

Assessment of the effectiveness of a multi-district pediatric malnutrition program in Nepal

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Background: Nepal has among the highest child malnutrition rates in the world. As optimal nutrition is vital to main areas of development, a significant number of Nepali children does not reach its full potential. To combat this, the Nepal Youth Foundation (NYF), in collaboration with the government, has established malnutrition treatment centers (MTCs) in which children and their families receive nutritional and educational interventions.

Study Objective: To assess short-term (inpatient) and long-term (post-treatment) nutritional outcomes of children admitted for treatment at NYF's MTCs.

Methods: We partnered with NYF to analyze outcomes at their 14 MTCs from January 2009 to October 2014. We included all children with complete records and abstracted health, anthropometric and demographic data from written inpatient and follow-up medical records; a subset of patients with discharge and follow-up data at 6 months was randomly selected for analysis. Primary outcomes were the median changes in z-scores of weight-for-age (WAZ), height-for-age (HAZ), weight-for-height (WHZ), and body mass index (BMI) from admit-to-discharge (AD) and from admit-to-follow-up (AF) aggregated across all centers. Secondary analyses were median changes in z-scores from AD and AF for each center individually and by geographic region. Differences in AD and AF z-scores were compared using the nonparametric Wilcoxon ranksum test with a two-tailed alpha set equal to 0.05.

Findings: Complete AD data were available for 921 patients (12 MTCs). Median z-scores improved from AD (WAZ: -3.47 to -2.63; WHZ: -2.85 to -1.12; BMI: -2.71 to -1.1; $P < 0.001$ for all); however, HAZ remained stable ($P = 0.09$). Similarly, among the 495 patients (9 MTCs) with complete AF data, median z-scores improved (WAZ: -3.29 to -2.05; WHZ: -2.78 to -0.38; BMI: -2.65 to -0.01; $P < 0.001$ for all). In contrast, the median HAZ decreased from AF (-2.36 to -3.09; $P < 0.001$). WAZ, WHZ, and BMI z-scores improved from AD and AF in 83% of the centers studied. MTCs in the Central and Eastern regions had better improvements than those in the West.

Interpretation: NYF's inpatient malnutrition program resulted in sustained improvements in WAZ, WHZ, and BMI. Further research is needed to assess the long-term effects of these improvements and cost-effectiveness of the program.

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Abstract #: 1.028_MDG

Prevalence and determinants of childhood diarrheal disease in Lao PDR

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Background: Childhood death from diarrhea is readily preventable; yet, diarrheal disease is the second leading cause of death in children under five (UNICEF & WHO, 2009). In Lao PDR, a lower-middle income country in Southeast Asia, about 11 percent of all under-five deaths in are accounted for by diarrhea (World Bank, 2014). The goals of this study were to understand the prevalence and determinants of childhood diarrheal disease in Lao PDR in order to begin to identify important targets for public health interventions in Lao PDR.

Methods: A two-stage cluster sample method was used based on the 30-cluster random sample technique standardized by the World Health Organization. This technique meets the standards of reliability and provides results with a level of confidence of 95%. Data were obtained from 800 families with children under age five in three districts within the northern province of Luang Prabang, Lao PDR. Families were interviewed in their households using a structured questionnaire after informed consent was obtained. Characteristics of the household, including incidence of childhood diarrhea, were tabulated. An overall knowledge score was derived from the number of correct answers given to childhood diarrhea preventative knowledge and practice questions. Multivariate regression analysis was performed to identify determinants of diarrhea occurrence in childhood, factors predictive of diarrhea knowledge scores, and variables related to parental practices and treatment seeking.

Findings: Preliminary analyses revealed that 13.4% of the sample had a child sick with diarrhea in the past month, with average treatment seeking for diarrhea beginning 2.33 days ($SD = 2.31$ days) after diarrhea began. There were somewhat low levels of parental knowledge about childhood diarrhea prevention and treatment practices ($M = 4.02$, $SD = 1.88$; range = 0–9). Increased parental knowledge was related to reduced odds of having a child sick with diarrhea.

Interpretation: Delays in seeking appropriate medical treatment for childhood diarrhea can be fatal. Thus, it becomes essential for caregivers to recognize diarrhea at the earliest signs and to seek appropriate treatment. These initial findings may help inform future targeted education programs for reducing childhood death from diarrhea.

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Abstract #: 1.029_MDG

Women's empowerment and tobacco use: an exploratory analysis of integrated demographic and health series data from India 2005 and Uganda 2011

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Background: Empowering women and reducing tobacco use are both included in the newly proposed Sustainable Development Goals (SDGs). Women's empowerment consists of multiple inter-related factors, however, and history suggests that these goals could work against each other. Previous research suggests that, under some

circumstances, greater empowerment is associated with greater tobacco use by women. Using Integrated Demographic and Health Series (IDHS) survey data, we investigate this relationship in India 2005 and Uganda 2011. We also explore how women's literacy impacts the relationship between empowerment and smoking behavior, hypothesizing that empowerment/tobacco links will be weaker among literate women.

Methods: We analyze IDHS survey data for cross-sectional samples of women aged 15–49 in India 2005 ($n = 108,455$) and Uganda 2011 ($n = 8,665$). We employ tabular methods, generalized linear models and latent class analysis to assess relationships between tobacco use and indicators of women's empowerment, including employment, house or land ownership, household decision-making power, attitudes opposing domestic violence, and attitudes supporting sexual autonomy. Using interaction effects, we assess how literacy moderates the relationships between tobacco use and these empowerment indicators.

Findings: Our preliminary findings indicate that tobacco use risk is higher among women with greater household decision-making power, and among women who disapprove of domestic violence in various contexts. In some settings, these relationships are stronger for illiterate women. For both literate and illiterate women, approval of sexual autonomy associates with lower tobacco use. Our final results will reveal how different combinations of women's empowerment are associated with tobacco use.

Interpretation: Our preliminary findings for India and Uganda support the hypotheses that some components of women's empowerment are associated with greater tobacco use, and that literacy moderates these associations under some circumstances. These observational and cross-sectional data analyses can identify associations but not causality. Our results support the need for future research on how measurable indicators of women's empowerment may interact to affect health-related behaviors and risks, which could inform programs that enable both empowerment and healthful behaviors.

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Fostering future global nurse leaders to work toward meeting Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs): a global health intern program at Johns Hopkins University School of Nursing

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Program/Project Purpose: Globally, nurses represent the largest component of health care systems. The care provided by nurses is essential for meeting the Millennium Development Goals (MDGs) as well as the Sustainable Development Goals (SDGs) to deliver quality, effective, and safe care. With global demand for healthcare outpacing the growth in the health care work force and the current human resources for health crisis

(HRH), nurses are an important part of the solution. Focusing on creating robust nursing school curriculums is integral to fostering future global nursing leaders to fill in this gap. In 2015, Johns Hopkins University School of Nursing (JHSON), implemented an intern program for students to engage in global initiatives through the Center for Global Initiatives (CGI). This program is ongoing and will continue with each new cohort of nursing students at JHSON.

Structure/Method/Design: Seven students were selected and take part in the Johns Hopkins University Pan American Health Organization (PAHO) and World Health Organization (WHO) Collaborating Center (CC) for Nursing Knowledge, Information Management and Sharing, coordinating all functions. This program is designed to integrate leadership opportunities as well as global nursing in to the student's nursing education program. Through their immersion in activities with the CC students have been able to participate in enriching learning activities to increase their knowledge of global health issues, develop skills essential for global leadership as well as provide them with experiences consistent with the Recife Declaration (2013) dedicated to equity and universal health care coverage.

Outcome & Evaluation: Students have enhanced their competencies in various arenas including applying evidence-based practice to inform their own education and disseminate these findings to the nursing membership of the Global Alliance for Nursing and Midwifery (GANM) and by employing innovative approaches to the use of technology to increase knowledge and improve health directly through the GANM blog site piloted by the interns to create a forum for a health knowledge exchange.

Going Forward: These experiences have been integral to prepare students to become practitioners sensitive to the complex interplay of social, political and economic factors that influence people's health. This unique program is an important addition to traditional classroom learning opportunities and prepares students to enter the workforce with knowledge and skills to ultimately work toward universal health care coverage.

Abstract #: 1.031_MDG

Assessing contraceptive use in Nicaragua: a cross-sectional survey comparing social attitudes, access, education, and modern contraceptive use in women of reproductive age in rural and urban clinics

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Background: Family planning in Nicaragua has improved substantially since 2000. However, current statistics regarding family planning in Nicaragua are unclear. We compared current social attitudes, access, education, and use of modern contraceptives of female patients in urban and rural clinics. We hypothesized that women living in urban settings would report more accepting social attitudes with higher access, education, and use of modern contraceptives.

Methods: We conducted a cross-sectional study comparing social attitudes, access, education, and modern contraceptive use in