The impact of chronic maternal depression on adolescent socio-emotional functioning in a sample of Chilean youth

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Background: Globally, maternal depression impacts over a hundred million women, with developmental consequences for children. How timing of exposure to maternal depression influences developmental outcomes is not well understood. Outside the antenatal period, the impact in low- and middle-income countries has received little attention.

Hypothesis: Chronic exposure to maternal depression throughout childhood has a greater impact on adolescent socio-emotional functioning than either early exposure or exposure at school age alone.

Methods: Maternal depression data were available for 1283 children from urban Chilean neighborhoods, recruited as infants (1991-1996) in an iron supplementation study. Maternal mood was assessed with the CES-D at 6mo, 5y, 10y and 16y. Adolescent behavior was assessed at 16y with the Youth Self Report and Child Behavioral Checklist. Written consent was obtained from primary care giver and assent from the youth; University of Michigan and INTA IRBs approved the study.

Analysis: We used latent class growth analysis to empirically determine maternal depression exposure trajectories, and ANCOVA to compare mean z-scores of each trajectory on behavioral assessments, adjusted for child sex and indicators of family socioeconomic status.

Findings: The analysis generated five maternal depression exposure trajectories: 1) none (n=704), 2) none in infancy, moderate at 5y and 16y (n=244), 3) low in infancy, high at 5y and 16y (n=61), 4) high throughout (n=110), 5) high in infancy, moderate at 5y and 10y, high again at 16y (n=164). Internalizing behavior z-scores were highest for Group 3 by both youth and parental report, with no significant difference between Groups 3 and 4. Externalizing and total problem z-scores were also higher in Groups 3 and 4, with no significant difference between Groups 3, 4 and 5 (p<0.05 for all comparisons).

Interpretation: By both maternal report and youth self-reporting, chronic exposure to maternal depressed mood was associated with increased adolescent internalizing behavior. Neither exposure during an "early sensitive window" nor concurrent exposure was as strongly associated with adolescent behavior problems. Chronic exposure to maternal depression may have long-lasting behavioral consequences for children in LMICs. The results point to potential child health benefits of reducing maternal depression postpartum and beyond.

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Diabetes in Post-Soviet Armenia: analysis of risk factors contributing to type II diabetes

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Background: Type II diabetes (T2D) in post-Soviet Armenia is on the rise. Since 2000, the yearly incidence of T2D has increased three-fold (MOH, 2013), and the prevalence of T2D is projected to nearly double by 2030 (WHO). Despite the increasing burden of T2D, there is an extremely limited understanding of the risk factors unique to Armenia. This study was designed to identify and analyze socioeconomic factors contributing to T2D among people in Armenia.

Methods: A cross-sectional survey was conducted using intercept convenience sampling in 5 different regions of Armenia in Summer 2015. Biometric measurements, including blood pressure, blood glucose, BMI, and waist-hip ratio were recorded. SAS statistical software was used to analyze the standard descriptive statistics and associations among continuous and categorical variables.

Findings: 520 people ages 18-80 (mean age 47.25; SD = 14.40) participated in the survey. 84% of respondents were female, 70% were from urban communities, and 97% self-reported having high school education or beyond. 8 new cases of diabetes and 52 cases of prediabetes were discovered. Statistical significant difference was found between blood glucose levels and age (p = 0.0004), perceived health (p = 0.0009), financial status (p = 0.0153), unhealthy diet (p = 0.0058), diagnosis of diabetes (p< 0.0001), heart disease (p = 0.0033), and high cholesterol (p = 0.0007). There was no statistical significant difference between blood glucose levels and gender, place of residence, education, language, smoking status, level of physical activity, and consumption of green leafy vegetables. Similarly, significant difference was found between diagnosis of diabetes and BMI (p <0.0001) and unhealthy diet (p = 0.0034), but not with level of physical activity.

Interpretation: This study identifies many risk factors for T2D, which may help improve outreach programs targeted at reducing the burden of T2D in Armenia. Providing education and empowering Armenians to maintain a healthier diet may be more effective than programs focused solely on increasing physical activity. Additional studies encompassing larger sample of both genders will aid in better understating gender and behavioral risk factors for T2D and develop effective intervention programs aimed at specific needs of the Armenian population.

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Implementation of a phased educational medical approach in a developing country
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Prevalence and risk factors for substance use among refugees, internally displaced people and asylum seekers: findings from a global systematic review

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Background: Displacement due to conflict and persecution is occurring at levels not seen since World War Two. Exposure to conflict and displacement are risk factors for mental health disorders and substance use. We aimed to systematically review the literature about alcohol and illicit use among refugees, internally displaced people (IDPs) and asylum seekers, and identify priority areas for intervention and future research.

Methods: Structured searches of seven medical, allied health and social science databases were conducted in accordance with PRISMA guidelines, identifying 54 relevant original peer-reviewed articles. We present here findings from 41 quantitative studies, drawing preferentially on studies using validated measures to assess prevalence and risk factors for substance use.

Findings: Over two thirds of studies focused on resettled refugee populations in high-income countries, predominantly in the United States and Central Europe. Seven studies were conducted in camp settings. Most studies used cross-sectional methods (80%); only two cohort studies and one brief intervention study were identified. The highest-quality prevalence estimates of hazardous/harmful alcohol use ranged from 17%-36% in camp settings and 4%-7% in community settings. Best estimates of alcohol dependence were 4%-42% and 1%-25% in camp and community settings, respectively. Prevalence of drug dependence was below 5% in the five studies conducted in community settings, and 20% in the one study conducted in a camp setting. Male sex, trauma exposure and mental health symptoms were commonly identified as independent risk factors for susbstance use.

Interpretations: Our understanding of substance use among these populations remains limited, particularly in low and middle-income countries, where over 80% of the global refugee population resides. Nonetheless, best estimates suggest that as many as one in three displaced persons in camp settings may be using alcohol in harmful or hazardous ways. Less is known about illicit drug use. Findings suggest a need to integrate substance use prevention and treatment into services offered to refugees, IDPs and asylum seekers. Longitudinal research is required to examine changes in substance use across the migration trajectory. There is also a need to develop and evaluate inteventions to reduce substance use and related harms among forced migrant populations.

Abstract #: *1.064_NEP*

Three year review of anti-jiggers education and treatment intervention programming in Sabatia District, Western Province, Kenya

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Project Purpose: Jiggers (*Tunga penetrans*) is a vector-borne disease. An estimated 2 million Kenyans are affected. Limited resources from the Ministry of Health (MOH) due to competing public health priorities and no standard practice of care have made addressing this neglected disease a challenge. In partnership with the MOH and community health workers (CHWs), Students for International Development (SID) implemented three anti-jigger campaigns in 2012-2014 during May-August in Sabatia District, Western Kenya.

Structure: Consultation with dispensary staff and health district officers informed the site of intervention each year in Wunundi, Wodanga and Munungi regions, respectively. CHWs identified most severe households cases for treatment - 30 cases (2012), 120 cases (2013), 50 cases (2014). In the 2012 pilot year, treatment took place at a public health camp. Individuals soaked the infected area in potassium permanganate (PP) for 20 minutes. Project managers and CHWs did home follow-ups with: 1) home fumigation using a non-toxic insecticide 2) dispelled common myths 3) introduced accessible alternative of tobacco and petroleum jelly. 2013 year was scaled up with: 1) home cleaning with cow dung 2) fumigation 3) 10 consecutive PP treatment days 4) shoes upon completion. 2014 year held home visits (cleaning/fumigation) for 10 treatment days, and had an education emphasis.

Outcome/Evaluation: Campaigns led to a 90% case reduction rate. Consistent treatment (7-10 days) is most effective. This builds rapport between CHWs and patients, reduces stigma, and increases personal hygiene practices. Home interventions eliminate financial barriers. A pre/post count of individual's jiggers and a survey of jiggers health education (beliefs, interventions, causes) were administered by CHWs pre-, mid-, and post-intervention. Overall, there was a positive shift in health-behaviour knowledge, though a limitation of interviewer bias exists.

Going Forward: An unmet goal is quarterly follow-ups by CHWs when SID is absent. Sparse evidence for best practices of care has been challenging in guiding treatment of "severe" cases. We hope to standardize treatment guidelines with Kenya MOH and support their efforts in making this a key public health priority, through monitoring and evaluation.

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Trends in between-country health equity in Sub-Saharan Africa from 1990 to 2011: improvement, convergence and reversal

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Background: With substantial amounts of foreign aid invested in sub-Saharan Africa, it remains unclear whether health inequity in this region decreased over time.

Method: We use the World Health Organization's data about of 46 nations in sub-Saharan Africa to run a convergence model to track the variation of health indicators (under-5 mortality, U5MR