



HHS Public Access

Author manuscript

Int J Cult Ment Health. Author manuscript; available in PMC 2017 March 10.

Published in final edited form as:

Int J Cult Ment Health. 2016 ; 9(2): 151–163. doi:10.1080/17542863.2016.1144776.

Depressive symptoms among patients at a clinic in the Red Light District of Tijuana, Mexico

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Abstract

Little is known about depression among structurally vulnerable groups living in Tijuana (e.g., migrants, deportees, substance users, sex workers, homeless) who may be at high risk for poor mental health. This study investigates the prevalence and correlates of depressive symptoms among vulnerable patients receiving services at a free clinic in Tijuana, Mexico. A convenience sample of 584 adult Mexican patients completed an interviewer-administered questionnaire in English or Spanish that included the 8-item NIH PROMIS depression short form and measures of individual, social, and structural factors affecting health. The prevalence of clinically significant depressive symptoms in our sample was 55%. In the multivariate analysis, female gender, poor/fair self-rated health, recent illicit drug use (past six months), feeling rejected (past six months), history of forced sex, and history of violence were independently associated with increased odds

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The authors have no conflicts of interest to disclose related to this study.

of experiencing depressive symptoms. When stratified by gender, we found important differences in significant factors, including recent illicit drug use in men and deportation in women. Among study participants, prevalence of depressive symptoms exceeds prevalence rates reported elsewhere in the U.S.-Mexico border region. These findings suggest that public health efforts to support mental health services in the border region are needed.

Keywords

Mental health; PROMIS depression short form; Latinos; migrants; border health

Introduction

Mental health in socially and structurally vulnerable persons is a major international public health concern given well-documented reciprocal relationships between mental health and unemployment, poverty, homelessness, drug use, risky health behaviors, suicide, poor physical health outcomes, and reduced life expectancy (Agardh, Cantor-Graae, & Ostergren, 2012; Butterworth, Leach, Pirkis, & Kelaher, 2012; Curtis, Corman, Noonan, & Reichman, 2014; Kurdyak, Vigod, Calzavara, & Wodchis, 2012; Lund et al., 2011; Marshall et al., 2013; Spiegel & Giese-Davis, 2003). Though mental health symptoms can be challenging to assess in global settings due to the complexities of cultural and linguistic barriers and varied presentation of distress signals (Bonicatto, Dew, & Soria, 1998), attempts at measurement and screening are necessary first steps in prevention and intervention. However, little is known about the mental health status of similar vulnerable persons residing in the U.S.-Mexico border region (e.g., drug users, migrants/deportees, sex workers), including the prevalence and correlates of depression. While several studies have documented health disparities regarding infectious disease transmission among vulnerable populations in this region (Garfein et al., 2010; Iniguez-Stevens et al., 2009; Patterson et al., 2008), scarce data exist for mental health disparities. One study of U.S.-residing Latinos (n=198) along the U.S.-Mexico border in Arizona and California found that 20% of participants met criteria for clinical depression (Dawes et al., 2010). Studies among high-risk populations in the border city of Tijuana, including female sex workers who inject drugs (FSW-IDU) and homeless migrants, have found an elevated prevalence of depressive symptoms; 86% and 59% respectively (Bojórquez, 2014; Ulibarri et al., 2013). These findings surpass what is found among diverse samples in Mexico (Bello, Puentes-Rosas, Medina-Mora, & Lozano, 2005; Slone et al., 2006). Prevalence estimates of depression among the general Mexican adult population aged 15 to 65 ranges from 12% to 20% (Secretaría de Salud de México, 2014). As in other international low-resource settings, the mental health of vulnerable persons residing in Tijuana may be closely linked to challenging physical, social and economic environments, but these relationships remain largely unstudied.

The environmental characteristics of Tijuana, where drug use, drug-related violence, and sex work are widespread, may adversely impact the health of vulnerable individuals (Ojeda et al., 2011; Robertson, Rangel, Lozada, Vera, & Ojeda, 2012; Strathdee et al., 2008). Tijuana is the largest city on the U.S.-Mexico border and has a substantial and growing population of female sex workers (FSW), persons who inject drugs (PWID), and migrants, including

deported migrants from the United States (Brouwer et al., 2006; Iniguez-Stevens et al., 2009; Miguel Pinedo, Burgos, & Ojeda, 2014). Tijuana serves as the main repatriation destination for Mexican deportees: ~40% of all Mexican migrants deported from the U.S. annually are sent to Tijuana, totaling more than 1.6 million people between 2009 and 2012 (Borges, Wang, Medina-Mora, Lara, & Chiu, 2007; U.S. Department of Homeland Security, 2014). Known risk factors for depression among Mexican populations include female gender, low socioeconomic status, unemployment, social isolation, past experiences of violence or victimization, substance use, and a history of U.S. migration and deportation (Berenzon, Asuncion Lara, Robles, & Medina-Mora, 2013; Bojórquez, 2014; Breslau, Borges, Hagar, Tancredi, & Gilman, 2009). Thus, the prevalence of depression is likely to be higher among vulnerable persons in Tijuana where homelessness, unemployment, deportation, sex work, and drug use are pervasive (Goldenberg et al., 2011; Pinedo, Burgos, & Ojeda, 2014; Ramos et al., 2009; Strathdee et al., 2008). Despite the high prevalence of risk factors for depression in these populations, little research has been conducted to examine the mental health status of vulnerable persons in Tijuana, including measuring the prevalence and correlates of depressive symptoms. Research in this region is needed to better understand depression in border contexts.

We drew on the Social Ecological Model (SEM) of Health to select factors at various levels that may influence mental well-being. The SEM stipulates that health risk and resilience is determined by the complex interplay between individual, interpersonal, social, community, environmental, and structural factors (Scott & Wilson, 2011; Sweat & Denison, 1995). For the current study, we conceptualized four domains of influence that may be relevant to the mental health of vulnerable individuals in Tijuana, Mexico: (1) socio-demographics (e.g., gender, age, marital status), (2) individual-level factors (e.g., self-reported health, chronic conditions, illicit drug use), (3) social factors (e.g., rejection, threats or harassment from law enforcement, trading sex), and (4) structural/environmental factors (e.g., income, unemployment, deportation history). With these domains in mind, this study examined the prevalence and correlates of clinically significant depression symptoms among a sample of vulnerable patients seeking medical care at a student-run free clinic in Tijuana, Mexico. We hypothesized that several of the socio-ecological factors tested at the individual (e.g., illicit drug use), social (e.g. forced sex), and structural/environmental level (e.g., deportation history) would be associated with depressive symptoms.

Methods

Study Design and Participants

Our study took place at a binational student-run free-clinic located in Tijuana, Mexico, <1 mile from the U.S.-Mexico border (Pinedo, Burgos, Vargas-Ojeda, FitzGerald, & Ojeda, 2014). Free services provided at the clinic every Saturday include primary care, pediatric care, women's health services, sexually transmitted infection/HIV testing and treatment, tattoo removal, legal counseling, and assistance navigating health and social services in Tijuana. Set in the Red Light District (*Zona Roja*) of Tijuana, the clinic serves some of Tijuana's most marginalized communities, including FSWs, PWIDs, and deportees. (Ojeda et al., 2013). From January to May 2013, we recruited a convenience sample of 601 patients

into our study. Participants who were 18 years of age, spoke Spanish or English, were seeking health or social services, and were able to provide signed informed consent were deemed eligible, and invited to complete a structured questionnaire and undergo a rapid HIV test. Trained interviewers administered informed consent and questionnaires in a private setting and clarified any questions regarding informed consent or the survey as needed. Questionnaires took 45 minutes to an hour to complete. Participants received a \$10 incentive as compensation for their time. To characterize the mental health of Mexican nationals in the border region, we excluded non-Mexican born participants (n=17) from our analysis, resulting in a final sample of 584 Mexico-born participants. The University of California, San Diego Human Research Protection Program, the Ethics Board of the Health Frontiers in Tijuana Clinic, and the Autonomous University of Baja California Medical School approved the study.

Measures

Measures for this analysis are described according to the domains conceptualized in the SEM. *Socio-demographic* measures included gender, age, marital status, and educational attainment. *Individual-level Factors* included self-reported health status (dichotomized as poor/fair vs. good/very good/excellent); ever diagnosed with syphilis, chlamydia, or gonorrhea; HIV status; ever diagnosed with a chronic disease (e.g., diabetes, cancer, asthma, high blood pressure, and hepatitis); and recent illicit and injection drug use in the past six months (dichotomized yes vs. no for each variable). Measures for *Social Factors* included ever feeling rejected in Tijuana in the past six months, lacking friends/family in Tijuana, being threatened or harassed by police/military in Tijuana in the past six months, having traded sex in the past six months, ever being forced to commit a sexual act, and ever experiencing violence (dichotomized as yes vs. no for each variable; see Appendix 1 for verbatim questions). *Structural/Environmental Factors* included unemployment in the past six months, homeless/unstable housing in the past six months (defined as living situations other than an apartment or house, including on the street or in a shelter), ever being deported from the U.S., having a Mexican Federal Electoral Institute (IFE) identification card (the most common official identification document in Mexico, necessary for obtaining health, social, and other services), and ever incarcerated (dichotomized as yes vs. no for each variable). Six-month variables captured recent life circumstances; lifetime variables captured factors that could have an effect on participants' health regardless of time.

HIV Testing

Counselors certified by the health department of Baja California (i.e., ISESALUD) were trained to use our serial HIV testing algorithm to administer rapid tests via finger-stick to identify the presence of HIV antibodies. Specimens were considered "HIV-negative" if the first test was non-reactive and "HIV-positive" if the first and second rapid tests were reactive, per UNAIDS/WHO recommendations for surveillance in high prevalence settings (Galiwango et al., 2013; Padgett, Stanhope, Henwood, & Stefancic, 2011). Patients with two reactive test results were referred to the federally funded Outpatient Center for AIDS/STI Prevention and Care (*Centro Ambulatorio Para la Prevención y Atención en SIDA e Infecciones de Transmisión Sexual* [CAPASITS]), the public HIV clinic in Tijuana for

uninsured persons. The tests employed were Lafon HIV Rapid test® and Advanced Quality Rapid test® (Lafon, 2012; UNAIDS, 2002).

Dependent Variable

Our dependent variable, clinically significant depressive symptoms, was based on the eight-item Patient Reported Outcomes Measurement Information System depression short form (PROMIS-D-8; 8b short form) (Cella et al., 2010; Teresi et al., 2009). The PROMIS depression scale has been correlated with other common depression scales, including the Patient Health Questionnaire-9 (PHQ-9), Beck Depression Inventory (BDI-II), and the Center for Epidemiologic Studies Depression Scale (CES-D), and has been validated among Latino populations to measure depressive symptoms (Amtmann et al., 2014; Cella et al., 2010; Choi, Podrabsky, McKinney, Schalet, Cook, & Cella, 2012; Choi, Schalet, Cook, & Cella, 2014; Gibbons et al., 2011; Olino et al., 2013; Pilkonis et al., 2014). It also has the advantage of assessing cognitive, behavioral and emotional aspects of depression rather than somatic symptoms (Choi et al., 2014; Pilkonis et al., 2014). Cronbach's alpha for PROMIS items used in this study was 0.93, indicating excellent internal consistency. A total PROMIS depression score ranges from eight to 40 with scores corresponding to standardized T-scores based on item response theory. A higher score indicates greater presence of depressive symptoms.

Past studies have correlated the PROMIS depression scale with the Patient Health Questionnaire (PHQ-9) (Amtmann et al., 2014; Choi et al., 2014). Since a large portion of our sample had a PROMIS depression score that corresponded to mild depressive symptoms on the PHQ-9 (n=133), we set a PROMIS depression score cut-off that included all persons with clinically significant depressive symptoms. A PROMIS T-score of 52.5 (raw score of 15) indicates the presence of clinically significant depressive symptoms (Choi et al., 2012). Thus, we dichotomized our dependent variable 'clinically significant depressive symptoms' utilizing a cutoff raw score of 15 points on the PROMIS depression short form.

Analysis

We first generated descriptive frequencies for independent variables within each of our domains stratified by our dependent variable, depressive symptoms. We tested independent variables for association by using Pearson's Chi-square for bivariate variables and Wilcoxon Rank Sum test for continuous variables. In building our multivariate logistic regression model we included all variables that were central to our theoretical framework and were not significantly correlated based on correlation analysis. Four participants were dropped due to missing data, reducing the multivariate regression analysis sample to 580. Since depression is known to be more prevalent among women, particularly among Latinos (Kessler, 2003; Yancu, 2011), we also stratified our multivariate model to test for gender differences.

Results

Characteristics of Study Participants

Participants' characteristics are reported in Table 1. Women accounted for 27% of study participants. The mean age of participants was 42 years (standard deviation: 11.7). Nearly

two-thirds of participants (62%) were single and 55% had a middle school education or higher. Regarding individual-level factors, 48% of participants rated themselves as being in fair or poor health; 9% were ever diagnosed by a provider with syphilis, chlamydia or gonorrhea; 3% tested HIV positive; 29% were ever diagnosed with a chronic disease; and 41% of participants used illicit drugs in the past six months. For characteristics at the social level, 29% felt rejected in Tijuana in the past six months, 33% lacked friends or family in Tijuana, 38% felt threatened or harassed by Tijuana police in the past six months, 13% traded sex in the past six months, 12% were ever forced to commit a sexual act, and 45% ever experienced violence. At the structural/environmental level, 29% of participants were ever unemployed in the past six months, 64% were homeless or had unstable housing in the past six months, 77% had ever visited the U.S. (data not shown), 58% were ever deported from the U.S., 44% were separated from family members in the U.S. because of a deportation (data not shown), and 46% had an IFE card. Overall, 58% of the study participants considered the clinic to be their usual source of care; on the day of their interview, 32% of patients reported visiting the clinic for HIV testing and 37% to participate in syringe exchange services (data not shown).

Characteristics of Persons Reporting Depressive Symptoms

We examined the characteristics of persons reporting the presence of clinically significant depressive symptoms (PROMIS depression score ≥ 15 points). Overall, 55% (n=319) of participants reported depressive symptoms (Table 1). At the socio-demographic and individual levels, female participants (33.2% vs. 19.3%; $p = 0.001$), those who rated themselves as having poor or fair health (56.4% vs. 37.4%; $p = 0.001$), and those who used illicit drugs in the past six months (49.8% vs. 29.8%; $p = 0.001$) were more likely to report depressive symptoms. Social factors associated with depressive symptoms included feeling rejected in Tijuana (40.1% vs. 15.5%; $p = 0.001$), having been threatened or harassed by Tijuana police/military (44.2% vs. 30.6%; $p = 0.001$), trading sex (18.9% vs. 6.5%; $p = 0.001$) in the past six months, and having ever been forced to commit a sexual act (17.3% vs. 4.5%; $p = 0.001$). At the structural level, having ever experienced violence (49.5% vs. 39.2%; $p = 0.013$) and lacking an IFE card (41.4% vs. 52.1%; $p = 0.01$) were also associated with depressive symptoms.

Factors Independently Associated with Depressive Symptoms

Our multivariate logistic regression model identified factors independently associated with clinically significant depressive symptoms (Table 2). Female gender (Adjusted Odds Ratio [AOR]: 2.52; 95% Confidence Interval [CI]: 1.42–4.46) was the only socio-demographic characteristic that was independently associated with increased odds of experiencing depressive symptoms. For individual-level variables, poor or fair self-rated health (AOR: 1.72; 95% CI: 1.18–2.50) and having used illicit drugs in the past six months (AOR: 2.18; 95% CI: 1.42–3.35) were independently associated with depressive symptoms. Among social factors, having felt rejected in Tijuana in the past six months (AOR: 3.09; 95% CI: 1.94–4.90), having ever been forced to commit a sexual act (AOR: 2.30; 95% CI: 1.07–4.94), and having ever experienced violence (AOR: 1.50; 95% CI: 1.02–2.21) were independently associated with increased odds of reporting depressive symptoms.

Stratifying by gender, males who reported poor or fair self-rated health (AOR: 2.08; 95% CI: 1.35–3.21), recently used illicit drugs (AOR: 2.11; 95% CI: 1.31–3.39), and recently felt rejected in Tijuana (AOR: 3.01; 95% CI: 1.82–4.99) were significantly more likely to report symptoms of depression. Among females, recently feeling rejected in Tijuana (AOR: 6.83; 95% CI: 1.53–30.7), ever being forced to commit a sexual act (AOR: 4.58; 95% CI: 1.34–15.7), and ever being deported from the U.S. (AOR: 4.91; 95% CI: 1.28–18.7) were factors independently associated with symptoms of depression.

Discussion

By documenting the prevalence and correlates of depressive symptoms among a sample of vulnerable persons seeking care at a free-clinic in Tijuana, this study provides insight into the relationship between mental health and social and structural factors both in the U.S.-Mexico border region and in vulnerable persons internationally. We found that over half of our sample (54.6%) reported clinically significant depressive symptoms. Our finding surpasses the prevalence of depression that has been documented among U.S.-residing Latinos along the U.S.-Mexico border using a comparable measure (20%) (Choi et al., 2014; Dawes et al., 2010) and Mexico's national average (12 to 20%) (Secretaría de Salud de México, 2014). We identified multiple socio-ecological individual and social-level factors that were independently associated with clinically significant depressive symptoms: poor or fair self-rated health, recent illicit drug use and feelings of social rejection, and lifetime experiences of violence and forced sex. We also identified important gender-based differences between socio-ecological factors and mental health, including recent drug use and fair or poor health among men, and experiences of sexual violence and deportation for women.

Within our individual risk behaviors domain, recent illicit drug use was independently associated with depressive symptoms for the entire sample and also among male participants. These findings are consistent with a large body of literature demonstrating associations between illicit drug use and depressive symptoms as well as the high incidence of comorbidity between substance use and depression diagnoses in diverse international settings (Illangasekare, Burke, Chander, & Gielen, 2013; Medina-Mora et al., 2003; Quello, Brady, & Sonne, 2005; Swendsen & Merikangas, 2000; Van Huy, Dunne, & Debatista, 2015). We also found an elevated prevalence of recent illicit drug use (40.8%); Tijuana's geographical location along prominent drug trafficking routes contributes to ease of access to illicit drugs, with rates of drug use far surpassing the national average (Bjornstrom, Ralston, & Kuhl, 2013; Brouwer et al., 2006; Ramos et al., 2009). Vulnerable persons who engage in drug use in this region are especially at-risk for depressive symptoms (Bojorquez, Aguilera, Ramírez, Cerecero, & Mejía, 2014; Ulibarri et al., 2015; Villatoro et al., 1998). This is the first study to our knowledge to find an independent association between illicit drug use and depressive symptoms in a diverse sample of vulnerable persons residing in the U.S.-Mexico border.

Within our social factors domain, recent feelings of rejection and lifetime forced sex or physical violence experiences were independently associated with depressive symptoms. Participants displayed characteristics indicative of social rejection and exclusion, including

deportation (57.9%), recent drug use (40.8%), recent unemployment (29.1%) and homelessness (63.5%). These data confirm that, as noted elsewhere, the clinic's patients are highly marginalized, stigmatized, and subject to discrimination by the Tijuana community (Ojeda et al., 2011; Pinedo et al., 2014; Pinedo, Burgos, & Ojeda, 2014). Though our data is cross-sectional, preventing any conclusions of causality, these findings also support associations between experiences of social rejection (e.g., perceived stress, loneliness, subjective social status, limited social support) and depression evident in marginalized populations in rural Mexico, Europe, and Africa (Barger, Messerli-Burgy, & Barth, 2014; Fleischer, Fernald, & Hubbard, 2007; Hamad, Fernald, Karlan, & Zinman, 2008).

Lifetime reports of sexual or physical violence were independently associated with clinically significant symptoms of depression even after accounting for multiple individual, social and structural/environmental factors. Notably, forced sex was independently associated with depressive symptoms in female participants. Tijuana has a prominent sex economy where sex work in the Red Light District (*Zona Roja*) is tolerated and quasi-legal; this environment may be conducive to coerced or forced sexual acts and sex trafficking among women (Goldenberg et al., 2013; Strathdee et al., 2005). The city also has an established drug culture and has been plagued with drug-related violence (Goldenberg et al., 2013; Strathdee et al., 2005). Interpersonal violence, victimization, and sexual abuse have been linked with depression in samples of Latinos and other demographic groups (Chapman et al., 2004; Devries et al., 2013; Illangasekare et al., 2013; Ulibarri et al., 2015). These associations are also supported by a study of FSW-IDUs (n=624) in Tijuana and Ciudad Juarez, which found that a history of sexual abuse was independently associated with increased depressive symptoms (Ulibarri et al., 2013).

Finally, among structural/environmental factors examined, a history of deportation was independently associated with depressive symptoms among women. This is a novel finding that has not been previously documented in the U.S.-Mexico border region, an area with a sizeable deportee population due to the hundreds of thousands of deportations from the U.S. to Mexico each year (Borges et al., 2007; U.S. Department of Homeland Security, 2014). Deportees' health is poorly understood and understudied, especially that of female deportees (Pinedo, Burgos, & Ojeda, 2014). The negative effect of deportation on females' mental health may be influenced by reasons for immigration to the U.S. from Mexico; studies have found that women tend to immigrate to reunite with family, while men more often immigrate for economic reasons (Cerrutti & Massey, 2001; Piper, 2005). Following deportation, migrants experience separation from family and support networks, which may have a significant impact on the mental health of women due to the lack of social support networks in Mexico. Limited data suggest that Tijuana's female deportees may be particularly vulnerable given the lack of safe housing, employment, and social support networks, and may be more susceptible to sexual coercion and trafficking; such conditions can lead to feelings of fear and isolation and influence female migrants' mental health (Robertson et al., 2012).

Limitations

Results of this study should be considered in light of several limitations. We recruited a convenience sample of patients seeking free healthcare at a student run free clinic; thus, participants may differ from those who do not seek free healthcare, those with greater access to care, or insured persons. Findings may not be generalizable to all vulnerable populations in Tijuana or other international border contexts. Our sample of female participants was limited; additional studies of health and mental health status of women in this community are needed. The \$10 incentive may have attracted substance using persons and male migrants who are an important segment of the economically marginalized communities living in this region (S. A. Strathdee et al., 2008). Future studies would benefit from including measures for current housing status, food insecurity, and additional mental health status measures (e.g., aggression, trauma) as these were unmeasured in this study. Health status variables, except for HIV status, were based on self-report; thus, many conditions were likely under-reported due to participants' low health care access. Given the cross-sectional study design, causality of associations between independent variables and depressive symptoms cannot be inferred. One strength of the study is the use of the NIH PROMIS depression short form, which has the advantage of not containing questions regarding the specific somatic symptoms that often overlap and confound depression diagnoses (e.g., weight loss, changes in appetite and sleep) (Amtmann et al., 2014; Choi et al., 2012; Choi et al., 2014; Pilkonis et al., 2014). While the PROMIS instruments have been validated in Latinos and Spanish speakers (Cella et al., 2010; Hays et al., 2013), this is the first study to the authors' knowledge that uses the PROMIS depression short form in Mexico, and one of the first to use it internationally. Another strength was the study's ability to reach a marginalized, often hidden population. The study took place at a Saturday clinic within the *Zona Roja*, which may have facilitated participation of persons that studies traditionally are unable to reach due to work conflicts during the week and travel constraints.

Conclusions

This study examined clinically significant symptoms of depression—a common, often debilitating condition that is understudied along the U.S.-Mexico border—among a vulnerable population in Tijuana. Tijuana's urban density, high rate of poverty (Kiy & Kada, 2004), proximity to the U.S. border, and location on a major drug trafficking route gives rise to a large population of vulnerable persons, including migrants and deportees, in an environment with high levels of homelessness, violent crime, drug use, and sex work (Bucardo et al., 2005; OSAC, 2014; Pinedo, Burgos, & Ojeda, 2014; Ramos et al., 2009; Robertson et al., 2012; Strathdee et al., 2005; Strathdee et al., 2008). In our sample, multiple individual, social and structural factors may be associated with clinically significant depressive symptoms. Further research is needed to determine if these findings apply to a more representative sample and other populations. The multiple social (e.g., separation from family, drug use) and structural issues (e.g., housing instability, unemployment) affecting this population and other structurally vulnerable populations globally are challenging to address. However, depression is a treatable condition that can be addressed within a primary care setting. The clinic is now piloting walk-in mental health services to address depression and other mental health needs of vulnerable patients. Our goal is to create a collaborative

care model of health care delivery, which has been shown to improve mental health outcomes (Gilbody, Bower, Fletcher, Richards, & Sutton, 2006). We hope to use our findings to guide our interventions and inform further study of the mental health and well-being of the surrounding community.

Acknowledgments

We are grateful to the participants and for sharing their time with us; without them, this study would not have been possible. We are grateful to our non-profit partner Prevencasa, A.C., especially Luis Alberto Segovia and Liliana Pacheco, our study's interviewers and the doctors, students, and volunteers that support the Health Frontiers in Tijuana (HFIT) Clinic's endeavors to provide care to the region's most vulnerable populations. We also thank our reviewers whose insightful comments improved the quality of this paper. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or the University of California Global Health Institute.

This project was supported by the National Institutes of Health (NIH)/University of California Global Health Institute under grant #R25TW009343; the Fogarty International Center under grant #D43TW008633; the National Institute on Drug Abuse under grants #K01DA025504 and #R37DA019829-S1; the National Institute of Mental Health under grant #K01MH095680; the National Institute on Alcohol Abuse and Alcoholism under grant #T32AA007240; and the UCSD Nash Williams Foundation Fund.

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Appendix 1. Selected questions as listed in survey

Variable	Verbatim question in survey
Felt rejected in Tijuana, past 6 month	During the last 6 months have you ever felt rejected in Tijuana?
Ever forced to commit a sexual act	Have you ever been forced (against your will) to commit a sexual act that you did not want to do?
Traded sex in the past 6 months	Have you ever received something that you needed (money, drugs, alcohol, housing, food, transportation) in exchange for having sex (vaginal, anal, or oral)?

Table 1

Characteristics stratified by depressive symptoms¹ of Mexican patients seeking care at a free primary care clinic, Tijuana, Mexico, 2013 (N = 584)

	Total	Clinically significant depressive symptoms ¹		P-value
		No	Yes	
TOTAL	N (%)	265 (45.4%)	319 (54.6%)	
Socio-Demographics				
Gender (female)	157 (26.9%)	51 (19.3%)	106 (33.2%)	0.001
Mean age (SD)	42.2 (11.7)	42.9 (12.3)	41.6 (11.1)	0.201
Single	360 (61.6%)	157 (59.2%)	203 (63.6%)	0.277
Middle school education or higher	323 (55.3%)	151 (57.0%)	172 (53.9%)	0.459
Individual-Level Factors				
Poor or fair self-rated health	279 (48%)	99 (37.4%)	180 (56.4%)	0.001
Ever diagnosed with syphilis, chlamydia, or gonorrhea	54 (9.3%)	18 (6.8%)	36 (11.3%)	0.062
HIV positive (rapid test)	17 (2.9%)	6 (2.3%)	11 (3.5%)	0.397
Ever diagnosed with chronic disease	167 (28.6%)	67 (25.3%)	100 (31.4%)	0.106
Used illicit drugs, past 6 months	238 (40.8%)	79 (29.8%)	159 (49.8%)	0.001
Social Factors				
Felt rejected in Tijuana, past 6 months	169 (28.9%)	41 (15.5%)	128 (40.1%)	0.001
Lacks friends/family in Tijuana	193 (33.1%)	87 (32.8%)	106 (33.2%)	0.919
Threatened or harassed by Tijuana police/military, past 6 months	222 (38.0%)	81 (30.6%)	141 (44.2%)	0.001
Traded sex, past 6 months	77 (13.3%)	17 (6.5%)	60 (18.9%)	0.001
Ever forced to commit a sexual act	67 (11.5%)	12 (4.5%)	55 (17.3%)	0.001
Ever experienced violence	262 (44.9%)	104 (39.2%)	158 (49.5%)	0.013
Structural/Environmental Factors				
Ever unemployed, past 6 months	170 (29.1%)	77 (29.1%)	93 (29.2%)	0.98
Homeless/unstable housing, past 6 months	371 (63.5%)	159 (60.0%)	212 (66.5%)	0.107
Ever deported from the U.S.	338 (57.9%)	156 (58.9%)	182 (57.1%)	0.658
Has Mexican Federal Voter Card (IFE)	270 (46.2%)	138 (52.1%)	132 (41.4%)	0.01
Ever incarcerated	383 (65.6%)	169 (63.8%)	214 (67.1%)	0.402

¹ Presence of depressive symptoms defined as 8-item PROMIS Depression short form score of ≥ 15

Table 2

Factors independently associated with depressive symptoms¹ among Mexican patients seeking care at a free primary care clinic in Tijuana, Mexico, 2013 (N=580).

	All Mexican Patients (N=580)		Gender Stratified Models	
	Adjusted Odds Ratio	95% Confidence Interval	Males (N=425) (AOR; 95% CI)	Females (N=155) (AOR; 95% CI)
Socio-Demographics				
Gender (female)	2.52	1.42 – 4.46 ^{**}	--	--
Mean age	1.0	0.98 – 1.01	0.99; 0.97 – 1.01	1.02; 0.98 – 1.05
Single	1.21	0.81 – 1.79	1.20; 0.76 – 3.21	0.87; 0.35 – 2.13
Middle school education or higher	0.72	0.49 – 1.06	0.72; 0.47 – 1.13	0.57; 0.23 – 1.45
Individual-Level Factors				
Poor or fair self-rated health	1.72	1.18 – 2.50 ^{**}	2.08; 1.35 – 3.21 ^{**}	1.21; 0.51 – 2.87
Ever diagnosed with syphilis, chlamydia, or gonorrhea	0.81	0.40 – 1.61	0.94; 0.40 – 2.22	0.44; 0.11 – 1.68
HIV positive (rapid test)	0.8	0.25 – 2.54	1.48; 0.30 – 7.19	0.28; 0.38 – 2.03
Ever diagnosed with chronic disease	1.11	0.72 – 1.73	0.98; .583 – 1.66	1.15; 0.47 – 2.78
Used illicit drugs, past 6 months	2.18	1.42 – 3.35 ^{***}	2.11; 1.31 – 3.39 ^{**}	3.0; 0.88 – 10.3
Social Factors				
Felt rejected in Tijuana, past 6 months	3.09	1.94 – 4.90 ^{***}	3.01; 1.82 – 4.99 ^{***}	6.83; 1.52 – 30.7 [*]
Lacks friends/family in Tijuana	1.0	0.66 – 1.51	1.11; 0.70 – 1.77	0.42; 0.14 – 1.23
Threatened or harassed by Tijuana police/military, past 6 months	1.32	0.86 – 2.04	1.28; 0.81 – 2.01	1.56; 0.28 – 8.67
Traded sex in past 6 months	1.32	0.67 – 2.59	1.07; 0.44 – 2.58	3.22; 0.80 – 13.0
Ever forced to commit a sexual act	2.3	1.07 – 4.94 [*]	1.05; 0.33 – 3.34	4.58; 1.34 – 15.7 [*]
Ever experienced violence	1.5	1.02 – 2.21 [*]	1.41; 0.92 – 2.17	2.25; 0.82 – 6.19
Structural/Environmental Factors				
Ever unemployed, past 6 months	0.96	0.64 – 1.45	1.04; 0.65 – 1.68	0.76; 0.30 – 1.94
Homeless/unstable housing, past 6 months	1.29	0.85 – 1.96	1.20; 0.74 – 1.94	1.54; 0.59 – 4.02
Ever deported from the U.S.	1.03	0.66 – 1.59	0.84; 0.74 – 1.94	4.91; 1.28 – 18.7 [*]
Has Mexican Federal Voter Card (IFE)	0.74	0.49 – 1.10	0.76; 0.48 – 1.21	0.73; 0.25 – 2.07
Ever incarcerated	0.85	0.53 – 1.37	0.98; 0.58 – 1.67	0.25; 0.06 – 1.03

* p<0.05,

** p<0.01,

*** p<0.001

¹ Presence of depressive symptoms defined as 8-item PROMIS Depression short form score of ≥ 15

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