

was used to determine relationship between missed doses and well-being.

**Findings:** Mean age was 38.5 years. 837 (65.3%) were females. Pearson correlation showed a significant negative correlation between Wellbeing and Missed doses for one month.  $r = - .131$ ,  $n = 1281$ ,  $p < 0.0005$ . Patients self-assessment of wellbeing negatively correlates with missed doses and thus adherence.

**Interpretation:** Self-assessment of poor well-being is a risk factor for poor adherence to ARVs and interventions' to integrate mental health assessments and interventions to improve sense of wellbeing into HIV programming in Nigeria is desirable to improve adherence.

**Source of Funding:** PEPFAR Nigeria.

**Abstract #:** 1.021\_NCD

### The Association between Fasting Blood Glucose and Liver Cancer Risk in Chinese Males: A Prospective Cohort Study

X. Feng<sup>1</sup>, G. Wang<sup>2</sup>, Z. Lv<sup>3</sup>, S. Chen<sup>4</sup>, L. Wei<sup>5</sup>, Y. Chen<sup>5</sup>, W. Yang<sup>5</sup>, S. Wu<sup>4</sup>, M. Dai<sup>5</sup>, N. Li<sup>5</sup>, J. He<sup>5</sup>; <sup>1</sup>National Cancer Centre/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China, <sup>2</sup>Kailuan General Hospital, Tangshan, China, <sup>3</sup>National Cancer Center/ Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, Beijing, China, <sup>4</sup>Kailuan (group), Tangshan, China, <sup>5</sup>National Cancer Center/ Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

**Background:** Fasting blood glucose (FBG) has been suggested to be associated with the risk of cancer, however, the relationship hasn't been studied in detail among Chinese people. A large prospective cohort was performed to investigate the association between FBG levels and incident liver cancer risk in Chinese males.

**Methods:** Employees and retirees in Kailuan Group were encouraged to participate in routine checkups every two years since July 2006, and 109,380 males participated in the checkup at least once were recruited in the Kailuan male cohort study. FBG levels at baseline were tested, Cox proportional hazards regression models and restricted cubic spline (RCS) were used to evaluate the association between baseline FBG and risk of liver cancer in males. Interaction effect of FBG and HBV infection was also analyzed.

**Findings:** By 31 December 2014, there were 659,243 person-years of follow-up, taking 6.89 years of median follow-up period, and 267 liver cancer cases occurred. Compared with males in normal FBG range ( $3.9 \leq \text{FBG} < 6.1 \text{ mmol/L}$ ), males in impaired fasting glucose (IFG:  $6.1 \leq \text{FBG} < 7.0 \text{ mmol/L}$ ) and diabetic range ( $7.0 \text{ mmol/L} \leq \text{FBG}$ ) were associated with a 60% (95% CI: 1.09–2.36) and a 59% (95% CI: 1.07–2.35) higher liver cancer risk, respectively. Pertinent results of sensitivity analyses concerning potential confounders (i.e. extreme BMI, HBV infection and liver cancer cases within the first two years in the cohort) cannot alter the main finding, especially in males with diabetic FBG ( $18.5 \leq \text{BMI} < 30 \text{ kg/m}^2$ : HR=1.61, 95% CI: 1.07–2.43; HBsAg negative: HR=1.77, 95% CI: 1.09–2.88; excluding cases within 2 years: HR=1.63, 95% CI: 1.02–2.60). Moreover, FBG levels tended to show a positive

dose-response association with liver cancer in the RCS model. The HBsAg positivity did not statistically modify the effect of any FBG levels (IFG: S=1.59, 95% CI: 0.70–2.15;  $\text{FBG} \geq 7.0 \text{ mmol/L}$ : S=1.12, 95% CI: 0.53–2.06), even though the hazard ratios were much higher in the HBsAg positive than in HBsAg negative males.

**Interpretation:** In summary, this study provides further evidence that high FBG levels ( $\text{FBG} \geq 6.1 \text{ mmol/L}$ ) are modest associated with increased risk of liver cancer in Chinese males.

**Source of Funding:** the National Natural Science Foundation of China (grant no. 81673265 and 81373079); Research Special Fund for Public Welfare Industry of Health (grant no. 201402003); the National Health and Family Planning Committee of P. R. China.

**Abstract #:** 1.022\_NCD

### Prevalence of Presbyopia, Presbyopia Correction Coverage and Barriers to Uptake Eye-Care Services for Near-Vision Impairments among Indigenous Population in Northern part of Bangladesh

N. Ferdousi; National Institute of Ophthalmology & Hospital, Dhaka, Bangladesh

**Background:** Presbyopia is an age-related loss of lens accommodation that results in an inability to focus at near distances. Uncorrected presbyopia is the most common cause of visual impairment and has a substantial impact on quality of life. The purposes of this study were to determine the prevalence of presbyopia, presbyopia correction coverage (PCC) and self-perceived barriers to accessing services for near vision impairment in financially challenged, mostly illiterate indigenous population in northern rural part of Bangladesh.

**Methods:** This population-based, cross-sectional study was carried-out in an organized eye-camp on men and women of 40 years of age and above. Presbyopia was defined to be able to see the N8 optotype at a distance of 40 cm or able to see at least one more line with the addition of a plus lens with at least +1.00 dioptre. PCC was defined as:  $\text{met-need}/\text{total need} \times 100$ . Presbyopic people were provided with glasses free of cost and those needed distance correction were referred appropriately. Participants were asked about self-perceived barriers to uptake eye-care services for near vision impairment.

**Findings:** Among 396 participants, 210 were female and 186 were male. The mean age of the participants was 53.48 years. 87% of the participants were illiterate, 11% had little education and only 1.5% completed graduation. 233 (58.8%) participants identified the need for presbyopic correction. Age adjusted data showed a significantly higher needs of presbyopic correction in female than male ( $p < 0.001$ ). The unmet need was 57.8% and the met need was only 1%. The PCC was 1.71%. The common barriers mentioned to uptake services for near vision impairment were financial incapability (34%), lack of awareness that simple spectacles usage could improve vision (23%), and setting priority (11%).

**Interpretation:** Even though it can be easily corrected with spectacles, presbyopia correction coverage remains significantly very low

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.

**Source of Funding:** Ankur International.

**Abstract #:** 1.023\_NCD

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

A. Gyedu<sup>1</sup>, C.E. Gaskill<sup>2</sup>, G. Boakye<sup>3</sup>, B. Anderson<sup>4</sup>, B. Stewart<sup>4</sup>;  
<sup>1</sup>Kwame Nkrumah University of Health Science and Technology, Kumasi, Ghana, <sup>2</sup>Kwame Nkrumah University of Science and Technology/ University of Washington, Kumasi, Ashanti, Ghana, <sup>3</sup>Kwame Nkrumah University of Science and Technology, Kumasi, Ghana, <sup>4</sup>University of Washington, Seattle, USA

**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.

**Source of Funding:** R25-TW009345 from the Fogarty International Center, US National Institutes of Health.

**Abstract #:** 1.025\_NCD

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

A. Gatarayiba<sup>1</sup>, C. Mumena<sup>2</sup>, D. Uwayezu<sup>2</sup>, M. Razzaque<sup>3</sup>;  
<sup>1</sup>University of Rwanda, College of Medicine and Health Sciences, Kigali, Rwanda, Rwanda, <sup>2</sup>University of Rwanda, College of Medicine and Health Sciences, Kigali, Rwanda, <sup>3</sup>Harvard School of Dental Medicine, Boston, USA

**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.

**Source of Funding:** None.

**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

M. George; Virginia Commonwealth University, Richmond, Virginia, USA

**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