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ABSTRACT

Background: Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome

(AIDS) is an urgent public health issue in Mexico. Mexico has witnessed a 122% increase in

reported prevalence of HIV since 2001 (Holtz et al., 2014). Country estimates suggest there are

between 140,000-230,000 individuals living with HIV in Mexico (CENSIDA, 2014). While

approximately 50% of individuals living with HIV in Mexico are unaware that they are living with

the virus (CENSIDA, 2014). HIV in Mexico has not reached a chronic infectious disease as seen

in other regions of the globe (Deeks, 2013) despite a federal program that provides screening

and universal treatment for HIV. The mortality rate among individuals with HIV/AIDS in Mexico

is 4.2 per 100,000 (CENSIDA, 2014). There is a paucity of findings regarding social and

epidemiological data focused on populations outside traditional at risk populations of HIV in

Mexico (Martin-Onraët et al., 2016). Analyzing aggregate country level data for Mexico provides

necessary insights to better understanding previously unconsidered social factors that are

informing sexual and reproductive health trends influencing HIV health patterns.

Methods: Secondary analyses were performed on Mexico's *Encuesta Nacional de Salud y*

Nutrición 2012 (ENSANUT). Mexico's ENSANUT is a probabilistic aggregate national dataset

with a multistage stratified cluster sampling design (Janssen et al., 2013). ENSANUT is

Mexico's equivalent to the National Health and Nutrition Examination Survey (NHANES) in the

United States. Data is collected via self-report interviews conducted at the participant's home. A

structured questionnaire was administered to individuals 20 years of age and older ($\geq$ 20) where

sexual and reproductive data was collected from participants. The ENSANUT adult study sub-

sample (n=46,227) is comprised of 42.75% men and 57.25% women. A general linear model

(GLM), principal component analysis (PCA), chi-squares (χ^2), and logistic regressions were

applied to the study adult subsample to disentangle social factors associated with sexually

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transmitted infections (STIs) in the population. Quantitative analyses were conducted on SAS 9.4.

Findings: Men were more likely to have a STI diagnosis (OR=3.60; 95% CI 3.00, 4.32, p=<0.001). Previous HIV testing was found to be protective for STI diagnosis across both genders (OR=0.82, 95% CI 0.72, 0.94, p=<0.001). Co-infections of HIV/gonorrhea and HIV/syphilis (n=20) were the highest in the study population. The latent variable model indicates mental health and access to health care resources are critical for positive sexual and reproductive health outcomes in Mexico. Mental health was found to be non-protective for STI risk among the study population (OR=1.59, 95% CI 1.41, 1.81, p=<0.0001).

Policy recommendations: 1. Increased access and utilization of HIV resources and mental health services would benefit the study population. Further qualitative research is needed to better understand the barriers to health care access and utilization in these two domains; 2. Increase in preventative programs and health initiatives that encourage established strategies for positive sexual and reproductive health outcomes. These strategies include: universal human papillomavirus (HPV) vaccines, wide availability of Pre-Exposure Prophylaxis (PrEP), and routine HIV/STI screenings; 3. Alternative data collection strategies for ENSANUT which are culturally appropriate for sexual and reproductive health constructs.