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High levels of mild to moderate depression among men who have sex with men and transgender women in Lima, Peru: implications for integrated depression and HIV care

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Abstract

Depression disproportionately affects people at risk of acquiring or living with HIV and is associated with worse health outcomes; however, depression care is not routinely integrated with HIV prevention and treatment services. Selection of the best depression intervention(s) for integration depends both on the prevalence and severity of depression among potential users. To inform depression care integration in a community-based setting in Lima, Peru, we retrospectively analyzed routinely collected depression screening data from men who have sex with men and transgender women seeking HIV prevention and care services (N=185). Depression was screened for using the Patient Health Questionnaire-9. Prevalence of any depression (PHQ-9 ≥ 5) was 42% and was significantly associated with the last sexual partner being “casual” ($p=0.01$). Most (81%) depressive symptoms were mild to moderate (≤ 5 PHQ-9 ≤ 14). Integrating depression care with HIV prevention and treatment services in Peru should begin by implementing interventions targeting mild to moderate depression.

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Keywords

HIV; depression; MSM; transgender; integrated care

INTRODUCTION

Globally, depression among people at risk of or living with HIV (PLWH) significantly worsens health outcomes (Mayer et al., 2019; Poteat et al., 2020; Remien et al., 2019; Romo et al., 2019; Scheer & Pachankis, 2019; Tran et al., 2019). Untreated depression is associated with behaviors that increase HIV risk, including substance use, condomless intercourse, and attrition from HIV prevention programs (Agnew-Brune et al., 2019; Brown et al., 2006; Carney et al., 2019; Fendrich et al., 2013; Lennon et al., 2012; Romo et al., 2019). For PLWH, depression doubles the risk of mortality (Ironson et al., 2017), lowers uptake and adherence to medical care (Kunzweiler et al., 2018; Tao et al., 2018), and increases viral load (Meffert et al., 2019). Evidence supports the benefits of depression care for these populations (Sherr et al., 2011; Sikkema et al., 2015; Sikkema et al., 2010; van Luenen et al., 2018), and public policy promotes integrated mental health and HIV services as essential to ending the HIV epidemic (Chibanda, 2017; Fauci et al., 2019; Kulisewa et al., 2019); however, such integration is uncommon, constituting a mental health and HIV service “gap” (Chibanda, 2017).

A significant barrier to integrated depression and HIV services stems from a reliance on—and a simultaneous global shortage of—mental health professionals (e.g., psychiatrists, social workers). In low- and middle-income countries (LMICs), for example, there is on average less than one psychiatrist for every 100,000 persons (WHO, 2018). Even high-income settings like the US report a shortage of mental health professionals, especially in rural locations (Butryn et al., 2017). At the same time, LMICs are home to >90% of PLWH (UNAIDS, 2018). Therefore, integrated depression/HIV care models relying on mental health professionals are unlikely to be feasible in many settings.

Promising, alternative, mental health service models shift most service delivery from professionals to non-specialist health workers (NSHWs)—individuals not formally trained in mental health care. (Raviola et al., 2019). In these models, NSHWs screen patients and deliver evidence-based, low-intensity, non-pharmacological, psychological treatment for mild to moderate depression, referring patients with severe depression to mental health professionals. NSHWs already play a critical role in delivering HIV prevention and care services in LMICs (Bemelmans et al., 2016) and are consequently well-positioned to be cross-trained in basic mental health care.

HIV in Peru disproportionately affects men who have sex with men (MSM) and transgender women (TW), with prevalence rates of 13% (Castillo et al., 2015; Clark et al., 2014) and 30% (Silva-Santisteban et al., 2012), respectively, compared to the general adult population HIV prevalence rate of 0.01–0.03% (De Boni et al., 2014). Though Peru has dramatically scaled national access to mental health services (Toyama et al., 2017), the national HIV program lists depression as a risk factor for suboptimal antiretroviral therapy (ART) adherence (MINSa, 2020), depression care is not integrated with HIV services.

Here, we report depression prevalence and severity among attendees at a community-based clinic serving MSM and TW at risk for or living with HIV in Lima, Peru, to inform depression care integration in this setting.

MATERIALS AND METHODS

Participants, Procedures

We conducted a retrospective analysis of clinic data from individuals seeking HIV testing between August 2017 and December 2018 at Epicentro Salud, a non-profit organization providing free or low-cost sexual health services for LGBTQ people in Lima. Epicentro's clientele is mostly *mestizo/a*, 20–35 years of age, and predominantly men who self-identify as gay and some TW. A physician assesses HIV/STI risk using an in-house assessment which includes depression screening. HIV testing is conducted using the Determine HIV-1/2 Ag/Ab Combo rapid test (ALERE Healthcare, SLU); clients testing positive are linked to free government-provided care. Clients with mild or greater depression are provided psychoeducation and referred to existing community-based mental health services for further evaluation. Those with moderately severe or greater depression and/or suicidal ideation are attended to by a staff psychologist and receive additional evaluation, referrals, and accompaniment to specialized mental health services.

Measures

The in-house risk assessment comprises 21 questions regarding age; clinic visit motive; sexual and gender self-identification (homosexual or gay, bisexual, heterosexual, transgender); presence of STI symptoms; number of days since last sexual intercourse; and most recent partner type and behaviors (stable/regular, casual, “one-nighter”; condom use; and, alcohol and/or drug use). Depression screening is conducted using the Spanish version of the Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001), validated for Peru (Calderon et al., 2012). Standard PHQ-9 cut-off scores are used: minimal/no depression (PHQ-9 = 0–4); mild depression (PHQ-9 = 5–9); moderate depression (PHQ-9 = 10–14); moderately-severe depression (PHQ-9 = 15–19); and severe depression (PHQ-9 = 20–27) (Kroenke et al., 2001).

Data Analysis

Depression prevalence and severity were calculated using the PHQ-9 cutoff scores. To assess the relationship between depression, sexual health, and sexual behavior, we conducted statistical tests of bivariate association considering one characteristic at a time. Categorical variables were tested using Pearson's chi-square test. Continuous variables were tested using a two-sample t-test (for apparently normally distributed data) and Wilcoxon's rank-sum test (for clearly skewed data). All tests were conducted using R version 3.5.2 (2018).

Statement on Human Subjects

The research ethics committees for Epicentro in Peru and the University of South Florida designate retrospective studies utilizing existing data with no personal identifiers as non-human subjects research.

RESULTS

Study Population

Data from 185 MSM and TW presenting for sexual health services were analyzed. Median patient age was 27 years (range 17–58), and 58% (107/185) were seeking routine HIV and/or STI testing (i.e., not due to a specific sexual risk). Eighty-five percent (158/185) of persons identified as homosexual/gay; 9% (17/185) bisexual; 3% (5/185) heterosexual; and 3% (5/185) TW. Thirteen percent (24/181) reported living with HIV, of which 83% (20/24) were new infections detected during the visit (see Table I).

Depression Prevalence and Severity

Depression prevalence (PHQ-9 ≥ 5) was 42% (78/185), of which 81% (66/78) of participants had mild to moderate depression severity (5 \leq PHQ-9 \leq 14). Depression severity per the 6 PHQ-9 cutoff scores was: minimal/none (PHQ-9 = 0–4): 58% (107/185); mild (PHQ-9 = 5–9): 23% (43/185); moderate (PHQ-9 = 10–14): 12% (23/185); moderately-severe (PHQ-9 = 15–19): 5% (9/185); and severe (PHQ-9 = 20–27): 2% (3/185) (see Figure 1).

Bivariate Analysis

In bivariate analysis, mild or greater depression (PHQ-9 ≥ 5) was significantly associated with the most recent sexual partner being “casual” versus a stable/regular partner ($p=0.01$). There was a marginally significant relationship ($p=0.07$) of persons with mild or greater depression to go longer without sexual intercourse than those with minimal/no depression (see Table I). No association between depression and HIV infection was observed.

DISCUSSION

In this retrospective analysis from MSM and TW seeking sexual health services at a community-based health center, greater than minimal depression (PHQ-9 ≥ 5) was detected in 42% of clinic attendees. In contrast, the prevalence of any depression in this sample was 15 times greater than the 2.8% point prevalence of depression among adult Peruvians in metropolitan Lima (MINSa, 2013); however, the use of different instruments, variability of, and populations limits direct comparison.

Our study complements other reports of depression among Peruvian MSM and TW. Maldonado et al. (Maldonado Ruiz et al., 2015) found that the frequency of a major depressive episode among recipients of ART in a public hospital in Lima (N=205) was higher than the general population but not associated with ART adherence. In another study, depressive symptoms were prevalent in 44.5% of a study population comprised of Peruvian MSM and TW diagnosed with HIV for >1 year (N=302) (Ferro et al., 2015). Again, depression was not associated with ART adherence; however, it was highly correlated with problem alcohol use. We found that depression was significantly associated with the last sexual partner being casual. While the relationship between mood and sexual behavior is complex, a possible interpretation of this finding is that participants with depressive symptomology sought to self-remedy a negative mood state—albeit in a transitory manner—by seeking contact with others (Bancroft et al., 2003).

A central finding in this study was that most (81%) depression scores fell in the mild to moderate range of severity (5–14) on the PHQ-9. Moderate levels of depression—but neither low nor high depression levels—are associated with increased sexual risk-taking in MSM at risk of HIV (Koblin et al., 2006) and living with HIV (O’Cleirigh et al., 2013). If future research bears out this association in Peruvian MSM and TW, efforts towards integrating depression care with HIV services should target moderate depression because of its unique association with HIV risk and because it may be the most prevalent of depression severities. Importantly, we do not advocate the non-prioritization of severe depression care for these populations. Instead, we recommend that depression screening in HIV service settings allows for meaningful differentiation of depression severity (as opposed to only “some depressive symptomology” versus “no depression”) and that the treatment offered is commensurate to the detected depression severity.

There is also an opportunity to capitalize on a global movement to increase access to mental health care for all people integrating existing NSHW-delivered interventions into HIV services. Over 90 LMICs (Keynejad et al., 2018) are currently implementing low-intensity depression interventions disseminated by the World Health Organization’s (WHO) Mental Health Gap Programme (mhGAP) (WHO, 2010). These countries could start by expanding these interventions into HIV service delivery platforms, training a “ready workforce” of NSHW delivering HIV services (Chibanda, 2017). Doing so could be a significant step towards providing mental health services for people at risk of or living with HIV.

Limitations

As a retrospective, cross-sectional analysis of existing data, important factors which could impact depression, were unaddressable (e.g., trauma history; stigma; detailed alcohol/drug use information; ART adherence). Further, the PHQ-9 assesses depressive symptoms during the previous two weeks; a definitive depression diagnosis requires additional clinical assessment (Reynolds, 2010). Finally, the small sample size and low number of TW precluded tests of association of depression with HIV and other morbidities or sub-population comparisons, and our findings are not generalizable beyond this sample.

CONCLUSIONS

Integrating depression care with HIV prevention and treatment services in Peru could begin by training NSHW in existing low-intensity depression interventions targeting mild to moderate depression.

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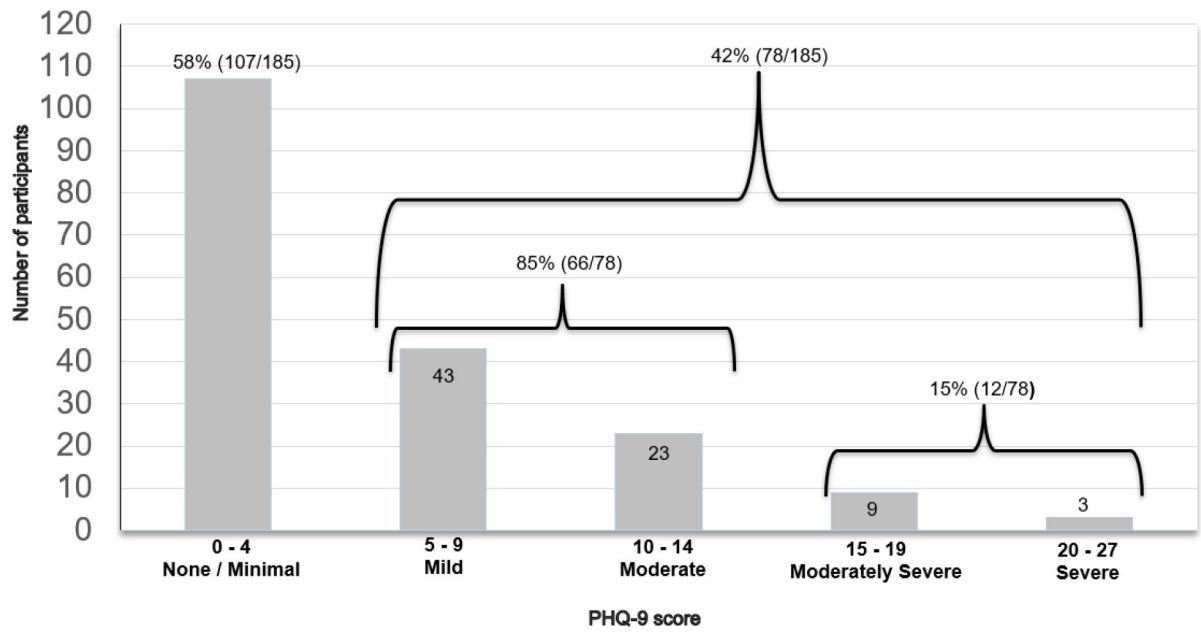


Figure 1:
Distribution of the prevalence and severity of depression among Peruvian MSM and TW (N = 185)

Table I:

Descriptive characteristics of Peruvian MSM and TW seeking HIV services in Lima, Peru (N = 185)

Characteristics	Total*n (%)	PHQ-9 [‡] < 5	PHQ-9 ≥ 5	P value ^{§§}
		n (%)	n (%)	
Age, years	27 (23–33) [‡]	27 (23–32) [‡]	27 (23–34) [‡]	0.70
Clinic visit motive				0.85
Routine check-up	107 (58)	63 (59)	44 (41)	
Recent known sexual risk behavior	78 (42)	44 (56)	34 (44)	
Self-identification[§]				0.83
Homosexual or gay	158 (85)	93 (59)	65 (41)	
Bisexual	17 (9)	9 (53)	8 (47)	
Heterosexual	5 (3)	3 (60)	2 (40)	
Transgender woman	5 (3)	2 (40)	3 (60)	
HIV result				0.48
Positive	24 (13)	16 (67)	8 (33)	
Negative	157 (87)	89 (57)	68 (43)	
STI symptoms present[¶]				0.70
Yes	47 (26)	26 (55)	21 (45)	
No	135 (74)	81 (60)	54 (40)	
Most recent sexual intercourse				
Days ago	14 (6–30) [‡]	7 (6–30) [‡]	18 (7–56) [‡]	0.07
Partner type				0.01
Stable/regular partner	68 (37)	48 (71)	20 (29)	
Casual or 'one-nighter'	117 (63)	59 (50)	58 (50)	
Condom used				0.64
Yes	106 (58)	64 (60)	42 (40)	
No	77 (42)	43 (56)	34 (44)	
Alcohol and/or drug use^{**}				0.38
Yes	34 (18)	17 (50)	17 (50)	
No	150 (82)	90 (60)	60 (40)	

* Due to missing data, not all variables sum to the total N.

[‡] PHQ-9: Patient Health Questionnaire

[‡] median (IQR)

[§] Though not mutually exclusive categories, clinic attendees self-identified as belonging to only one of these groups.

[¶]STI symptoms included: burning while urinating; perianal/genital warts; ulcers on penis and/or in anus; penile and/or anal discharge; and genital rash.

^{**} Drugs included: marijuana, cocaine, poppers, and other.

^{§§} P-values are based on Pearson's chi-square test for all qualitative characteristics, two-sample t-test for age, and Wilcoxon's rank-sum test for "days ago" (due to high skewness and extreme values in data).

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