in this marginal community. As presbyopia affects every individual aged 40 years and above, bringing these services to communities will provide an opportunity for public sensitization, screening, early detection and management of other blinding eye diseases which are also common in this age group.

Abstract #: *1.023_NCD*

Perceptions of Breast Cancer among Muslim Women in Ghana: An Opportunity for Targeted Breast Health Education in Sub Saharan Africa

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Background: The burden of breast cancer continues to increase in Low and Middle Income Countries (LMICs). Within this, Muslim women are observed to present with more advance disease and worse outcomes. With mammography absent and widespread clinical breast examination (CBE) lacking, screening often relies on breast self-examination (BSE). However, little is known regarding the role of religion in a woman's perceptions and practice of breast health.

Methods: A cross-sectional survey was administered to female members of Islamic and Christian organizations in Ghana. Participants were asked about their personal experience with breast concerns and their performance of BSE or participation in CBE. Additionally, the survey queried participant's perception about breast cancer and assigned a perception score (maximum score of 9).

Findings: The survey was administered to 432 Muslim and 339 Christian women. Muslim women were less likely to have finished secondary school (29% vs 43%; $p<0.001$), to have received instruction on BSE (33% vs 81%, $p<0.001$), or to have performed BSE (30% vs 75%; $p<0.001$). Muslim women had a higher breast cancer perception score compared to Christian women (median score of 6; IQR 5–7 vs 4; IQR 4–6; $p<0.001$). Having received BSE instruction and knowing someone who had breast cancer increased the odds of performing BSE while being Muslim and increasing age decreased the odds. There was no evidence for increased breast cancer perception score reducing the odds of performing BSE.

Interpretation: Muslim women are less likely to perform BSE than their Christian counterparts, despite appearing to have a better perception about breast cancer. While there is need for widespread improvements to breast health campaigns in LMICs, this study reveals the need for special attention towards improving screening education among Muslim women.

Abstract #: *1.025_NCD*

Using Saliva as a Biomaterial for Screening of Non-Communicable Diseases in African Countries

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Background: There is an increased research effort for identifying, understanding and intervening the rising of physical, emotional and financial burdens of non-communicable diseases in African countries including Rwanda. At present, identifying the blood-based markers is the gold standard for monitoring most of the non-communicable diseases, including diabetes, hypertension and obesity. However, blood-based biomarker studies are not always convenient and risk free; particularly in African countries where such blood-based analysis poses risk of infection & disease transmission. In contrary, saliva is very easy to collect.

Methods: Saliva is a noninvasively obtainable biomaterial and is successfully used for early detection of biomarkers, such as insulin, C-reactive protein (CRP), adiponectin and phosphate in various non-communicable diseases.

Findings: It has been found from recent studies that some biomarkers appear in saliva much earlier than in blood. For instance, a significant elevation of salivary phosphate content was associated with the evolvement of obesity of a group of children, while no such changes in phosphate levels were noted in plasma among the same group of children, collected simultaneously (with saliva). The occurrence of increased salivary phosphate levels without its systemic changes could be of enormous diagnostic value, particularly in monitoring the evolvement of non-communicable metabolic diseases. In a similar line of observation, three salivary biomarkers, insulin, C-reactive protein (CRP), and adiponectin provided strong associations with the development of childhood obesity, in a prospective study.

Interpretation: In this presentation, we will highlight the importance of adopting salivary biomarkers as part of patient screening system to reduce blood-related disease transmission, and to make it more cost-effectiveness, without affecting the quality of the patient care, in African countries including Rwanda.

Abstract #: *1.026_NCD*

Identifying Daily Stress, Family Conflict and Health Care Resource Gaps at the Sri Lankan Tamil Refugee Camps in India: Implications for Developing an Evidence-based Family Intervention for Refugees

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Background: Numerous epidemiological studies have shown that daily stressors are associated with refugees' physical/psychological health difficulties. Research has also identified strong associations between refugee health difficulties and complex refugee family

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.

Abstract #: *1.027_NCD*

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

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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 multivariable 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.

Abstract #: *1.028_NCD*

War-Related Injuries and Surgical Procedures in Syria

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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