

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.

Funding: None.

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.

Funding: Friends Without a Border.

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