

dynamics. The dearth of scientific knowledge on complex refugee family dynamics has resulted in a lack of family-based interventions in many host countries. This gap could be due to the failure to address multidimensional changes, complexities experienced by refugee families over time, and uncertainty in the field over which of these elements to address first. The aim of this research is to examine availability and utilization of resources related to their daily stress, family conflict and physical/psychological health by refugee families.

**Methods:** The researcher used qualitative longitudinal research to conduct phase 1 & 2 interviews with 120 parent-adolescents' dyads. Participant families were selected using purposive stratified sampling from an Indian refugee camp. The study was approved by author's Institutional Ethics Board and participants signed Tamil translated consent form. The researcher used open-ended interviews in Tamil which were audio-taped. The data was analyzed based on the grounded theory approach, in which data collection and analysis are conducted concurrently as an iterative process, patterns are identified in the data through codes, and salient themes and concepts are developed based on interaction with the data.

**Findings:** During Phase-1 & 2, all the participating families emphasized different family members as their foremost support. During Phase-1 & 2, all the participating families emphasized the enormous amount of resources provided by different non-governmental organizations. Family and non-governmental organizations mainly provide resources related to daily stress. In addition, the Indian government is coordinating monthly medical camp which is the only medical services available in the camp.

**Interpretation:** Findings suggest that refugee families may have more actively engaged with, and utilized available resources from their families and non-governmental organizations to support their daily stress. However, participants' responses showed severe gaps in the availability of resources related to family conflict, and physical/psychological health. Implications emphasized the urgency of developing evidence based refugee family interventions to concurrently provide resources to support daily stress, family conflict and physical/psychological health.

**Source of Funding:** The National Institute of Health Fogarty International K01TW009648-01 grant provided funding for this research.

**Abstract #:** 1.027\_NCD

### The Prevalence of Depression and its Correlation with Healthcare Barriers in Urban Islamabad

*M. Haque<sup>1</sup>, A. Choudhury<sup>2</sup>, A. Haque<sup>3</sup>, R. Blackwood<sup>4</sup>; <sup>1</sup>University of Michigan Medical School, Ann Arbor, USA, <sup>2</sup>John Hopkins University, Baltimore, USA, <sup>3</sup>University of Michigan, Ann Arbor, USA, <sup>4</sup>University of Michigan, Ann Arbor, USA*

**Program/Project Purpose:** The prevalence of mental illness in Pakistan is thought to be very high albeit few studies assessing depression have ever been conducted there, particularly post 2001. Even fewer studies have been carried out in well-to do urban areas. This study was hence done in an upscale residential sector of Islamabad, Pakistan in order to assess the prevalence of depression and

understand if an association exists between barriers to healthcare access and depression.

**Structure/Method/Design:** Thus, between May and June 2016, an anonymous, cross-sectional study was carried out amongst women living in the I-8 sector of Islamabad with the help of 18 key informants. Convenience sampling was used due to significant security restrictions present. The survey was based off the Pakistan Demographic Health Survey, and included the Center for Epidemiological Studies Depression (CESD) scale. The study instrument was then translated into Urdu, pre-tested, and distributed in both Urdu and English. Data was cleaned and then analyzed using Stata 14.

**Outcome & Evaluation:** Overall, 103 women filled out the overall survey of which 90.3% filled out the CESD scale. The prevalence of depression in the study sample was found to be very high at 79.4%, with 41.9% of participants found to have major depression. Between 47% to 63% of women also identified each of the following as barriers to access: cost (63%), receiving permission (55%), not wanting to go alone (55%), distance (52%), feelings that care will be useless (51%), the gender of the provider (48%), and feeling unsafe (47%). Further, 42.0% of women believed that their mental health impacted their decision to receive healthcare. A robust multi-variable regression analysis found that an increase number of self-reported barriers is associated with a higher depression score ( $p < 0.05$ ). Higher household income level and self-rated health were related to a decrease in depression score ( $p < 0.05$ ).

**Going Forward:** While this study sample was limited, the results indicate a very high depression prevalence amongst the sample population and an alarming number of perceived of barriers to healthcare access. Eliminating difficulties faced in accessing healthcare and addressing mental health concerns are vital to ensuring a higher quality of life for all Pakistanis.

**Source of Funding:** None.

**Abstract #:** 1.028\_NCD

### War-Related Injuries and Surgical Procedures in Syria

*M. Hariri<sup>1</sup>, M. Hani<sup>2</sup>, H. Al-Nabhas<sup>3</sup>, A. Al-Kassem<sup>4</sup>, T.B. Erickson<sup>5</sup>; <sup>1</sup>Aleppo Hospital, Aleppo, Syrian Arab Republic, <sup>2</sup>Yale University, New Haven, USA, <sup>3</sup>UOSSM, Aleppo, Syrian Arab Republic, <sup>4</sup>UOSSM, Toronto, Canada, <sup>5</sup>Brigham & Women's Hospital, Harvard Medical School, Boston, MA, USA*

**Background:** Despite its highly publicized nature, little is known about the burden of injuries and illnesses in the Syrian war. Syrian healthcare providers care for patients with limited resources in health facilities that are under attack. We report health statistics from Syrian hospitals over a 6-month period in 2016.

**Methods:** A survey was conducted of 82 hospitals and health facilities from March to August 2016 in areas outside of Syrian government control. Patient volume and characteristics were collected from emergency departments, outpatient clinics, inpatient wards and ICUs. Surgical categories included: general, orthopedic, limb amputation, vascular surgery, urological, neurosurgical, ophthalmological, thoracic, maxillofacial, ENT, plastics, and OB-GYN. Deliveries were further divided into normal vaginal or C-sections. Emergent and elective surgical procedures were further categorized into war

and non-war related injuries. Mortality data was obtained for age and gender.

**Findings:** During the 6 month study period, a total of 1,396,545 patient visits were treated in surveyed hospitals. Of those, 917,485 (66%) presented to outpatient clinics and 479,060 (34%) to emergency departments. A total of 83,399 patients required admission; 61,660 to inpatient wards and 7,740 required ICU care. 53,360 surgical procedures were performed. Of those, 22,936 (43%) were categorized as war-related and 30,424 (57%) were non-war-related surgeries. War-related procedures were further categorized as general (7,598) (33%), orthopedic (9496) (41%), limb amputation: upper (total 413) (2%); lower (total 214) (1%), vascular surgery (1,136) (5%), urological (712) (3%), neurosurgical (479) (2%), ophthalmological (491) (2%), thoracic (356) (1.5%), maxillofacial (411) (2%), ENT (510) (2%), plastics (659) (3%), and OB-GYN (461) (2%). Of 26,938 total deliveries, 16,445 were normal vaginal (16,445) (61%) and (10,493) (39%) were delivered by C-section. A total of 2,804 fatalities were reported by the study hospitals (73% male; 27% female) with 386 (14%) reported in children under 5yrs of age.

**Interpretation:** Our data indicate a high rate of surgical procedures in our surveyed hospitals. Nearly half of surgical procedures were war-related and of those, the most common categories were general surgical and orthopedic procedures. The rate of non-trauma surgeries indicated a continued significant demand for routine surgical care for the general population.

**Source of Funding:** UOSSM.

**Abstract #:** 1.029\_NCD

### Improving Anemia in Ecuador: The Journey to a Sustainable Intervention in a Global Health Nursing Course

*S. Heaston<sup>1</sup>, A.S. Romero<sup>2</sup>; <sup>1</sup>Brigham Young University, Provo, UT, USA, <sup>2</sup>Brigham Young University, Provo, USA*

**Program/Project Purpose:** Collaborative efforts of a College of Nursing from a University in the western United States and a non-profit organization based in Guayaquil, Ecuador have helped to build healthier communities. Global Health experiences have been a part of the nursing program at this University for the past twelve years. Due to economic difficulties of the families in this area, many children were coming to school hungry. This prompted a local non-profit organization to seek assessments and interventions in order to better be able to understand the nutritional needs of these children. It was determined that working together, our College of Nursing and volunteers from the non-profit organization together could measure a large portion of children to determine a benchmark of health needs. The results were astonishing with a 48% anemia rate noted in these school aged children. During the next eight years of assessment and interventions, we have now come to realize a sustainable intervention that was implemented this school year. In this poster presentation we will share our journey of improving anemia in these school aged children.

**Structure/Method/Design:** In May 2016, four schools were selected as the target study groups. The interventions used were based on previous international research on treating anemia; increasing childhood nutrition, incorporating supplemental

nutrients, and treating underlying sickness, as well as a previous study we had completed utilizing interventional groups (a school snack of unfortified soy milk and a roll, a chewable vitamin with iron, and antiparasitic medication). In 2015 a graduate nutrition student at our university developed a supplement, with iron and vitamins, for the soy milk utilizing Ecuadorian resources, then trained those making the soy milk, how to add this supplement to the soy milk they were already giving to the children at the school.

**Outcome & Evaluation:** The fortified soy milk has been given to these children since May 2016. In November, 2016 we will return to measure these school aged children and are hopeful this intervention will have had positive effects. The results will be shared as well as the strengths and weakness of this study.

**Going Forward:** Strengths and weaknesses will be evaluated.

**Source of Funding:** Various anonymous donors help fund the supplies for measurement and interventions.

**Abstract #:** 1.031\_NCD

### Osteoporosis-related knowledge and health beliefs among female community leaders in Peru

*M. Sava<sup>1</sup>, E. Hsieh<sup>2</sup>, P. Garcia<sup>3</sup>, D. Mabey<sup>1</sup>; <sup>1</sup>London School of Hygiene and Tropical Medicine, London, United Kingdom, <sup>2</sup>Yale University, New Haven, USA, <sup>3</sup>Universidad Peruana Cayetano Heredia, Lima, Peru*

**Background:** Postmenopausal women are at high risk for osteoporosis, and early adoption of osteoporosis-preventative behaviours, such as physical activity and dietary calcium intake, can help mitigate this risk. Behavioural studies have shown that knowledge and health beliefs are key factors associated with adoption of healthy behaviours. There are few such studies regarding osteoporosis in South America. Our aim was to conduct an exploratory study evaluating osteoporosis-related knowledge and health beliefs among a group of female community leaders in Peru, who may potentially serve as promoters of bone health in future community-based osteoporosis interventions.

**Methods:** We conducted a cross-sectional study among female community leaders in a peri-urban setting. Participants completed a four-part questionnaire that included the internationally validated Osteoporosis Knowledge Test (OKT) and Osteoporosis Health Belief Scale (OHBS), questions regarding sociodemographic and clinical characteristics, and questions pertaining to osteoporosis and fracture risk.

**Findings:** A total of 60 women were interviewed (88% participation rate). Mean age of the participants was 43.7±8.3 years, mean BMI was 30.4±5.3 kg/m<sup>2</sup> and 58.3% had completed high school education or beyond. The majority of interviewed women had a relatively high knowledge regarding osteoporosis based upon the OKT, and reported high perceived benefits to exercise and calcium intake, and relatively high health motivation. The level of osteoporosis knowledge was highly associated with level of education (PR 1.94, 95% CI: 1.23 – 3.09; p=0.005). We also found a trend for association between level of knowledge and perceived benefits to exercise and calcium intake.