Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

HHS Public Access

Author manuscript

J Interpers Violence. Author manuscript; available in PMC 2022 February 01.

Published in final edited form as:

J Interpers Violence. 2022 February ; 37(3-4): NP1637–NP1657. doi:10.1177/0886260520928960.

Intimate Partner Violence Victimization and Mental Health among Men Who Have Sex with Men Living with HIV in Guatemala

Dirk A. Davis, MPH[1], **Amelia Rock, MS**[1], **Renato Santa Luce, MD, MPH**[2], **Luz McNaughton-Reyes, PhD**[1], **Clare Barrington, PhD**[1]

[1]Health Behavior, Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC, USA

[2]HIV Central America Regional Program, Center for Health Studies, Universidad del Valle de Guatemala, Guatemala City, Guatemala

Abstract

Background: Gay, bisexual, and other men who have sex with men (MSM) are disproportionately affected by poor mental health outcomes compared to heterosexual counterparts. One factor that may increase mental health problems among MSM is intimate partner violence (IPV) victimization. The objectives of this study are to: 1) describe the prevalence of different forms of IPV victimization experienced by MSM living with HIV in Guatemala City and 2) examine the relationship between IPV victimization and mental health.

Methods: We analyzed cross-sectional survey data from a cohort of MSM living with HIV in Guatemala City (n=374) to describe the burden of IPV, including physical, sexual, and emotional IPV. We then examined relationships between lifetime IPV and each form of recent IPV (past 12 months) with self-reported anxiety and depression using multivariable logistic regression.

Results: Over a quarter (27.3%) of participants screened positive for anxiety and nearly one-fifth (17.9%) screened positive for depression. Over a quarter of participants (28.6%) reported ever having experienced any IPV victimization and 8.8% reported having experienced any form of recent IPV. In multivariable analyses, participants who experienced any form of lifetime IPV had roughly twice the odds of experiencing anxiety (OR: 1.86; 95% CI 1.03–3.38) and depression (OR: 2.02; 95% CI: 1.02–3.99) compared to those who had not. Participants who experienced recent emotional IPV had over seven times the odds of experiencing anxiety (OR: 7.23; 95% CI 1.46–38.85) compared to those who had not.

Conclusion: MSM living with HIV in Guatemala experience a high burden of anxiety, depression, and IPV victimization. Those participants who had experienced lifetime IPV and recent emotional IPV were significantly more likely to screen for anxiety and depression. To improve mental health, HIV clinics and other health services should provide support for MSM who have experienced IPV victimization.

Corresponding Author: Dirk Davis, 135 Dauer Drive 302 Rosenau Hall, CB #7440, Chapel Hill, NC 27599-7440, dirkd@live.unc.edu, 704-609-9752.

Conflict of interests: The authors report no conflicts of interests.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Keywords

Intimate Partner Violence; Mental Health; Men who have sex with men (MSM); HIV; Guatemala

Background

Gay, bisexual, and other men who have sex with men (MSM) are disproportionately affected by poor mental health outcomes, including depression and anxiety, compared to heterosexual counterparts (Batchelder, Safren, Mitchell, Ivardic, & O'Cleirigh, 2017; Cochran & Mays, 2009; King et al., 2008; O'Cleirigh, Magidson, Skeer, Mayer, & Safren, 2015). Specifically for MSM living with HIV, both depression and anxiety are associated with missing HIV care appointments and poor treatment adherence (Batchelder et al., 2017; Brandt et al., 2016; Campos, Guimarães, & Remien, 2010; Friedman et al., 2015; O'Cleirigh et al., 2013). One factor that may increase risk for mental health problems among MSM living with HIV is intimate partner violence (IPV) victimization. IPV includes physical abuse (e.g. slapping, hitting, kicking and beating), sexual abuse (e.g. forced sexual intercourse and sexual coercion), and emotional abuse (e.g. insults, belittling, humiliation, intimidation, threats of harm) by an intimate partner, such as a boyfriend or husband (World Health Organization, 2002).

MSM have historically been excluded from public health discourse and research on IPV victimization, which has been guided by a heteronormative lens that frames IPV as occurring between male perpetrators and female victims (Cannon & Buttell, 2015; Letellier, 1994). As Cannon and Buttell (2015) argue, this framing of IPV as a manifestation of patriarchal norms related to male dominance over women prevents men in same-sex relationships from being recognized as victims, and has contributed to the minimization of violence between male partners as simply fighting or "typical" male behavior. Researchers have highlighted the need to recognize IPV as a function of complex interactions between culture, social structures, social status, and interpersonal dynamics among men (Baker, Buick, Kim, Moniz, & Nava, 2013; Cannon & Buttell, 2015).

This new framing of IPV is necessary as evidence suggests that MSM are at high risk for IPV victimization (Greenwood et al., 2002; Pantalone, Rood, Morris, & Simoni, 2014). A recent meta-analysis of 19 studies primarily from the United States (US) reported a pooled prevalence of 32.0% (95% CI: 19.32–44.58) of any form of IPV victimization in the previous 5 years for MSM (Buller, Devries, Howard, & Bacchus, 2014). A separate systematic review of 28 studies from the US also found high prevalence of IPV victimization among MSM, ranging from 32.4% - 78.0%, including physical violence (11.8% - 45.1%), sexual violence (5.0% - 33.3%), and psychological violence (33.0% - 73.2%) (Finneran & Stephenson, 2013). MSM living with HIV are even more likely than MSM not living with HIV to report various forms of violence (Greenwood et al., 2002; Pantalone et al., 2014; Pantalone, Schneider, Valentine, & Simoni, 2012). For example, in one large study in urban centers in the US, MSM living with HIV had higher odds of reporting physical IPV in the past 5 years (OR 1.5; 95% CI 1.1–2.1) compared to MSM not living with HIV (Greenwood et al., 2002).

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

IPV among MSM has been associated with negative mental health outcomes (Buller et al., 2014; Houston & McKirnan, 2007; Stall et al., 2003). A meta-analysis from the US that measured associations between IPV and mental health among MSM found that men exposed to any kind of IPV had increased odds of self-reported depressive symptoms (pooled OR 1.52, 95% CI: 1.24–1.86, I^2=9.9%, 95% CI$_{I^2}$ 0%–91%) (Buller et al., 2014). Only one study has examined the relationship between IPV and mental health among MSM living with HIV. Among MSM living with HIV in Seattle, (n=168), Pantalone et al. (2012) found that compared to men not reporting physical IPV, those who reported past year physical IPV had higher average scores on measures of anxiety (2.4 vs. 1.8; t=−4.1, P<.001), depressive symptoms (26.2 vs. 18.4; t=−3.2, P<.01), and suicidal ideation (1.0 vs. 0.6; t=−2.5, P = .01). Men who reported past year physical IPV also reported lower health-related quality of life (HRQOL) (3.0 vs. 3.2; t= 2.0, P =.05) than men not reporting past year physical IPV (Pantalone et al., 2012).

Understanding the associations between IPV victimization and mental health outcomes among MSM living with HIV is critical to improving health outcomes among this population. The objectives of this study are to: 1) describe the prevalence of different forms of IPV victimization – physical, sexual, and emotional – experienced by MSM living with HIV in Guatemala City and 2) examine the relationship between IPV victimization and mental health in this population.

Methods

Study Setting

We used baseline data from an implementation science project to decentralize HIV care among MSM (n=374) in Guatemala City, the capital of Guatemala (Barrington et al., 2020). MSM in Guatemala are disproportionally affected by HIV with a prevalence of 10.5% compared to 0.8% among adults in the general population (Guardado Escobar, Oliva, Hernandez, & Peren, 2017). The rates of violence in the general population and IPV in heterosexual couples in Guatemala are among the highest in the world (United Nations Human Rights Council, 2018). One study from Guatemala reported high prevalence of violence experienced by MSM (psychological: 29.8%, verbal: 38.2%, physical: 20.2%, sexual: 6.4%); however, the researchers did not ask about the nature of the relationship between victims and perpetrators and so it is not possible to determine whether this violence constitutes IPV (Wheeler, Anfinson, Valvert, & Lungo, 2014).

The study was reviewed and approved by Ethics Committee for the Protection of Human Subjects of the Guatemalan Ministry of Health and the Universidad del Valle de Guatemala, the Institutional Review Board of the University of North Carolina at Chapel Hill, and by the CDC Center for Global Health (CGH) Office of the Associate Director for Science/ Laboratory Science (ADS/ADLS).

Recruitment

Between January and June 2017, we purposively recruited 374 MSM living with HIV who met the eligibility criteria of: being at least 18 years old; male; self-reported ever having

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

sex with men; spoke and understood Spanish; and received HIV care and treatment at the Hospital Roosevelt Infectious Disease Clinic in Guatemala City. Partners at Hospital Roosevelt generated a list of 445 eligible patients. As individuals from the list arrived for their regular clinic appointments over the recruitment period, study staff described the study to them and invited them to participate, eventually enrolling 374 participants (84% acceptance). All participants provided informed consent.

Procedures

Baseline data were obtained from socio-behavioral surveys administered by trained interviewers between January and June 2017. All surveys were conducted in Spanish in private locations at the study sites using tablets. Survey items were developed based on published measures in the global HIV literature, our team's previous work in Guatemala, and input from key stakeholders. Surveys were piloted for comprehension and acceptability.

Measures

Dependent Variables

Anxiety.—We screened for anxiety using the 2-item Generalized Anxiety Disorder assessment (GAD-2). Participants were asked how often they had been bothered by (1) feeling nervous, anxious, or on edge and (2) feeling worried and incapable of controlling their worry, in the past two weeks (Plummer, Manea, Trepel, & McMillan, 2016). Response categories for each item were: 0=not at all, 1=several days, 2=most days, and 3=nearly every day. Scores on the two items were summed (range 0 to 6), with a score of 3 considered the optimal cut-point for screening purposes. We created a new dichotomous anxiety variable based on the summed score where participants with 3 or more were considered screening positive for anxiety. The item correlation was 0.66 ($p<0.001$) for the 2 anxiety items in our sample.

Depression.—We used the 2-item Patient Health Questionnaire (PHQ-2) to assess depressive symptoms (Kroenke, Spitzer, & Williams, 2003). Participants were asked how often they had been bothered by (1) having little interest or pleasure in doing things and (2) feeling down, depressed, or hopeless, in the last two weeks. Participants again responded frequency across 4 categories (0=not at all, 1=several days, 2=most days, and 3=nearly every day). The PHQ-2 score ranges from 0 to 6, with a score of 3 considered the optimal cut-point for screening purposes (Kroenke et al., 2003). We coded a new dichotomous depression variable to 1, representing screening positive for depression, for participants with a score of 3 or more. The item correlation was 0.48 ($p<0.001$) for the 2 depression items in our sample.

Independent Variables

Intimate Partner Violence Victimization.—We assessed lifetime and recent (past 12 months) IPV by asking participants to respond "yes" or "no" to two questions: 1) "have you ever been mistreated by any of your sexual partners?" and 2) "in the last 12 months, have you been mistreated by any of your sexual partners?" If they responded "yes" to the second question, they were then asked "what kind of mistreatment have you experienced from a

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

sexual partner in the last 12 months?". Participants were considered victims of physical IPV if they: had a sexual partner hit, push, kick, pull hair, throw objects, strangle or burn them; of sexual IPV if they experienced any type of sexual activity with another person without giving consent; and of emotional IPV if a partner threatened, insulted, humiliated, screamed at, or controlled them. These definitions were drawn from the WHO's guidelines on IPV (World Health Organization, 2002).

Covariates

Demographics.—Participants reported their age, sexual orientation, highest level of education, employment status, civil status, current relationship status, ethnicity, and time since HIV diagnosis.

Alcohol Use Disorder (AUD).—In studies with MSM, substance use (alcohol and drugs) has been found to be associated with both IPV victimization and mental health outcomes (Buller et al., 2014; Dyer et al., 2012; Houston & McKirnan, 2007; Pantalone et al., 2012; Stall et al., 2003). We assessed alcohol use with the 11-item DSM-5 Alcohol Use Disorder assessment. Participants were asked to respond "yes" or "no" to questions about alcohol use over the past 12 months. Scores from the 11 items were summed (range 0 to 11) and participants who responded "yes" to two or more of the criteria were considered to have AUD. Additionally, we created new variables for mild AUD for participants who met between 2–3 criteria; moderate AUD for participants who met between 4–5 criteria; and severe AUD for participants who met 6 criteria or more (for descriptive analysis). For the current study, the DSM-5 AUD scale demonstrated a Cronbach's alpha of 0.92.

Drug use.—We assessed drug use by asking participants to respond "yes" or "no" to "in the past 6 months, have you used illegal drugs? Illegal drugs are those prohibited by law". If a participant responded "yes", we coded a dichotomous drug use variable to 1.

Nondisclosure of sexual orientation.—Based on the Minority Stress Theory (MST), nondisclosure of sexual orientation may affect mental health (I. H. Meyer, 2007; Ilan H. Meyer, 1995). We assessed if a participant was considered "out" about their sexual orientation by asking "who have you told that you have sex with men (or are gay, homosexual, bisexual, etc.)?" Response options were 1=no one, 2=father, mother or both, 3=siblings, 4=classmates, 5=colleagues, 6=friends, 7=sexual partner, 8=children, 9=neighbors, 10=everyone. If participants responded that they were not out to anyone or only to sexual partners, we considered them not out and created a dichotomous nondisclosure of sexual orientation variable.

School Sexual Orientation Bullying.—Extensive research demonstrates a positive correlation between school sexual orientation bullying based on perceived sexual orientation among sexual minority youth and subsequent mental health outcomes (McKay, Lindquist, & Misra, 2017; McNamee, Lloyd, & Schubotz, 2008; Russel, Ryan, Toomey, Diaz, & Sanchez, 2011). To assess if participants had experienced school bullying based on perceived sexual orientation, we asked "when you were a child or adolescent, how often did you experience abuse or mistreatment in school because someone thought you were gay?" Response options

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

were 1=never, 2=rarely, 3=occasionally, 4=frequently. We dichotomized this variable and coded it as 1 for anyone who reported experiencing school sexual orientation bullying (responding rarely, occasionally, or frequently).

MSM Stigma.—To assess stigma based on sexual orientation, we asked participants to respond "yes" or "no" to the question "in the past 12 months, have you experienced any type of mistreatment for being a man who has sex with men (gay, homosexual, bisexual, etc.)?". We coded "yes" responses to 1.

Data Analysis

Demographic characteristics of study participants and covariates are presented in Table 1. To evaluate our first aim, we estimated the prevalence of any form of lifetime IPV, any form of recent IPV (in the past 12 months), and the three different forms of recent IPV (physical, sexual, and emotional). Additionally, we estimated the prevalence of experiencing multiple forms of recent IPV (physical and sexual, physical and emotional, sexual and emotional, and all three forms). Using logistic regression, we examined bivariate associations between each of the IPV variables, potential covariates, and anxiety and depression. We considered inclusion of covariates given evidence in the literature and/or theoretical plausibility of their associations with mental health outcomes (Kubicek, 2018; I. H. Meyer, 2007). For example, among MSM, substance use (alcohol and drugs) is associated with both IPV victimization and mental health outcomes and were therefore included as covariates. We then used multivariable logistic regression to assess the unique effects of each form of IPV on anxiety and depression (separate models) controlling for covariates. For each outcome (anxiety and depression) we ran two models: the first examined measures of lifetime IPV (any IPV experienced over the life course) and the second examined IPV in the past 12 months (recent IPV). Due to low prevalence of recent physical and sexual IPV, we combined these and created one variable of recent physical or sexual IPV for this model. We first ran the recent IPV models with just recent physical or sexual IPV and recent emotional IPV to determine if significant associations with depression and anxiety existed before adding in covariates. In all models, we controlled for age, ethnicity, alcohol use disorder, drug use, nondisclosed sexual orientation, school sexual orientation bullying, and MSM stigma. We also controlled for depression in the anxiety models and for anxiety in the depression models. Analyses were conducted using SAS version 9.4.

Results

Sample Characteristics

As reported in Table 1, mean age was 32.6 years (range: 18–63). The majority of participants self-identified as homosexual or gay (74.3%) and Ladino (non-indigenous) (89.4%). Nearly half (46.3%) had at least some college education and the majority (77.5%) were employed at the time of the survey. Nearly three-quarters of participants reported ever having a stable partner (72.7%). The mean time since HIV diagnosis was 4.3 years (range: 0–29). Over a quarter (27.3%) of participants screened positive for Alcohol Use Disorder (AUD), 11.8% with mild AUD, 5.1% with moderate AUD, and 10.4% with severe AUD. Nearly one-tenth (9.4%) reported using illegal drugs in the past 6 months. Additionally,

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

over half (52.9%) reported experiencing school bullying based on sexual orientation and a fifth (20.3%) reported experiencing stigma based on their sexual orientation in the past 12 months.

Prevalence of IPV Victimization, Anxiety, and Depression

As seen in Table 2, more than a quarter (n=102, 27.3%) of participants screened positive for anxiety and nearly one-fifth (n=67, 17.9%) screened positive for depression. Over a quarter of participants (n=107, 28.6%) reported ever having experienced any IPV victimization and 8.8% (n=33) reported having experienced any form of recent (past 12 moths) IPV. The most common form of recent IPV was emotional (n=29, 7.8%), followed by physical (n=22, 5.9%) and sexual (n=7, 1.9%). Among those that experienced recent IPV victimization (n=33), 63.6% (n=21) reported experiencing two or more forms, the most common combination being physical and emotional (n=19, 57.6%) while 12.1% (n=4) reported experiencing all three forms of recent IPV.

Bivariate Associations

Bivariate associations between IPV victimization variables and anxiety and depression are presented in Table 3. Associations with p-values equal to or less than 0.05 were considered statistically significant. Any form of lifetime IPV, recent physical or sexual IPV, recent emotional IPV, and experiencing multiple forms of recent IPV were all significantly associated with both anxiety and depression. Age, ethnicity and alcohol use disorder were significantly associated with anxiety; age and alcohol use disorder were also significantly associated with depression; and anxiety and depression were significantly associated with one another.

Multivariate Analyses

In multivariate analyses, MSM living with HIV who experienced any form of lifetime IPV had significantly higher odds of experiencing anxiety (OR: 1.86; 95% CI 1.03–3.38) and depression (OR: 2.02; 95% CI: 1.02–3.99) compared to those who had not, after adjusting for study covariates (Table 4). We found a significant association between recent emotional IPV and anxiety (OR: 7.23; 95% CI 1.46–38.85), but not depression (Table 5). Recent physical or sexual IPV was not associated with anxiety or depression.

Discussion

Among MSM living with HIV in Guatemala City, we found high prevalence of anxiety, depression, and lifetime IPV victimization. Our finding that 28.6% of participants reported any form of lifetime IPV victimization is comparable to levels found in studies among MSM in other settings that used similar measures of IPV, which range from 32.4% to 44.5% (Houston & McKirnan, 2007; Koblin et al., 2006; Welles, Corbin, Rich, Reed, & Raj, 2011). The prevalence we found is much lower, however, compared to Pantalone who identified 78.0% lifetime IPV victimization among MSM living with HIV using the 27-item Revised Conflict Tactics Scale (CTS2) (Pantalone et al., 2012; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). This difference may be due, in part, to the wider range of experiences of violence assessed with the CTS2 compared to the measures we used. We

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

found that emotional IPV was the most common form of recent IPV victimization in our study population, followed by physical and sexual IPV. When compared to the one other study among MSM that used a similar instrument to measure different forms of recent IPV, prevalence from our sample were somewhat lower for recent physical IPV (5.9% vs. 11.8%) and recent sexual IPV (1.9% vs. 7.3%) (Stephenson, Khosropour, & Sullivan, 2010). This may be due to social desirability bias, as our survey was conducted in person and the Stephenson study was conducted online (Visschers, Jaspaert, & Vervaeke, 2017). In general, our findings may be an underestimation of prevalence given that we were only able to assess a limited number of IPV acts. Future studies that aim to measure IPV prevalence among MSM should consider using the CTS2 instrument in order to capture a wider variation of experiences of IPV victimization.

Our findings echo previous studies indicating that MSM who experience lifetime IPV victimization have higher odds of reporting depressive symptoms (Buller et al., 2014; Houston & McKirnan, 2007; Mimiaga et al., 2015; Siemieniuk et al., 2013). To our knowledge, ours is the first study to find that lifetime IPV victimization is significantly associated with anxiety among MSM. One other study of MSM found a higher likelihood of anxiety disorder among patients who experienced lifetime IPV, but this finding was not significant (APR = 1.82; 95% CI 0.98–3.40) (Siemieniuk et al., 2013). This is important as anxiety disorders are associated with poor quality of life and ART nonadherence, among other negative health outcomes experienced by MSM living with HIV (Blashill, Perry, & Safren, 2011). Our finding that recent IPV had a greater effect on anxiety compared to lifetime IPV can likely be attributed to the greater proximity of the recent IPV event to the time point at which we assessed mental health outcomes. With time, IPV survivors process their experiences and may seek and receive support that buffers the impacts of victimization on mental health outcomes (Lindhorst & Beadnell, 2011).

We found that recent emotional IPV may have unique effects on anxiety among MSM living with HIV. This is consistent with research among cisgender women that suggest that emotional violence is particularly harmful and may lead to poorer mental health outcomes compared to other forms of IPV (Pico-Alfonso et al., 2006; Wong, Tiwari, Fong, Humphreys, & Bullock, 2011). This is also supported by qualitative work by Woodyatt and Stephenson in which MSM perceived emotional violence to be more harmful than other forms of violence because of its lasting impact (2016). They found that MSM experience unique factors that may make emotional IPV especially detrimental, such as concealing ones sexual orientation. Our findings corroborate this claim as MSM in our sample who had not disclosed their sexual orientation had nearly three times the odds of reporting anxiety. This is further supported by the Minority Stress Theory (MST), which posits that sexual minorities are subject to chronic stressors, above and beyond stressors experienced by the general population, because of the stigmatization they experience associated with their minority status (Ilan H. Meyer, 1995). Experiencing these stressors, while simultaneously lacking social support due to sexual orientation concealment, may exacerbate effects of harmful events, such as IPV, on mental health outcomes (I. H. Meyer, 2007). Additionally, MSM living with HIV may be especially vulnerable to the effects of emotional violence due to the intersecting forms of stigma they experience because of their sexual orientation and HIV status.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Taken together, our findings suggest that to improve the mental health of MSM living with HIV, HIV clinics and other health services should screen for IPV victimization and provide appropriate support for victims. Our results also suggest that this support should address both recent and earlier experiences of IPV, although additional studies that include non-overlapping measures of lifetime and recent IPV would be needed to draw this conclusion.

There are several limitations to our study. Due to the cross-sectional nature of our data, we are unable to assess causation and low power may have impacted our ability to see effects for recent physical or sexual IPV. Future research on IPV victimization and mental health among MSM should use longitudinal designs to assess causality with larger samples, as mental health problems could increase vulnerability to IPV victimization. Additionally, as all participants were recruited from the HIV clinic and connected to the healthcare system, our findings may not be generalizable to MSM living with HIV not in care. Future research should also consider exploring mental health as a mediating pathway between IPV victimization and HIV outcomes to more clearly understand these relationships and potential intervention areas. In the one study among MSM living with HIV that has done this, Pantalone and colleagues found that greater frequency of IPV victimization was associated with more frequent and severe mental health problems and that having more mental health problems was, in turn, related to ART adherence and HIV viral load (Pantalone, Hessler, & Simoni, 2010). Qualitative research among MSM living with HIV should also be conducted to explore the complex relationship between HIV status and IPV, including the role that relationship power, internalized homophobia, sexual coercion and mutual perpetration may play (Kubicek, 2018).

Conclusion

MSM living with HIV in Guatemala experience a high burden of anxiety, depression, and IPV victimization. Experiencing lifetime IPV and recent emotional IPV may contribute to higher levels of anxiety and depression. To improve mental health, HIV clinics and other health services should provide support for MSM who have experienced IPV. Future research should examine mental health as a potential mediating pathway between IPV victimization and HIV treatment and adherence outcomes for MSM.

Acknowledgements:

We would like to thank the study participants for sharing their experiences and taking part in the study.

Funding Information: This study was funded by the President's Emergency Plan for AIDS Relief (PEPFAR) through the Centers for Disease Control and Prevention (CDC) under the terms of Cooperative Research Agreement #1U01GH001003–05. Davis and Rock were supported by the UNC HIV/STI T32 Training Program (NIH grant # T32 AI 007001) during the writing of this manuscript. The findings and conclusions in this manuscript are those of the authors and do not necessarily represent the official position of the funding agencies.

References

Baker NL, Buick JD, Kim SR, Moniz S, & Nava KL (2013). Lessons from Examining Same-Sex Intimate Partner Violence. Sex Roles, 69, 182–192. 10.1007/s11199-012-0218-3

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Barrington C, Santa Luce R, Guzman K, Pajarito Y, Alvis J, Murray C, … Calderon M. (2020). Strengthening the "Reach-Test-Treat-Retain" cascade for men who have sex with men in Guatemala: A pilot intervention. Guatemala City.

Batchelder AW, Safren S, Mitchell AD, Ivardic I, & O'Cleirigh C. (2017). Mental health in 2020 for men who have sex with men in the United States. Sexual Health, 14(1), 59–71. 10.1071/SH16083 [PubMed: 28055823]

Blashill AJ, Perry N, & Safren SA (2011). Mental health: A focus on stress, coping, and mental illness as it relates to treatment retention, adherence, and other health outcomes. Current HIV/AIDS Reports, 8(4), 215–222. 10.1007/s11904-011-0089-1 [PubMed: 21822626]

Brandt C, Safren SA, Gonzalez A, Zvolensky MJ, O'Cleirigh CM, & Woods SP (2016). Anxiety symptoms and disorders among adults living with HIV and AIDS: A critical review and integrative synthesis of the empirical literature. Clinical Psychology Review, 51, 164–184. 10.1016/j.cpr.2016.11.005 [PubMed: 27939443]

Buller AM, Devries KM, Howard LM, & Bacchus LJ (2014). Associations between Intimate Partner Violence and Health among Men Who Have Sex with Men: A Systematic Review and Meta-Analysis. PLOS MEDICINE, 11(3). 10.1371/journal.pmed.1001609

Campos LN, Guimarães MDC, & Remien RH (2010). Anxiety and depression symptoms as risk factors for non-adherence to antiretroviral therapy in Brazil. AIDS and Behavior, 14(2), 289–299. 10.1007/s10461-008-9435-8 [PubMed: 18648925]

Cannon C, & Buttell F. (2015). Illusion of Inclusion: The Failure of the Gender Paradigm to Account for Intimate Partner Violence in LGBT Relationships. Partner Abuse, 6(1), 65–77. 10.1891/1946-6560.6.1.65

Cochran SD, & Mays VM (2009). Burden of psychiatric morbidity among lesbian, gay, and bisexual individuals in the California Quality of Life Survey. Journal of Abnormal Psychology, 118(3), 647–658. 10.1037/a0016501.Burden [PubMed: 19685960]

Dyer TP, Shoptaw S, Guadamuz TE, Plankey M, Kao U, Ostrow D, … Stall R. (2012). Application of syndemic theory to black men who have sex with men in the Multicenter AIDS Cohort Study. Journal of Urban Health, 89(4), 697–708. 10.1007/s11524-012-9674-x [PubMed: 22383094]

Finneran C, & Stephenson R. (2013). Intimate Partner Violence Among Men Who Have Sex With Men: A Systematic Review. Trauma, Violence, & Abuse, 14(2), 168–185. 10.1177/1524838012470034

Friedman MR, Stall R, Silvestre AJ, Wei C, Shoptaw S, Herrick A, … Plankey MW (2015). Effects of syndemics on HIV viral load and medication adherence in the multicentre AIDS cohort study. Aids, 29(9), 1087–1096. 10.1097/QAD.0000000000000657 [PubMed: 25870981]

Greenwood GL, Relf MV, Huang B, Pollack LM, Canchola JA, & Catania JA (2002). Battering victimization among a probability-based sample of men who have sex with men. American Journal of Public Health, 92(12), 1964–1969. 10.2105/AJPH.92.12.1964 [PubMed: 12453817]

Guardado Escobar ME, Oliva S, Hernandez M, & Peren J. (2017). Medición de prevalencia, comportamiento, actitudes y prácticas en poblaciones de mayor riesgo al VIH-Sida en Guatemala, 2017.

Houston E, & McKirnan DJ (2007). Intimate partner abuse among gay and bisexual men: Risk correlates and health outcomes. Journal of Urban Health, 84(5), 681–690. 10.1007/s11524-007-9188-0 [PubMed: 17610158]

King M, Semlyen J, Tai SS, Killaspy H, Osborn D, Popelyuk D, & Nazareth I. (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. BMC Psychiatry, 8(70). Retrieved from m.king@medsch.ucl.ac.uk,

Koblin BA, Torian L, Xu G, Guilin V, Makki H, MacKellar D, & Valleroy L. (2006). Violence and HIV-related risk among young men who have sex with men. AIDS Care, 18(8), 961–967. 10.1080/09540120500467182 [PubMed: 17012086]

Kroenke K, Spitzer RL, & Williams JBW (2003). The Patient Health Questionnaire-2: Validity of a two-item depression screener. Medical Care, 41(11), 1284–1292. 10.1097/01.MLR.0000093487.78664.3C [PubMed: 14583691]

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Kubicek K. (2018). Setting an Agenda to Address Intimate Partner Violence Among Young Men Who Have Sex With Men: A Conceptual Model and Review. Trauma, Violence, and Abuse, 19(4), 473–487. 10.1177/1524838016673599

Letellier P. (1994). Gay and Bisexual Male Domestic Violence Victimization: Challenges to Feminist Theory and Responses to Violence. Violence and Victims, 9(2), 95–106. Retrieved from http://libproxy.lib.unc.edu/login?url=http://search.proquest.com/docview/208554833?accountid=14244 [PubMed: 7696200]

Lindhorst T, & Beadnell B. (2011). The long arc of recovery: Characterizing intimate partner violence and its psychosocial effects across 17 years. Violence Against Women, 17(4), 480–499. 10.1177/1077801211404548 [PubMed: 21502116]

McKay T, Lindquist CH, & Misra S. (2017). Understanding (and Acting On) 20 Years of Research on Violence and LGBTQ + Communities. Trauma, Violence, & Abuse, 20(5), 665–678. 10.1177/1524838017728708

McNamee H, Lloyd K, & Schubotz D. (2008). Same sex attraction, homophobic bullying and mental health of young people in Northern Ireland. Journal of Youth Studies, 11(1), 33–46. 10.1080/13676260701726222

Meyer IH (2007). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. Psychological Bulletin, 129(5), 674–697. 10.1037/0033-2909.129.5.674

Meyer Ilan H. (1995). Minority Stress and Mental Health in Gay Men. Journal of Health and Social Behavior, 36(1), 38–56. [PubMed: 7738327]

Mimiaga MJ, Biello KB, Robertson AM, Oldenburg CE, Rosenberger JG, O'Cleirigh C, … Safren SA (2015). High Prevalence of Multiple Syndemic Conditions Associated with Sexual Risk Behavior and HIV Infection Among a Large Sample of Spanish- and Portuguese-Speaking Men Who Have Sex with Men in Latin America. Archives of Sexual Behavior, 44(7), 1869–1878. 10.1007/s10508-015-0488-2 [PubMed: 26159862]

O'Cleirigh C, Magidson JF, Skeer M, Mayer KH, & Safren SA (2015). Prevalence of Psychiatric and Substance Abuse Symptomatology among HIV-infected Gay and Bisexual Men in HIV Primary Care. Psychosomatics, 56(5), 470–478. 10.1017/S0950268814002131.Tuberculosis [PubMed: 25656425]

O'Cleirigh C, Newcomb ME, Mayer KH, Skeer M, Traeger L, & Safren SA (2013). Moderate levels of depression predict sexual transmission risk in HIV-infected MSM: A longitudinal analysis of data from six sites involved in a "prevention for positives" study. AIDS and Behavior, 17(5), 1764–1769. 10.1007/s10461-013-0462-8 [PubMed: 23605154]

Pantalone DW, Hessler DM, & Simoni JM (2010). Mental Health Pathways from Interpersonal Violence to Health-related Outcomes in HIV-positive Sexual Minority Men. Journal of Consulting and Clinical Psychology, 78(3), 387–397. 10.1037/a0019307 [PubMed: 20515213]

Pantalone DW, Rood BA, Morris BW, & Simoni JM (2014). A Systematic Review of the Frequency and Correlates of Partner Abuse in HIV-Infected Women and Men Who Partner With Men. Journal of the Association of Nurses in AIDS Care, 25(SUPPL1), S15–S35. 10.1016/j.jana.2013.04.003

Pantalone DW, Schneider KL, Valentine SE, & Simoni JM (2012). Investigating Partner Abuse among HIV-positive Men Who Have Sex with Men. AIDS and Behavior, 16(4), 1031–1043. 10.1007/s10461-011-0011-2 [PubMed: 21822954]

Pico-Alfonso MA, Garcia-Linares MI, Celda-Navarro N, Blasco-Ros C, Echeburúa E, & Martinez M. (2006). The Impact of Physical, Psychological, and Sexual Intimate Male Partner Violence on Women's Mental Health: Depressive Symptoms, Posttraumatic Stress Disorder, State Anxiety, and Suicide. Journal of Women'S Health, 15(5), 599–611.

Plummer F, Manea L, Trepel D, & McMillan D. (2016). Screening for anxiety disorders with the GAD-7 and GAD-2: A systematic review and diagnostic metaanalysis. General Hospital Psychiatry, 39, 24–31. 10.1016/j.genhosppsych.2015.11.005 [PubMed: 26719105]

Russel Ryan, Toomey Diaz, & Sanchez. (2011). Adolescent school victimization: Implications for young adult health. Journal of School Health, 81(5), 223–230.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Siemieniuk R, Miller P, Woodman K, Ko K, Krentz H, & Gill M. (2013). Prevalence, clinical associations, and impact of intimate partner violence among HIV-infected gay and bisexual men: a population-based study. HIV Medicine, 14(5), 293–302. 10.1111/hiv.12005 [PubMed: 23171169]

Stall R, Mills TC, Williamson J, Hart T, Greenwood G, Paul J, … Catania JA (2003). Association of Co-Occurring Psychosocial Health Problems and Increased Vulnerability to HIV/AIDS among Urban Men Who Have Sex with Men. American Journal of Public Health, 93(6), 939–942. 10.2105/AJPH.93.6.939 [PubMed: 12773359]

Stephenson R, Khosropour C, & Sullivan P. (2010). Reporting of Intimate Partner Violence among Men Who Have Sex with Men in an Online Survey. The Western Journal of Emergency Medicine, 11(3), 242–246. Retrieved from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2941360&tool=pmcentrez&rendertype=abstract [PubMed: 20882143]

Straus M, Hamby S, Boney-McCoy S, & Sugarman D. (1996). The Revised Conflict Tactics Scales (CTS2): Development and Preliminary Psychometric Data. Journal of Family Issues1, 17(3), 283–316.

United Nations Human Rights Council. (2018). Annual report of the United Nations High Commissioner for Human Rights on the activities of the Office of the High Commissioner in Guatemala. Geneva.

Visschers J, Jaspaert E, & Vervaeke G. (2017). Social Desirability in Intimate Partner Violence and Relationship Satisfaction Reports: An Exploratory Analysis. Journal of Interpersonal Violence, 32(9), 1401–1420. 10.1177/0886260515588922 [PubMed: 26058978]

Welles SL, Corbin TJ, Rich JA, Reed E, & Raj A. (2011). Intimate partner violence among men having sex with men, women, or both: Early-life sexual and physical abuse as antecedents. Journal of Community Health, 36(3), 477–485. 10.1007/s10900-010-9331-9 [PubMed: 21116698]

Wheeler J, Anfinson K, Valvert D, & Lungo S. (2014). Is violence associated with increased risk behavior among MSM? Evidence from a population-based survey conducted across nine cities in Central America. Global Health Action, 7(1), 1–12. 10.3402/gha.v7.24814

Wong JYH, Tiwari A, Fong DYT, Humphreys J, & Bullock L. (2011). Depression among women experiencing intimate partner violence in a Chinese community. Nursing Research, 60(1), 58–65. 10.1097/NNR.0b013e3182002a7c [PubMed: 21127447]

Woodyatt CR, & Stephenson R. (2016). Emotional intimate partner violence experienced by men in same-sex relationships. Culture, Health and Sexuality, 18(10), 1137–1149. 10.1080/13691058.2016.1175027

World Health Organization. (2002). World Report on Violence and Health. Geneva. 10.1136/ip.9.1.93

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Table 1.

Sociodemographic characteristics of MSM living with HIV in Guatemala (n=374).

	n	%
Age		
	32.6 (mean)	**18–63 (range)**
Sexual Orientation		
Heterosexual	8	2.1
Bisexual	88	23.5
Homosexual/gay	278	74.3
Disclosed Sexual Orientation		
Yes	351	93.8
No	23	6.2
Education		
No schooling	4	1.1
Some/completed primary	31	8.3
Some/completed secondary	166	44.4
Some/completed college	173	46.3
Currently employed		
Yes	290	77.5
No	84	22.5
Ethnicity		
Ladino (non-Indigenous)	330	89.4
Maya/Xinca (Indigenous)	33	8.9
Garífuna/Other	6	1.6
Ever had a stable partner		
Yes	272	72.7
No	102	27.3
Drug Use		
Yes	35	9.4
No	339	90.6
Alcohol Use Disorder		
Mild	44	11.8
Moderate	19	5.1
Severe	39	10.4
None	272	72.7
MSM Stigma		
Yes	76	20.3
No	298	79.7
School Sexual Orientation Bullying		
Yes	198	52.9
No	176	47.1
Years since HIV diagnosis		

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

	n	%
Age		
	32.6 (mean)	**18–63 (range)**
	4 (mean)	0–29 (range)

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2.

Prevalence of Anxiety, Depression, and IPV victimization among MSM living with HIV in Guatemala (n=374).

	n	%
Mental Health		
Screened positive for Anxiety	102	27.3
Screened positive for Depression	67	17.9
Any lifetime IPV		
Yes	107	28.6
No	267	71.4
Any recent IPV (past 12 months)		
Yes	33	8.8
No	341	91.2
Single Forms of recent IPV (past 12 months)		
Emotional	29	7.8
Physical	22	5.9
Sexual	7	1.9
Multiple forms of recent IPV (past 12 months)		
Physical and Emotional	19	57.6
Physical and Sexual	6	18.2
Sexual and Emotional	4	12.1
Physical, Emotional, and Sexual	4	12.1

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 3.

Bivariate associations between IPV, study covariates and mental health outcomes among MSM living with HIV in Guatemala (n=374).

	Anxiety			Depression		
	OR	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**
Any lifetime IPV	2.10	1.29–3.40	**<0.01**	2.42	1.40–4.18	**<0.01**
Recent Physical or Sexual IPV	3.16	1.35–7.42	**<0.01**	3.25	1.34–7.87	**<0.01**
Recent Emotional IPV	5.08	2.31–11.20	**<0.01**	5.14	2.35–11.27	**<0.01**
Multiple Forms Recent IPV	3.17	1.30–7.70	**0.01**	3.85	1.54–9.47	**<0.01**
Age	0.96	0.94–0.99	**<0.01**	0.94	0.91–0.98	**<0.01**
Ethnicity	0.63	0.40–0.97	**0.04**	1.08	0.80–1.46	0.61
School SO Bullying	1.12	0.71–1.76	0.64	1.04	0.61–1.77	0.89
MSM Stigma	1.52	0.89–2.61	0.13	1.74	0.95–3.18	0.07
Nondisclosed SO	1.78	0.75–4.26	0.19	0.96	0.32–2.93	0.95
Substance Use	1.07	0.50–2.32	0.86	1.41	0.61–3.25	0.43
Alcohol Use Disorder	2.05	1.26–3.35	**<0.01**	1.93	1.11–3.36	**0.02**
Depression	9.82	5.43–17.75	**<0.01**	-	-	-
Anxiety	-	-	-	9.82	5.43–17.75	**<0.01**

Notes: recent IPV = in past 12 months; SO = sexual orientation

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Table 4.

Odds of Anxiety or Depression among MSM living with HIV in Guatemala by experiences of any form of lifetime IPV victimization (n=374).

Model 1	**Anxiety**			**Depression**		
	OR	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**
Any Lifetime IPV	1.86	1.03–3.38	**0.04**	2.02	1.02–3.99	**0.04**
Age	0.97	0.95–1.00	0.09	0.95	0.91–0.98	**<0.01**
Ethnicity	0.49	0.29–0.80	**<0.01**	1.3	0.92–1.83	0.13
Alcohol Use Disorder	1.80	0.10–3.23	**0.05**	1.12	0.57–2.20	0.74
Drug Use	0.64	0.25–1.62	0.35	1.01	0.37–3.05	0.91
Nondisclosure of SO	2.64	0.93–7.48	0.07	0.71	0.18–2.66	0.61
School SO Bullying	0.97	0.55–1.71	0.92	0.75	0.39–1.45	0.39
MSM Stigma	1.35	0.69–2.61	0.38	1.31	0.63–2.71	0.48
Depression	9.00	4.71–17.20	**<0.01**	-	-	-
Anxiety	-	-	-	8.74	4.59–16.66	**<0.01**

Note: SO=sexual orientation

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 5.

Odds of Anxiety or Depression among MSM living with HIV in Guatemala by experiences of recent (past 12 months) physical or sexual and emotional IPV victimization (n=374).

Model 2	**Anxiety**			**Depression**		
	OR	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**
Without covariates:						
Recent Physical or Sexual IPV	0.70	0.18–2.74	0.61	0.69	0.17–2.73	0.59
Recent Emotional IPV	6.40	1.92–21.31	<**0.01**	6.56	1.99–21.55	<**0.01**
With covariates:						
Recent Physical or Sexual IPV	0.54	0.10–2.96	0.48	0.94	0.20–4.53	0.94
Recent Emotional IPV	7.23	1.46–38.85	**0.02**	2.29	0.57–9.23	0.24
Age	0.98	0.95–1.01	0.19	0.95	0.92–0.99	**0.02**
Ethnicity	0.42	0.24–0.73	<**0.01**	1.27	0.89–1.81	0.18
Alcohol Use Disorder	1.91	1.05–3.45	**0.03**	1.16	0.59–2.30	0.66
Drug Use	0.59	0.23–1.57	0.29	1.09	0.38–3.17	0.87
Nondisclosure of SO	2.87	1.02–8.09	**0.05**	0.74	0.19–2.79	0.65
School SO Bullying	1.03	0.58–1.82	0.93	0.81	0.42–1.56	0.52
MSM Stigma	1.26	0.64–2.49	0.52	1.34	0.64–2.81	0.44
Depression	8.88	4.61–17.10	<**0.01**	-	-	-
Anxiety	-	-	-	8.53	4.44–16.39	<**0.01**

Notes: recent IPV = in past 12 months; SO = sexual orientation