

**Funding:** The project was funded by the Radiological Society of North America.

**Abstract #:** 1.026\_NEP

### **Hypertension prevalence in Zanskar, India: a study to guide future health interventions in rural health clinics**

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**Background:** Zanskar, India is a high-altitude, remote region located near the Himalayan mountain range in Ladakh, in northern India. Due to its isolation, much of the population, especially in the farming villages, lack access to regular medical care. The aim of the study was to assess the prevalence of hypertension and to consider risk factors specific to this population.

**Methods:** Data was collected from 318 patients aged 20 to 90 years who presented at temporary medical camps in the villages of Sani and Raru in July 2015. Patients had their blood pressure measured twice and the mean systolic and diastolic pressures were calculated. Through a translator, patients completed a questionnaire about their knowledge of their medical conditions and lifestyle risk factors. The population was stratified by age and gender and then categorized by their blood pressure status.

**Findings:** Of the 318 patients we surveyed, 33% were pre-hypertensive and 25% were hypertensive, with 60% of that group unaware of their hypertension status. 90% of patients who were aware of their hypertension were not taking medications at the time of presentation to the clinic. The prevalence of hypertension increased with age while the prevalence of prehypertension remained relatively stable at all surveyed age groups. At 36%, the prevalence of hypertension for men was higher than that for women (21%). Men also had a higher prevalence of prehypertension (40%) than that of women (30%).

**Interpretation:** The prevalence of hypertension is relatively high in the two villages in Zanskar, India, indicating that hypertension is not limited to urban Westernized populations and can also affect isolated, rural populations. More thorough epidemiological studies should be conducted to identify specific risk factors in other parts of Ladakh. We believe that cultural, socioeconomic, and geographical factors likely greatly influence hypertension risks in Zanskar. Our findings suggest that future interventions in similar populations should prioritize hypertension as a serious public health issue.

**Funding:** New York University School of Medicine, International Health Program.

**Abstract #:** 1.027\_NEP

### **Analysis of refugee mental health screening and referral processes at the Newcomers Health Program, San Francisco General Hospital's Refugee Medical Clinic: a quality improvement study**

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**Program/Project Purpose:** The *Newcomers Health Program (NHP)* is a clinic-based and community-based health program that serves refugees, asylees, and immigrants. NHP is working in collaboration with the *UCSF Trauma Recovery Center/Survivors International* to improve mental health screening and referral processes as a part of the Refugee Health Assessment Program (RHAP). Survivors International is a non-profit organization providing psychological, social, and medical services for survivors of torture. At the NHP, refugees/asylees are generally seen for two clinic visits: a screening visit, and a screening follow-up visit. The State of California recently designed a new comprehensive screening form to be used at all the California county refugee health assessment programs, and it has been in use at the NHP since October 2013. In particular, it includes a much more comprehensive mental health screening – including questions about post-traumatic stress disorder, depression, generalized anxiety disorder, trauma, and persecution.

**Structure/Method/Design:** The aim of the quality improvement study was to evaluate the efficacy of the new mental health screening tool in comparison to a previous screening tool used at NHP. We first analyzed a subset of patient records during a time period when the previous screening tool was used (September – October 2013), and key indicators were documented: positive mental health screen, referral made, and outcome of referral. Specifically for survivors of torture, we analyzed to see if torture was identified, and whether a referral to *UCSF Trauma Recovery Center/Survivor's International* was made. Next, we analyzed a subset of patient records during a time period when the new screening tool was used (January – February 2014) with similar indicators as above.

**Outcome & Evaluation:** The new mental health screening tool increased the number of patients who screened positive during screening visits, and who would therefore be eligible for referral services. Currently, a RHA outreach pilot project is being conducted between initial screening and follow-up visits to serve as an additional measure in identifying potential torture/persecution survivors and to facilitate referrals.

**Going Forward:** Next steps for enhancing mental health services include improving the clinical workflow, training for providers, improving referral coordination, and sharing best practices with other counties.

**Abstract #:** 1.028\_NEP

### **Stigma and knowledge of Hepatitis B virus in an urban Vietnamese population compared to that of a Vietnamese immigrant community in Chicago**

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**Background:** Hepatitis B virus (HBV) infection is particularly common in Asia and among Asian immigrants in the United States. We conducted this study to evaluate HBV stigma and knowledge in a large group of persons in Vietnam and to compare their views and understanding of HBV to those of Vietnamese immigrants in the United States.

**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.

**Funding:** None.

**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.

**Abstract #:** 1.030\_NEP

### 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