

## NCDS AND SOCIAL DETERMINANTS OF HEALTH

### Mental Health in Leon, Nicaragua: Reflections from a Seven-Week Global Mental Health Elective

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**Background:** Nicaragua is a low and middle income country (LMIC) with a long history of socio-political, economic and environmental challenges that have profoundly affected the local population. Mental disorders and addictions are highly prevalent and suicide rates are the highest in the region. Mental health infrastructure and funding are sparse and care differs significantly from standards in Western countries. A final year medical student completed a seven-week psychiatry global mental health elective in Leon, Nicaragua. Her reflections on the current state of mental health care in Leon are presented.

**Methods:** During the elective, the medical student participated in patient care in both inpatient and outpatient settings and documented her experiences through a reflective blog. Educator-practitioners, such as M.A. Jasper, have argued that reflective writing itself is a valid data source, promoting creativity and the formation of connections. We use the blog alongside published data as a source of information about mental health provision in Leon.

**Findings:** In Leon, the most common patient presentations include anxiety and depression related to complex family dynamics, economic hardship and alcohol addiction. Mental health care is mainly provided through hospital inpatient services, outpatient services at a university-affiliated mental health and addictions clinic, and outpatient and crisis services at a community mental health center. Mental health specialists are few and psychiatry is not an emphasized discipline – there are few psychiatrists within the public system, medical students have little awareness of and exposure to psychiatric presentations and management, and psychiatry residency positions nation-wide are very limited. Mental health care is largely provided by allied health services, usually psychologists, who focus on symptomatic treatment rather than diagnostic management.

**Interpretation:** As with other LMICs, practitioners and resources for mental health are scarce. This shortage is balanced by the high motivation of mental health practitioners who aim to use innovative evidence-based practices and to leverage public education and prevention. Funding and training resources remain a challenge but emphasis on front-line capacity building and integration of mental health into public health and other medical curricula, with focus on primary care, may provide significant improvements.

**Source of Funding:** Financial support was provided by the Medical Alumni Association, Faculty of Medicine, University of Toronto, to the presenting author.

**Abstract #:** 2.001\_NCD

### Fresh Fruit Intake May Decrease Long-term Risk of Esophageal Cancer Death among Smokers Based on Results from the Linxian Nutrition Intervention Trial

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**Background:** Previous studies have shown inadequate intake of fruit to be one of the main risk factors of esophageal cancer death. This association is particularly true among the smokers. We investigated the association between long-term risk of esophageal cancer death and fresh fruit consumption among smokers in the Linxian Nutrition Intervention Trial.

**Methods:** In 1984-1991, 8,901 smoking participants from the Linxian nutrition interventional cohort completed a food frequency questionnaire and were followed. Through December 31, 2015, there was a median of 31.79 years of observation. The primary endpoint was death from esophageal cancer. Hazards ratio and 95% confidence interval were calculated using Cox proportional hazard model for fresh fruit consumption.

**Findings:** A total of 904 esophageal cancer deaths occurred during the study timeline. Baseline dietary surveys were divided into categories of never or rarely consumption of fruits, monthly, 1-3 times per week, 4-6 times per week, and daily consumption. After following this cohort for 30 years, different frequencies of fresh fruit intake were calculated. 30-year cumulative mortalities for different frequencies of fruit consumption were significantly different, with rates of 21.84%, 16.48%, 14.05%, 10.99% and 12.09% respectively. With the increasing frequency of fresh fruits intake, the 30-year cumulative mortality rates decreases ( $\chi^2 = 175.58$ ,  $P < 0.001$ ). Compared to participants who never or rarely consumed fresh fruit, participants who consumed fruits monthly, 1-3 times/week, 4-6 times/week, or daily, the risk of esophageal cancer death decreased with 26%, 39%, 49% and 49%, respectively. Adjusting for age, sex, region, BMI, education, drinking history and family history, the risk of esophageal cancer death decreased by 13% (HR = 0.87, 95% CI:0.75 – 1.00) among those whose intake of fresh fruits was more than 1 time per week, especially among males (HR=0.87, 95% CI:0.76–1.00) with a negative history of drinking (HR = 0.82, 95% CI:0.68–0.99).

**Interpretation:** Higher intake of fresh fruits was associated with a lower risk of esophageal cancer death in smoking populations among high-risk esophageal cancer regions in China.

**Source of Funding:** National Cancer Institute, National Institutes of Health.

**Abstract #:** 2.002\_NCD

### Knowledge of and Attitudes Toward Alcoholism among Church Leaders in Saint Vincent/Grenadines

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**Background:** Saint Vincent and the Grenadines (SVG) is an Eastern Caribbean country with a high rate of Alcohol Use Disorders (AUDs) but inadequate community mental health resources to address them. This study sought to gauge attitudes toward and knowledge of alcoholism among church leaders in SVG in order to investigate their potential role in community alcohol interventions.

**Methods:** We gathered data through 30 semi-structured one-on-one interviews with church leaders in three towns: Barrouallie, Kingstown, and Calliaqua. Transcripts from interviews were qualitatively coded for themes relevant to the topic of alcoholism in SVG, and final themes were reached via consensus among the investigators using a grounded theory-based approach.

**Findings:** We found that church leaders in SVG have considerable knowledge regarding alcoholism on both personal and societal levels. Church leaders were divided on their permissiveness around drinking but almost unanimously deemed alcohol a major problem in SVG. However, they largely believed that drinking tends to be a problem only for people outside the church, especially the youth and the poor. Clergy also believed that their churches' unique strengths, in particular longstanding community connections, would increase their effectiveness at addressing alcohol problems in partnership with local organizations.

**Interpretation:** SVG church leaders' consistent concern about drinking problems in their communities and their commitment to community outreach suggest that they are an abundant and energetic resource for addressing AUDs in SVG. However, their impact may be hampered by churches' differing views on drinking, the perception that drinking problems only affect non-church members, non-church members' possible reluctance to seek help from churches, and a misinformed approach to tackling drinking.

**Source of Funding:** Arnhold Global Health Institute at Icahn School of Medicine at Mount Sinai.

**Abstract #:** 2.003\_NCD

### **The Prevalence and Risk Factors of Depression: A Comparison Study of Garment Factory Workers in Bangladesh**

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**Program/Project Purpose:** Poverty-level wage labor is rising overseas as western corporations outsource for cheaper and abundant labor. The workplace health, safety and wellbeing of these workers is neglected. In developing countries evidence on the prevalence and risk factors of mental health conditions is limited. Our study aim was to determine the prevalence of depression and report its

associated risk factors in such a population- Bangladesh's female garment factory workers.

**Structure/Method/Design:** Our study surveyed 591 individuals- 308 garment workers and 283 as a comparison group (tailors, beauticians, store workers, et cetera). Data collection occurred in February 2016 with the assistance of the Centre for the Rehabilitation of the Paralyzed, a local organization, which provided translators who helped in the administration of the surveys. The primary outcome was the Patient Health Questionnaire 9 (PHQ9) depression score of 10 or greater.

**Outcome & Evaluation:** The garment workers' average age was 27.8 years, 80.1% were married, 99.4% working full-time, and 38.3% lacked education. The comparison group's average age was 32.7 years, 70.6% married, 71.2% working full-time, and 46.6% lacked education. The prevalence of depression was 23.5% (20.9% among garment workers and 26.4% among others), which did not reach statistical significance. However, part-time employment (Odds Ratio: 2.36, 95% CI: 1.01-5.51), chronic pain (OR: 1.67, 95% CI: 1.01-2.78), two or more traumatic life events (OR: 6.43, 95% CI: 2.85-14.55) and dysuria (OR: 2.50, 95% CI: 1.02-6.15) were significantly associated with moderate-to-severe depression. Furthermore, moderate-to-severe depression rates were lowered by 11% for every 1000 taka more earned.

**Going Forward:** Corporations that outsource labor should be made aware of the increase rates of depression and its monitoring correlation and provide better wages and working environments. Screening and treating these at risk groups and creating awareness domestically and internationally on mental health should be a priority.

**Source of Funding:** CRP-Canada University of Texas Health Science Center at San Antonio.

**Abstract #:** 2.004\_NCD

### **Characteristics and Motivations of Women of Reproductive Age in Uganda with Rheumatic Heart Disease: A Mixed Methods Study**

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**Background:** Rheumatic heart disease (RHD) is a leading cause of premature morbidity and mortality in low- and middle-income countries (LMICs). Women of reproductive age are a vulnerable group of patients with RHD, due to greater risk of cardiovascular complications and mortality during pregnancy. Warfarin can prevent some of these complications (e.g. stroke) but can also cause fetal abnormalities. Yet, in an international study, <5% of women with RHD of childbearing age were using contraceptives, and one in five pregnant women with RHD were taking warfarin despite known teratogenicity. It is unclear whether this suboptimal contraception and anticoagulant use during pregnancy in LMICs is due to