

**Methods:** We administered a survey including a validated stigma instrument and HBV knowledge questions to a convenience sample of 1200 participants in two urban hospitals in Ho Chi Minh City (Children's Hospital 2 and The People's Hospital of Gia Dinh) and at two internal medicine clinics in Chicago over a 10-month period. Participants who failed to complete more than 10 items were excluded. An HBV stigma score and a knowledge score were calculated for each participant and associations were evaluated between these scores and demographic variables. This study was approved by the IRB at the University of Illinois at Chicago and the Human Subjects Committees at the University of Medicine and Pharmacy in Ho Chi Minh City, Vietnam.

**Findings:** 842 surveys from Vietnam and 170 from Chicago were included in the analysis. The Vietnamese-American population had a higher proportion of individuals with at least a high school education ( $p < 0.001$ ). Vietnamese Americans showed higher rates of understanding that HBV is spread by sexual intercourse ( $p < 0.001$ ) rather than by eating shellfish ( $p < 0.001$ ) or sharing eating utensils ( $p = 0.001$ ). The Vietnamese Americans also had higher total stigma scores. They were more likely to report that persons with HBV feel ashamed ( $p < 0.001$ ) and guilty ( $p < 0.001$ ), and that they can bring harm to others ( $p = 0.005$ ), should be isolated ( $p = 0.001$ ), and cannot be trusted as a friend ( $p = 0.001$ ).

**Interpretation:** Despite better education and exposure to western cultural influences, traditional views on illness, collective responsibility and family obligations continue to have an important impact on HBV stigma among the Vietnamese in the US. Participants in Vietnam reported lower levels of HBV stigma, likely reflecting changing cultural attitudes in Vietnam. Understanding cultural values, addressing specific knowledge gaps, and humanizing persons with HBV provide starting points to address issues of HBV stigma on both sides of the Pacific.

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**Abstract #:** 1.029\_NEP

### Gender differences in mental health outcomes for an OSC population in New Delhi, India

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**Background:** Females in orphaned and separated children (OSC) populations often exhibit worse mental health outcomes than their male counterparts. Although males experience similar levels of life-trauma as females, female populations generally exhibit greater trauma scores, lower self-concept, lower ego resiliency, but also higher attachment and less aggressive behavior than males in similar setting. However, there is limited research on gender differences in mental health in institutionalized OSC populations.

**Purpose:** In this study, we explored the longitudinal relationship between gender and self-concept, peer and guardian attachment, ego-resiliency, and trauma symptoms at Udayan Care, a residential care program for OSC children in New Delhi, India.

**Methods:** The study was conducted within a residential care program for OSC children in New Delhi, India. 46 females and 29 males of ages 4–17 were randomly selected across 11 different group homes in proportion to total gender demographics at the institution. We administered Piers-Harris-2, IPPA-R, ER-89, and TSCC to each child in order to measure self-concept, peer and guardian attachment, ego resiliency, and trauma symptoms respectively. Informed consent was obtained from children, caregivers, and community partner institution.

**Findings:** Males exhibited higher self-concept than females in 2015 ( $p = 0.048$ ). Males also had higher guardian attachment ( $p = 0.027$  in 2015,  $p = 0.0022$  in 2014) and higher peer attachment scores ( $p = 0.013$  in 2015,  $p = 0.016$  in 2014) than their female counterparts. There were no significant difference found between males and females for trauma symptoms and ego-resiliency. Although our data showed no significant change in male or female mental health outcomes across 2014 and 2015, male and female mental health outcomes seem to converge for trauma symptoms.

**Interpretations:** Overall, our findings are consistent with previous research on mental health in OSC populations. Males generally exhibit improved mental health outcomes than females, especially for self-concept and attachment. Based on anecdotal and qualitative evidence, this could be attributed to females ascribing more importance to attachment to biological families. and could contribute to a lower willingness or ability to attach to their peers or guardians in their current home. We hope that these findings will shed light on cross-cultural gender differences in mental health and will serve as a foray for future research on convergence patterns across genders for mental health outcomes.

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### Relationship between age and ASQ-3 scores for each screening interval in Peruvian infants

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**Background:** The Ages and Stages Questionnaires (ASQ-3) play a vital role as an international screening test for delayed development in children under 5. However, there is frequently great variation in scores between children eligible to take the same ASQ-3 interval based on a 2-month age screening window. This study aimed to determine a relationship between age and ASQ-3 score for each ASQ-3 screening interval.

**Methods:** This was a baseline cross-sectional study of infants under 2 years old evaluated for the Peruvian national program Cuna Más, responsible for improving infant development in impoverished populations. Age was adjusted for prematurity according to the standardized ASQ-3 Age calculator. This adjusted age determined the appropriate ASQ-3 screening interval administered. Subjects were divided into four 2-week chronological subgroups based on age within each two-month screening window, then aggregated across all 12 screening intervals. Linear regression was

performed to assess the relationship between total and sectional ASQ-3 score and age subgroup.

**Findings:** 5,850 Peruvian infants were evaluated in 2013. Mean age was 13 months and 50.7% were males. Mothers had a mean education of  $6.6 \pm 4.0$  years. 34.8% were stunted, 7.8% were underweight, and 0.9% were wasted. Mean total ASQ-3 was  $42.2 \pm 8.2$ . The ASQ-3 allocated 49.6% as having a suspected developmental delay in one or more areas of development.

The age subgroups were nearly evenly distributed (24.5%, 25.9%, 25.7%, 23.9%). Linear regression showed a significant association between age subgroup and both total ( $\beta=1.8$ , CI: 1.7-2.0,  $p<0.001$ ) and sectional ASQ-3 score (all  $p<0.001$ ). Age subgroup was also inversely associated with scores reflecting a developmental delay in at least one section ( $p<0.001$ ). After adjusting for wealth quintile, education level of the mother, and stunted and underweight status, age subgroup remained significantly associated with total ASQ-3 score ( $\beta=1.8$ , CI: 1.7-2.0,  $p<0.001$ ), sectional ASQ-3 score (all  $p<0.001$ ) and inversely associated with one or more scores indicating suspected developmental delay ( $p<0.001$ ).

**Interpretation:** Peruvian clinicians and parents should be properly informed about the possibility of false positives or overscreening for developmental delays if the infant's age is in the lower range for an ASQ-3 screening interval.

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### A health perspective of street children in Bangladesh

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**Project Purpose:** Street children refer to millions of destitute boys and girls who have adopted the street as their abode or source of livelihood, or both. These children grow up in an environment where tranquility, and physical and emotional stability are frequently or constantly threatened. The purpose of this study is to have a close and empathetic look into the lives of street children that will help to identify their health-related needs.

**Method:** A cross sectional descriptive type of study was conducted among 125 street children between the ages 8 to 14 years who were available at different intercept points of Dhaka city, Bangladesh. The information was collected through face-to-face interview using a structural questionnaire. An attempt was also made to relate their lifestyle, risk behavior and health impact upon the socio demographic characteristics.

**Outcome and Evaluation:** In this present study, the findings suggest that, according to the statement of street children, poverty (41%) is the main reason behind enforcing the children to stay and work on the street. Additionally other factors are physical abuse by the family member, due to presence of stepmother or father, brought by unknown person, to earn money, and run away with

friends, etc. The expenditures for food and addiction are also significantly associated with the rise of income. They pass their leisure by playing games, roaming around by watching video/cinema but on the other side of the coin, they are frequently abused (80.8%) either physically or sexually. Regarding health, about 87.2% street children were suffering from different type of diseases as accidental injury, skin infection, hepatitis, sexually transmitted diseases (STDs) and warm infestation.

**Going Forward:** This study has been performed in response to the pressing need to assess the personal and social consequences of the urban street children in Bangladesh. A careful examination of the lives of these children will provide a clearer understanding of the paths to their disadvantageous life. A better diagnosis of the contributing factors will help to minimize the extent of the problems and also to develop innovative approaches and ensure a healthy lifestyle for the future generation.

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### Population-based study to determine prevalence of hypertension and other cardiovascular risk factors in a rural region of Kenya

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**Background:** Cardiovascular disease is the leading cause of death in Africa. Hypertension, with a high prevalence in sub-Saharan Africa, appears to be a major contributory factor. Little is known about the prevalence of or risk factors for hypertension in rural areas of sub-Saharan Africa. We propose to estimate the prevalence of hypertension in adults in rural southern Kenya.

**Methods:** We will conduct the survey in Kaloleni district using randomized two-stage cluster sampling. We will use the validated WHO STEPwise approach to chronic disease questionnaire with additional questions for non-traditional risk factors and collect baseline blood pressure, basic demographic/anthropometric and spot urine from 660 non-pregnant adults over the age of 20 years old.

**Findings:** Our research group conducted a preliminary assessment of hypertension prevalence in the same district during a health fair for a total of 740 residents. The prevalence of hypertension among 91 participants aged >18 years was high (31%). This current study will report prevalence of hypertension and its traditional risk factors, in addition to non-traditional risk factors such as kidney disease from chronic Schistosomiasis infection, indoor smoke exposure, or consumption of "miraa" (a plant-based stimulant). The data collection and analysis will take place November 2015.

**Interpretation:** Our study will provide epidemiological data critical for mapping and surveillance of hypertension and associated cardiovascular risk factors crucial for curbing the cardiovascular disease pandemic that is emerging in rural Kenya and other parts of East Africa. This will be the first study of nontraditional cardiovascular risk factors in a rural Kenya that has the potential to uncover interventions that can particularly impact rural populations