeed exclusively. The literature suggests educational interventions can improve rates of breastfeeding initiation, duration, and exclusivity. Breastfeeding interventional studies report decreases in infant morbidity and hospital readmission rates. A hospital-based pilot lactation educational intervention was implemented in a low-resource public healthcare facility in Santiago, DR, with the objective to assess changes in breastfeeding knowledge among women receiving the educational intervention.

**Methods:** In this pre–post intervention study conducted in June–July 2015 at Hospital Especializado de Salud Juan XXIII, 17 knowledge-based questions regarding breastfeeding practices and skills were administered before and after a twenty-minute educational session delivered to women who presented to the hospital. For statistical analysis, a paired t-test was used to compare mean differences in composite scores and the McNemar test for four individual key questions.

**Findings:** A total of 53 women participated, most of whom were either pregnant (38/52; 73%) or postpartum (12/52; 23%), with a median age of 23 (IQR: 20–30) years. After the educational intervention, on average, each woman answered 4.2 more questions correctly (95% CI, 3.4–4.9; p<0.0001), as compared to before the intervention.

The educational intervention was also associated with an increased proportion of women who correctly answered four key questions after the intervention, specifically 15% (95% CI, 2–28%;  $p=0.02$ ) regarding duration of exclusive breastfeeding, 51% (35–67%;  $p<0.0001$ ) regarding ideal time to initiate lactation, 40% (25–55%;  $p<0.0001$ ) regarding indications for pacifier or bottle use, and 51% (34–68%;  $p<0.0001$ ) for caesarian effects on breastfeeding.

**Interpretation:** This pilot breastfeeding educational intervention significantly increased knowledge in women about breastfeeding practices in one urban, low-resource health care facility in Santiago, DR. With lower breastfeeding rates in the DR compared to other Latin American countries, this intervention provides a promising foundation for scalable educational initiatives.

**Funding:** Arnhold Global Health Institute at Icahn School of Medicine.

**Abstract #:** 1.013\_MDG

### Midwifery around the World: A study in the role of midwives in local communities and healthcare systems

A. Carson; Arizona State University, Tempe, AZ

**Background:** 2015 marks the deadline for the UN Millennium Development Goal 5 to reduce global maternal mortality rate (MMR) by 75%. As of 2013, according to the WHO, MMR has only been reduced by 45%. Many international organizations claim that more medically trained midwives can meet global maternal health care needs. This study investigates two major questions. What is the role of midwives in diverse international maternal healthcare contexts? How do midwives in these different contexts define their roles and the barriers to providing the best care for women?

**Methods:** From May–August 2015 I conducted 56 in-person interviews with midwives in Netherlands, Sweden, Rwanda, Bangladesh, Australia and Guatemala, including 6–10 midwives from each country. The participants included midwives identified according to the local definition of the profession who were selected from both rural and urban settings. Each midwife participated in a two-stage card pile sort activity of 17 midwifery competencies obtained from the International Confederation of Midwives. Participants were first asked to sort cards into services in their scope of practice and outside their scope of practice. They were then prompted to sort the “within scope” cards into core and peripheral services. I analyzed the data for consensus on a model scope of practice by creating a participant agreement matrix. I evaluated this matrix by conducting a Principal Components Analysis in the program UCINET. Institutional Review Board approval was obtained from Arizona State University as well as country-specific ethics committees.

**Findings:** Midwives across countries agree on core elements of midwifery practice. Greater differences arose between high and low income countries for services such as “educate on human rights,” “counsel in family planning,” and “diagnose community health concerns.”

**Interpretation:** Midwives, as defined in each country, care for healthy women through pregnancy and childbirth, and they understand when to refer care if complications arise. Midwives in low-income countries serve a greater role in local healthcare systems. Furthermore, strong collaboration with other medical providers is necessary to provide the best comprehensive care to women.

**Funding:** Circumnavigators Club Travel-Study Grant for undergraduate researchers.

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### The impact of parental obesity on pediatric malnutrition in rural Uganda—a household survey

W. Cherniak<sup>1,2,3</sup>, R. Ehrenkrantz<sup>1,2</sup>, M. Davidson<sup>1,2</sup>, A. Pradhan<sup>1,2</sup>, T. Lee<sup>1,4</sup>, P. Krass<sup>1,4</sup>, N. Fisher<sup>1,5</sup>, C. Meaney<sup>3</sup>, P. Krueger<sup>3</sup>, M. Silverman<sup>1,6</sup>, G. Anguyo<sup>7,8</sup>, <sup>1</sup>Bridge to Health Medical and Dental, Toronto, Canada, <sup>2</sup>Johns Hopkins University, Baltimore, USA, <sup>3</sup>University of Toronto, Toronto, Canada, <sup>4</sup>New York University, New York, USA, <sup>5</sup>University of Calgary, Calgary, Canada, <sup>6</sup>University of Western Ontario, London, Canada, <sup>7</sup>Kigezi Healthcare Foundation, Kabale, Uganda, <sup>8</sup>Mbarara University of Science and Technology, Mbarara, Uganda

**Background:** Chronic pediatric malnutrition is a serious problem affecting low and middle income countries across the world. Within sub-Saharan Africa, Uganda in particular has an estimated prevalence of 33% of children under five years of age stunted, six percent wasted, and 14% underweight. Moreover, the nutrition transition, a shift from an active lifestyle with the consumption of fewer processed foods to a sedentary lifestyle with the consumption of high-calorie foods, is occurring in Uganda. We hypothesize that parental obesity, in correlation with education around nutrition, is further contributing to pediatric malnutrition, even in previously undescribed rural regions of Uganda.

**Methods:** A cluster-sampling method will be utilized to conduct a household survey across randomly selected sub-counties in the Kabale Region of rural Uganda. The sub-counties selected for sampling will have households in a particular cluster identified, and thirty randomly selected for survey. It is expected that approximately 60% of homes will contain children under five years of age, these children will have anthropometric data obtained. Parents will also be assessed for body mass index, and asked a consensus approved survey based on Ugandan national guidelines. All household members will be offered deworming treatment, and all children will be offered micronutrient supplementation and/or inpatient management based on Ugandan clinical guidelines. The primary outcome of parental obesity and pediatric malnutrition will be assessed. Secondary outcomes of parental education around nutrition and medical comorbidities of children will be assessed.

**Findings:** This study will be conducted in February of 2016, results are pending but will be available for the CUGH conference.

**Interpretation:** As above, this study will not have results until February of 2016.