

were queried on basic health perceptions, attitudes, and health status, including the Multidimensional Health Locus of Control (MHLC) and the CDC's Healthy Days core questions (CDC HRQOL-4). MHLC ascertains whether an individual perceives their health is controlled by internal or external factors (with five subscales) and HRQOL-4 ascertains overall health status and healthy/unhealthy days. The unadjusted and adjusted (age, gender, education, and socioeconomic status) effects of MHLC scales on HRQOL-4 components were examined using generalized estimating equation (GEE) modeling.

Findings: After adjusting for covariates, MHLC-P (Powerful Others scale) was statistically significantly associated with poorer health in both the India and US samples; in particular, as perception that one's health was controlled by "powerful others" increased, the number of unhealthy days increased in both samples, after adjustment. Further, MHLC-P was significantly associated with poor mental health days, with increasing perception of control over one's health by powerful others associated with higher reported poor mental health days. Additionally, participants qualitatively indicated concern about access to their health information by employers, insurers, and others, and about social repercussions of inappropriate access to personal medical information.

Interpretation: This study provides compelling cross-national evidence that feeling one's health is controlled by "powerful others" is associated with an increase in poor quality of life and worsening subjective mental health. A perception of powerlessness across a range of global economic settings could interfere with the ability of health education and disease control efforts to improve health, emphasizing the imperative for better understanding health locus of control in delivering health interventions.

Source of Funding: NIH UL1 TR000042 NCATS.

Abstract #: 1.019_NCD

Avoiding "A Massive Spin-off Effect in West Africa and Beyond": The Tobacco Industry's Role in Stymieing Tobacco Control in Nigeria

C.O. Egbe, S.A. Bialous, S. Glantz; University of California, San Francisco, San Francisco, CA, USA

Background: Nigeria plays important economic and political roles in Africa and is a significant market for the tobacco industry. This study describes the tobacco industry's efforts to block Nigeria's early tobacco control attempts, especially the Tobacco Smoking (Control) Decree 20 of 1990, and efforts to strengthen it in 1995.

Methods: Analysis of tobacco industry's internal documents publicly available at University of California San Francisco's Truth Tobacco Documents Library and other Internet sources related to Nigeria's Decree 20 and earlier tobacco control efforts.

Findings: The World Conferences on Smoking and Health and World Health Organization in the late 1970s spurred the Nigerian government to take steps towards tobacco regulation. The emergence of tobacco control in Nigeria threatened the tobacco industry, which feared that success in Nigeria would have a domino effect, spreading across Africa. The tobacco industry, in response, lobbied

government ministries, formed alliances, and created a trade group, the Tobacco Advisory Council of Nigeria (TACON), to block and weaken government's tobacco control efforts. The tobacco industry actively intervened to stall tobacco control in Nigeria since the 1970s, including blocking tobacco control laws in 1982 and 1983. While a tobacco control law (Decree 20) was passed in 1990, TACON had obtained a draft of Decree 20 two years before it was enacted, considered the Decree anti-business, and proposed changes in language that led to the passage of a weaker Decree. The tobacco industry also blocked the strengthening of the Decree in 1995.

Interpretation: This is the first detailed account of tobacco industry interference with tobacco legislation in Africa. Decree 20 was a strong law for its time, but was weakened due to tobacco industry interference. Nigeria ratified the WHO Framework Convention on Tobacco Control (FCTC) in 2005, and enacted a comprehensive National Tobacco Control Act (NTCA) in May 2015. The lessons learned from Decree 20's experience should be applied to protect NTCA 2015, from the tobacco industry's interference and possible attempt to weaken or block its implementation. This is in line with the WHO-Framework Convention on Tobacco Control Article 5.3, requiring parties to protect tobacco control policies from the tobacco industry's interference.

Source of Funding: National Cancer Institute grants CA-087472 and CA-113710.

Abstract #: 1.020_NCD

Relationship Between Patients Sense of Wellbeing and Adherence to ARTs

V.A. Enejob¹, B. Awesu², A. Olutola², A.E. Nwandu³, E.E. Ezeanolue⁴; ¹Centre for Clinical Care & Clinical Research, Abuja, FCT, Nigeria, ²Centre for Clinical Care & Clinical Research Nigeria, Abuja, Nigeria, ³University of Maryland, Baltimore, MD, USA, ⁴University of Nevada School of Medicine, Las Vegas, NV, USA

Background: Poor adherence to antiretroviral drugs can result in serious health consequences including emergence of opportunistic infections. There is limited data particularly in resource-limited settings like Nigeria that examines the relationship between sense of well-being and adherence to ARVs. Identification of negative correlates of adherence can contribute to developing a "risk profile" that care providers can use to identify patients "at risk" of being non-adherent and thus provide interventions to enhance adherence. This study explored the relationship between wellbeing and adherence to determine if patients' poor self-assessment of wellbeing could be considered a potential risk factor for poor adherence.

Methods: This is a retrospective study utilizing cross sectional review data of 1281 randomly selected HIV positive adult patients who had been on ART for at least nine months and responded to a six component survey administered as part of a patient – level evaluation carried out for quality improvement of service delivery at PEPFAR supported ART clinical sites in Nigeria. The survey included the WHO 5 well-being index. Patients responded to the five items on the index and adherence was assessed using a one month missed ARV doses recall. SPSS Pearson correlation analysis

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. Feng¹, G. Wang², Z. Lv³, S. Chen⁴, L. Wei⁵, Y. Chen⁵, W. Yang⁵, S. Wu⁴, M. Dai⁵, N. Li⁵, J. He⁵; ¹National Cancer Centre/Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China, ²Kailuan General Hospital, Tangshan, China, ³National Cancer Center/ Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, Beijing, China, ⁴Kailuan (group), Tangshan, China, ⁵National 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