Applying a biopsychosocial perspective to address hand washing behaviors among young learners in Limpopo, South Africa

N. Bullard1, K. Poppe2, K. Ramatsisti3, L. Situlu4, G. Winegar5; 1University of Virginia, Center for Global Health, Worcester, MA, USA; 2University of Northern Iowa, Cedar Falls, IA, USA; 3University of Venda, Thohoyandou, ZA; 4University of California at Berkeley, Berkeley, CA, USA

Background: Despite its perceived simplicity, the promotion of hand washing for disease prevention remains a challenge particularly in resource-limited settings. This paper reports on a quasi-experimental study to measure the independent effect of contextual (resource modifications) and individual-level (education) factors on hand washing behaviors of learners attending two primary schools in Limpopo, South Africa.

Methods: Resource modifications were made at School A and included improvements in hygiene and sanitation facilities that increased access to soap and water. Subsequently, education programs, developed in collaboration with local educators and focused on hand washing for disease prevention, were delivered at both schools. Observations included total counts of hand washing and hand washing paired with toilet facility use.

Findings: At School A, significant increases in hand washing occurred following resource modifications (total counts: T0 = 359, T1 = 712; r = 0.61, p = 0.018). Additional increases in total hand washing behaviors occurred following education (T2 = 1095, r = 0.388; p = 0.015). In contrast, at School B, with education alone smaller increases in total hand washing were observed (T0 = 249, T1 = 324; r = 0.08, p = 0.065).

Interpretation: Resource improvements are necessary in order to promote disease prevention behaviors such as hand washing. However, education aids to both promote and sustain these behaviors at the individual level. Results confirm that coordinated interventions that address health promoting behaviors at multiple levels are likely to achieve more substantial change.

Funding: This work was funded by the National Sciences Foundation Research Experience for Undergraduates program. It was also supported in part by the Fogarty International Center of the NIH, award number D43 TW009259.

Social disparities: Household income in poverty stricken Ecuador affecting cognitive function in children

A. Chamberlain1, S. Palmer2, M. Williams3, J. Lasseter4; 1Brigham Young University, Orem, UT, USA; 2Brigham Young University, Provo, UT, USA; 3Brigham Young University, Provo, UT, USA

Program/Project Purpose: Iron deficiency anemia (IDA) is one of the largest nutritional disorders in the world. Approximately 25% of the world’s population has anemia with 50% of those cases being IDA, according to the World Health Organization. The reduced oxygen carrying capacity associated with anemia can have many adverse effects. Many anemia studies have been done on infants but few have been done on school-aged children. A charity organization in Ecuador has been identifying anemia prevalence among children within a suburb of Guayaquil. To further identify possible risks resulting from anemia, a study comparing cognitive function with anemia rates was conducted in May 2014.

Structure/Method/Design: A cross-sectional descriptive correlation design was used to study the relationship between the level of anemia...
Assessing childhood malnutrition in Haiti: Is the United Nations Millennium Goal #4 being met?

J.J. Cherry 1, E.L. Tresselt 2, D.M. Vanderpool 1, E.R. Crain 1, C.T. Russell 1, L. Ray 3, R.L. Bush 1; 1Texas A & M Health Science Center College of Medicine, Bryan, TX/US, 2Texas A & M Health Science Center College of Medicine, Bryan, TX/US, 3University of Texas-Houston School of Medicine, Houston, TX/US, 4Samford University, Birmingham, AL/US, 5Texas A&M Health Science Center College of Medicine, Bryan, TX/US

Background: Context: The United Nations (UN) Millennium Developmental Goal #4 is to reduce childhood mortality. Malnutrition in Haitian children has been a major public health problem. Why the study was done, in one or two sentences: The study was done to quantify the progress of the UN Developmental Goal #4 in Haiti. Aim: The major aim was to examine the nutritional status and characteristics of children that increase risk for malnutrition.

Methods: Study Design: The study was conducted in a medical clinic that serves four communities in the rural Thomazeau region of Haiti. Identifying information was not recorded; participants were not allocated to groups. Participants: Participants consisted of 103 children under the age of five presented in the clinic over seven days. Interventions: Not applicable. Analysis: i. Participant numbers were limited by the time period. Primary outcomes were significant variables of these specific populations at higher risk of malnutrition. Both univariate and multivariate analyses were performed. ii. Verbal consent was obtained from guardians. The study was approved by the Texas A&M IRB.

Findings: Provide number of participants assigned and analyzed in each group. Participants were not assigned to groups. Describe outcomes, data, and statistical tests if appropriate. Average age was 2.1 years (SD=1.4), 52% were females, and 63% were first-born children in families that averaged 2.3 children. Moderate malnutrition (as measured by height-for-age Z-score) was found in 10.9% of children with an additional 5.9% having a severe status. Using a parsimonious multivariable regression model to compare family structure factors to anthropomorphic variables, multiparity was significantly associated with Z-score (p < 0.05), suggesting that higher values may be more protective. Distance from the clinic negatively affected nutritional status. Any important adverse events/side-effects: None.

Interpretation: General interpretation of the results and their significance: Malnutrition is prevalent in this region. Children of new mothers may be at higher risk as new mothers may be less skilled at securing nutrition for children or have fewer resources. Distance from medical care may obstruct treatment for parasites and other common illnesses. We plan to educate community health workers to focus attention and resources toward at-risk populations to decrease malnutrition and hopefully child mortality to achieve the UN Millennium Goal #4. Outline limitations and strengths of the study: The study was only conducted in one rural region of Haiti and may not be representative of the entire country. This study completed its aim.

Funding: None.

Abstract #: 02SEDH005

Intimate partner violence and condom versus other modern contraception use among married women in rural India

A. Dasgupta 1, N. Saggurti 2, B. Donta 3, M. Battula 4, M. Ghule 5, S. Nair 1, J. Ritter 1, J. Silverman 1, A. Ray 1; 1University of California, San Diego, San Diego, CA/US, 2Population Council, New Delhi, IN, 3National Institute for Research in Reproductive Health, Mumbai, IN, 4Population Council, Mumbai, IN, 5National Institute for Medical Statistics, Mumbai, IN

Background: Data from India document that spousal intimate partner violence (IPV) is associated with both unintended pregnancy and spacing contraceptive use. Analysis of IPV by type of contraception is lacking. Condom use may be less likely than other spacing contraception in the context of IPV, as it is under male control. This study aims to assess associations of physical and sexual IPV with condom and other contraception use among married women in rural India. We hypothesize that women reporting physical and sexual IPV victimization are significantly less likely to report condom use but not other contraception use, relative to women reporting no such victimization.

Methods: Study participants were from the randomized control trial evaluation of CHARM, a male-centered family planning intervention for young married couples in rural Maharashtra, India. Baseline data from women (age 18-30, residing with husbands) were used for analyses; data were restricted to those who were not pregnant at interview (n=867). Surveys assessed socio-demographics, husband’s physical and sexual IPV perpetration, and an item on primary form of contraception used by women in the past 3 months (subsequently categorized as none, condom, other modern spacing contraception). Multinomial logistic regression analyses assessed associations between past 6 month physical and sexual IPV and contraceptive use, adjusting for age, education, length of marriage, caste, parity, and husband’s alcohol use. All participants provided written informed consent; all study procedures were approved by Institutional Review Boards at UCSD, and ICMR.

Findings: Participants were aged 18-30 (SD: 2.5), and 17% reported no formal education. 12% and 4% of women reported past 6 month physical