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ORIGINAL PAPER

Pre-exposure Prophylaxis Use Among Men Who Have Sex with Men Experiencing Partner Violence

Amy Braksmajer[1] · Suzan M. Walters[2] · Hugh F. Crean[3] · Rob Stephenson[4] · James M. McMahon[3]

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Abstract

Intimate partner violence (IPV) significantly increases HIV risk among MSM. Pre-exposure prophylaxis (PrEP) may provide MSM experiencing IPV an option for self-protection from HIV without requiring condom negotiation or compromising safety. This study examined relationships among various forms of IPV (physical, emotional, monitoring, controlling, and forced sex) and PrEP use among 863 MSM participating in a cross-sectional, internet-based survey. Participants reported IPV rates during the prior 6 months that were consistent with prior research (physical violence, 23.3%; emotional violence, 36.3%; monitoring, 45.1%; controlling, 25.3%; forced sex, 20.0%). Forced sex and emotional IPV were negatively associated with PrEP use in our sample; in contrast, controlling was positively associated with PrEP use. We suggest clinical IPV screenings among MSM seeking PrEP, as well as PrEP-focused interventions that explicitly address IPV.

Keywords PrEP · MSM · Intimate partner violence · HIV prevention

Introduction

Men who have sex with men (MSM), particularly MSM of color, are at increased risk of HIV acquisition. Although MSM comprise 2% of the US population, they constitute 67% of incident HIV infections [1]. Evidence shows that HIV risk and prevention behaviors often occur within the context of intimate relationships with sexual partners. One critical relationship-level factor that has a substantial effect on HIV risk among partnered MSM is intimate partner violence (IPV), defined by the Centers for Disease Control and Prevention (CDC) as physical violence, sexual violence, stalking, and/or psychological aggression by a current or former intimate partner [2]. Research has demonstrated that MSM experience IPV at rates (12–78%) that are similar to, or higher, than those found among heterosexual women, depending on recall period and type of violence experienced [3]. Furthermore, IPV is associated with increased risk of HIV acquisition. A meta-analysis conducted by Buller et al. found that IPV among MSM was associated with increased odds of being HIV-positive [4]. MSM experiencing IPV are also less likely to refuse sex or use condoms [5].

Oral HIV pre-exposure prophylaxis (PrEP), are antiretroviral medications for HIV prevention that may provide psychosocially vulnerable MSM (including those who experience IPV) an alternative for self-protection from HIV without requiring condom negotiation or compromising physical safety. PrEP is highly efficacious (≥ 90%) among adherent users, [6] and may be used covertly if desired. In addition, although recent evidence suggests that event-based PrEP dosing is effective in preventing HIV among MSM, [7] PrEP may also be coitally independent (i.e., it does not have to be taken immediately before or following anticipated intercourse); thus, it may be a valuable form of protection for MSM who experience sexual coercion. To date, there have been no studies exploring the use of PrEP among MSM experiencing IPV. PrEP-related studies involving women experiencing IPV have reported inconsistent results. Rubstova and colleagues found that young adult women who

✉ Amy Braksmajer
abraksmajer@geneseo.edu

1 Department of Sociology, State University of New York At Geneseo, 1 College Circle, Geneseo, NY 14454, USA

2 College of Global Public Health, New York University, New York, NY 10012, USA

3 School of Nursing, University of Rochester, Rochester, NY 14642, USA

4 Department of Systems, Population and Leadership, and The Center for Sexuality and Health Disparities, School of Nursing, University of Michigan, Ann Arbor, MI 48109, USA

experienced IPV reported greater willingness to take PrEP than those who had not [8]. Similarly, Willie and colleagues found that men and women who experienced physical IPV in the past year were more likely to be interested in taking PrEP than those who had not [9]. In contrast, Garfinkel and colleagues have found that women with a lifetime history of intimate partner violence demonstrated lower PrEP acceptability compared to their non-abused counterparts [10]. Furthermore, a study conducted by Roberts and colleagues demonstrated that recent relationship violence compromised PrEP adherence due to partner interference, the effects of relationship-derived stress on remembering to take pills, and the need to leave home without pills during times of relationship discord [11]. Most studies exploring associations between IPV and PrEP willingness either focus solely on physical IPV or do not differentiate among types of IPV. One exception is the work of Willie and colleagues who found that recent (past-year) physical IPV increased PrEP willingness among heterosexual women, although past-year psychological and sexual IPV did not. All forms of recent IPV, however, were associated with the belief that a partner would attempt to control their use of PrEP, if they were to take it [9].

Expectations of negative consequences stemming from condom use negotiation may affect PrEP uptake, in that an individual who cannot negotiate condom use may desire to use PrEP as an autonomous means of preventing HIV infection. Research has demonstrated that IPV leads to lower condom negotiation self-efficacy among MSM [12], and that such self-efficacy is a mediator of the relationship between psychosocial syndemics (i.e., synergistic epidemics, often including IPV, which contribute to excess burden of disease in a population) and condomless anal sex [13]. Therefore, it may be informative to examine whether fear of negative repercussions stemming from condom use negotiation may act as a potential mediator of the IPV-PrEP relationship.

Prior to developing interventions to assess and facilitate the use of PrEP among MSM experiencing IPV, there is a need to first come to a better understanding of the effects of violence on PrEP utilization in this population. The purpose of the present study is to examine associations between recent IPV in various forms—physical, emotional, sexual, monitoring behavior, and controlling behavior—and PrEP use among MSM. Study hypotheses are as follows: (a) all forms of IPV will be associated with increased PrEP use among MSM; and (b) this relationship will be mediated by expectations of negative consequences stemming from condom negotiation, such that increased expectations will lead to a greater likelihood of PrEP use.

Methods

Study activities were approved by the University of Rochester's Research Subjects Review Board.

Participants

Data from this study were drawn from the "PrEP-AWARE" Project, a cross-sectional, national internet-based survey of MSM (N = 863). To be eligible, men had to be (a) in a primary sexual relationship (i.e., with someone they feel committed to above all others) with another man for ≥ 3 months; (b) eligible for PrEP according to Centers for Disease Control (CDC) and/or New York State Department of Health guidelines; (c) 18–65 years old; and (d) living in the United States (US). In order to minimize harms resulting from a breach in confidentiality, men in the study were asked during screening if they had any safety concerns connected with study participation before providing consent (i.e., imminent and related risk of IPV). Men who reported such concerns were excluded from the study.

Several pre- and post-hoc strategies were used to ensure validity of the data collected [14–16]. First, screener data entry log checks were performed to ensure that participants did not revise their answers to the screener in order to change their eligibility status from ineligible to eligible. Second, upon confirming eligibility, participants were prompted to enter an e-mail address via which they would be able to receive study compensation. Duplicate or similar e-mail addresses indicated multiple entries from the same participant; in these cases, only data from the first entry was kept. Furthermore, e-mail addresses determined to belong to women (as indicated by a woman's name in the address), as well as women's signatures on the consent form, also indicated invalid data. Third, in order to prevent automated programs, or "bots" from completing the survey, participants were asked to complete a simple mathematical problem (e.g., 1 + 1 = 2). Fourth, data collected during screening (e.g., age, city of residence, MSM status) were cross-checked with data obtained in the survey (e.g., date of birth, zip code, number of male partners in the past 6 months) in order to detect invalid entries. All invalid entries, as well as surveys with suspicious data patterns (e.g., those in which the same option was selected for all answers, inconsistent answers) were removed from the sample.

Recruitment

Information regarding the study was disseminated via advertisements on social media (e.g., Facebook, Grindr). Advertisements were displayed to potential participants based on

self-reported demographic information (e.g., living in the US, male-identified, 18 years of age or over, in an intimate relationship with another man). Participants who clicked on the study advertisement were directed to the study website, which featured information about the study and a link to the screening questionnaire in REDCap (Research Electronic Data Capture), a free, secure, HIPAA-compliant, web-based application used for electronic capture and management of research study data (www.project-redcap.org). In addition, the website included instructions regarding how participants could set their browsers into "private" mode prior to data collection in order to prevent accidental disclosure of study participation to abusive partners.

After consenting to be screened, participants completed an eligibility screening survey that included questions regarding age, gender, US residency, relationship status (including the gender of participants' main partner and the main partner's HIV status), sexual risk behavior, drug risk behavior, current health status (HIV status, other STI diagnosis or treatment in the past year), and safety concerns regarding participation. Those who were deemed eligible to participate in the study advanced to a screen featuring an informed consent information page. This page informed participants that the survey would ask questions about their relationships (including conflict and/or harm that they may be experiencing in their relationship), sexual behaviors, perceived HIV risk, and PrEP. Participants were informed that the survey would take approximately 20 min to complete, that the major risks associated with this study were discomfort and breaches in confidentiality, that participants could refuse to answer any question, and that participants could withdraw at any time. Participants were also informed that they would not receive compensation for multiple submissions, invalid submissions, or incomplete surveys for which the participant did not click "submit". After providing an electronic signature, participants were directed to the electronic survey.

Surveys took an average of 16 min to complete. Upon completing the survey, participants were given instructions regarding how to clear their internet browser histories. They were also provided with a list of PrEP and LGBTQ-specific IPV resources by state. Participants received a $20 Amazon gift code as compensation. In order to protect participant confidentiality, e-mails containing gift codes were worded to exclude mention of HIV, relationships, PrEP or IPV.

Measures

PrEP Use

To assess PrEP use, we asked participants, "Do you take PrEP?" Participants could respond with "I have never taken PrEP", "I have taken PrEP in the past but do not take it now", or "I currently take PrEP". For the purposes of this analysis these responses were recoded into a dichotomous variable: "currently takes PrEP" and "does not currently take PrEP".

IPV

Presence of IPV during the past 6 months was assessed using the IPV-GBM Scale the only instrument specifically designed to measure IPV among gay and bisexual men [17]. IPV-GBM subscales assess the presence of physical abuse (e.g., "punched hit, or slapped you"), sexual abuse (e.g., "forced you to do something sexually that you didn't want to do"), emotional abuse (e.g., "called you fat or ugly";), HIV-related abuse (e.g., "lied to you about his HIV status"), monitoring (e.g., "demanded access to your cell phone"), and controlling (e.g., "prevented you from seeing your family"). If a participant endorsed an item in any of the subscales, he was considered to have experienced that type of abuse. In cases where the participant responded "no" to all items except for one or more items that were missing, the entire response was categorized as missing.

Expectations of Negative Consequences Stemming from Condom Negotiation

Expectations of negative consequences related to condom negotiation was measured by three items taken from the Sexual Relationship Power Scale [18]: "If I asked my partner to use a condom, he would get violent"; "If I asked my partner to use a condom, he would get angry"; "If I asked my partner to use a condom, he would think I am having sex with other people". Participants responded to these items on a five-point Likert scale, with 1 = "strongly agree" and 5 = "strongly disagree".

Barriers to PrEP Use

Non-IPV-related barriers to PrEP use were assessed using 12 items (taken from Meyers 2014) [19] that asked about concerns participants may have had in relation to PrEP use. These items included the following: (a) "I am concerned about the side effects of PrEP"; (b) "I am concerned about the long-term effects of PrEP on my health"; (c) "I am concerned that if I do become HIV positive, certain medicines won't work because I was taking PrEP"; (d) "I am concerned that PrEP does not provide complete protection against HIV"; (e) "I am concerned about having to take a pill every day"; (f) "I am concerned that taking PrEP means I am putting myself at risk for HIV"; (g) "I am concerned that taking PrEP might make me more likely to have sex without a condom"; (h) "I am concerned that people will see me taking medication and think I have HIV";

(i) "I am concerned that people will see me taking medication and will want to know why I am taking it"; (j) "I am concerned about having to talk to my doctor about my sex life"; (k) "I would be more interested in PrEP if I did not have to pay for it"; and (l) I would be more interested in PrEP if I could get access to free sexual health care/monitoring while taking PrEP". Participants responded to these items on a five-point Likert scale, with 1 = "strongly disagree" and 5 = "strongly agree". Exploratory factor analysis was conducted, the results of which led to the creation of three distinct subscales—health-related barriers (7 items [a-g]; Cronbach's alpha [CA = 0.797), stigma-related barriers (3 items [h-j]; CA = 0.763), and cost-related barriers (2 items [k-l]; CA = 0.702). The mean of each subgroup of items were taken to create three PrEP barrier scores.

Partner HIV Status

Main partner serostatus was assessed by the question: "What is your partner's HIV status?" Possible responses included, "Negative", "Positive", or "Don't Know".

Sociodemographics

Sociodemographic variables were included in the models as covariates. These variables included education (less than high school, high school/GED. technical school, some college, college graduate or above), self-reported race (Black, White, other, more than one race), ethnicity (Latino/non-Latino), age, and use of public assistance (e.g., Medicaid, TANF, disability assistance, food stamps) (yes/no).

Statistical Analysis

Standard data cleaning methods were utilized, and outliers were Winsorized by changing outlier values to the highest/lowest non-outlier value. Descriptive analyses were performed to characterize the sample. Mplus software [20] was used to test the proposed structural equation models. Structurally, each model tested whether the association between IPV and PrEP use was mediated by expectations of negative consequences of negotiating condoms use, controlling for covariates. Effects on PrEP use were tested as logistic estimates with a robust weighted least squares approach accounting for any missing data [21]. The indirect effects were assessed using bias-corrected bootstrap confidence limits (1000 bootstrap samples) [22]. Significance of the indirect effects was assessed by whether the 95% confidence limits contain zero.

Results

Descriptive data for the sample are summarized in Table 1. Participants reported IPV rates over the prior 6 months that were consistent with prior research [3]. Monitoring IPV was reported most frequently (45.1%), followed by emotional IPV (36.3%), controlling (26.5%), physical IPV (23.3%) and forced sex (20.0%). Nearly one-third (31.9%) of the sample reported currently using PrEP; 35 of the men (4.1%) had not heard of PrEP prior to taking the survey. Bivariate analyses revealed that emotional IPV, monitoring, forced sex, expectations of negative reactions stemming from condom negotiation, cost/health/stigma-related barriers, and receipt of public assistance were associated with a lower likelihood of using PrEP. Older individuals were more likely to use PrEP. Race and education were also significantly associated with PrEP use.

Regarding the direct effects of IPV on PrEP use (Table 2), MSM experiencing emotional IPV (b = − 0.74; 95% CI − 1.28, − 0.20), monitoring (b = − 0.070; 95% CI − 1.24, − 0.14) or forced sex (b = − 1.05; 95% CI − 1.93, − 0.17) were less likely to take PrEP than were MSM who did not report these forms of IPV. In contrast, MSM who reported controlling by their partner were more likely to use PrEP than were MSM who did not experience controlling IPV (b = 0.80; 95% CI 0.13, 1.45). The relationship between physical IPV and PrEP use (b = 0.19; 95% CI − 0.88, 0.49) was inconclusive. Results further indicate that physical IPV (b = 0.27; 95% CI 0.10, 0.45), monitoring (b = 0.16, 95% CI 0.01, 0.32) and controlling (b = 0.39; 95% CI 0.22, 0.55) were all positively associated with increased expectations of negative repercussions stemming from condom negotiation, while the relationship between forced sex and such expectations (b = 0.02, 95% CI − 0.22, 0.18), as well as these expectations and emotional IPV (b = 0.00; 95% CI − 0.15, 0.15) were inconclusive. Finally, the association between negative condom negotiation expectations and PrEP use was inconclusive (b = 0.25, 95% CI − 0.05, 0.54), as were the indirect effects between the various forms of IPV and PrEP use mediated by negative expectations about condom negotiation.

Regarding covariates, Black MSM (b = − 0.99; 95% CI − 1.72, − 0.26), those with some college (b = − 0.59, 95% CI − 1.09, − 0.09) and those who expressed higher cost-related (b = − 0.42; 95% CI − 0.64, − 0.19) or health-related (b = − 1.06; 95% CI − 1.37, − 0.75) barriers were less likely to use PrEP. In turn, stigma-related barriers (b = 0.31; 95% CI − 0.55, − 0.07), age (b = 0.35; 95% CI 0.12, 0.59) and having a partner who was HIV-positive (b = 1.34, 95% CI 0.57, 2.10) were positively associated with PrEP use.

Table 1 Sociodemographic and behavioral characteristics by PrEP use (n = 863)

	Total		Current PrEP Use				
			Yes (N = 273)		No (N = 590)		
	n	%	n	%	n	%	p-value
Age (n = 863)							
Mean	29.96	–	32.45	–	28.81	–	≤ .001
SD	7.98	–	9.09	–	7.12	–	
Race (n = 851)							
White	580	68.16	203	76.03	377	64.55	≤ .001
Black	135	15.86	24	8.99	111	19.01	
Other	66	7.76	21	7.87	45	7.71	
More than one race	70	8.23	19	7.12	51	8.73	
Latino (n = 859)	173	20.14	46	16.85	127	21.67	.101
Public Assistance (n = 808)	283	35.02	75	27.99	208	38.52	.003
Education (n = 861)							
< High school	36	4.18	6	2.21	30	5.09	≤ .001
High school or GED	83	9.64	34	12.50	49	8.32	
Technical school	96	11.15	25	9.19	71	12.05	
Some college	356	41.35	81	29.78	275	46.69	
College or above	290	33.68	126	46.32	164	27.84	
Cost barriers (n = 863)							
Mean	3.06	–	2.74	–	3.21	–	≤ .001
SD	0.93	–	0.99	–	0.86	–	
Stigma barriers (n = 857)							
Mean	1.71	–	1.51	–	1.79	–	≤ .001
SD	1.04	–	0.99	–	1.05	–	
Health barriers (n = 863)							
Mean	1.83	–	1.39	–	2.02	–	≤ .001
SD	0.88	–	0.83	–	0.83	–	
Physical IPV (n = 834)	194	23.26	51	19.47	143	25.00	.079
Emotional IPV (n = 820)	298	36.34	57	22.35	241	42.65	≤ .001
Monitoring (n = 839)	390	46.48	76	29.34	314	54.14	≤ .001
Controlling (n = 821)	208	25.33	68	26.67	140	24.73	.556
Forced sex (n = 837)	173	20.67	18	6.90	155	26.91	≤ .001
Condom negotiation expectations (n = 861)							
Mean	0.92	–	0.68	–	1.04	–	≤ .001
SD	0.94	–	0.91	–	0.93	–	

Discussion

Different types of abusive behavior can have different associations with PrEP use. This study suggests that experiencing some forms of IPV (i.e., emotional IPV, forced sex, monitoring) may hinder PrEP use, whereas other forms of IPV (i.e., controlling) may increase PrEP use among MSM. The IPV measure did not specifically address sexual control (e.g., control over the timing of sexual activity, the types of sexual acts engaged in, or engagement in safer sex practices). It may be, however, that controlling behavior extended to this domain, such that abusive partners attempted to influence participants' PrEP use. There is little research that explores individuals' attempts to influence their partner's decisions regarding PrEP use, although a study conducted by John and colleagues found that IPV victimization was associated with attempts to convince partners to take PrEP [23]. These authors, however, did not address IPV perpetration. Alternatively, sexual control could increase individuals' perceived need for PrEP. However, in the current study we also found that forced sex resulted in decreased PrEP use. This indicates that there are likely complex relationships among controlling, forced sex, and PrEP use that should be explored in future research. Emotional IPV may contribute to poor mental health and feelings of low self-worth, which in turn may be negatively associated with PrEP use. A study by Willie and colleagues found that emotional abuse was significantly associated with the belief that a partner would attempt to

Table 2 Logistic regression estimates of PrEP use

Variable	Coeff	95% CI	p
Physical IPV	0.19	(−0.88, 0.49)	.578
Emotional IPV	−0.74	(−1.28, −0.20)	.008
Monitoring	−0.69	(−1.24, −0.14)	.014
Controlling	0.79	(0.13, 1.45)	.019
Forced sex	−1.05	(−1.93, −0.17)	.020
Cost barriers	−0.42	(−0.64, −0.19)	< .001
Stigma barriers	0.31	(−0.55, −0.07)	.012
Health barriers	−1.06	(−1.37, −0.75)	< .001
Partner status: HIV- (Ref)	–	–	–
Partner status: HIV +	1.34	(0.57, 2.10)	.001
Partner status: unknown	−0.20	(−0.40, −0.01)	.768
Condom negotiation expectations	0.25	(−0.05, 0.54)	.105
White (Ref)	–	–	–
Black	−0.99	(−1.72, −0.26)	.008
Other	−0.32	(−1.11, 0.46)	.421
More than 1 race	−0.61	(−1.40, 0.18)	.128
Latino	0.08	(−0.65, 0.50)	.791
< High school	−0.91	(−2.58, 0.77)	.290
High school or GED	0.30	(−0.53, 1.12)	.483
Technical school	−0.30	(−1.14, 0.54)	.480
Some college	−0.59	(−1.09, −0.09)	.020
College or above (Ref)	–	–	–
Age	0.35	(0.12, 0.59)	.003
On public assistance	0.03	(−0.49, 0.54)	.924

control participants' use of PrEP if he or she were to take it [9]. Again, more research is necessary to explore these relationships. Finally, although some may wish to compare PrEP use in accordance with the perceived dangerousness of a given behavior (e.g., controlling vs. physical abuse), the mechanisms by which such behaviors act upon PrEP use, as noted above, are not comparable. Furthermore, this study did not assess abuse severity, which is a limitation of this work. Thus, such comparisons should be made with caution.

Associations between negative expectations stemming from condom use negotiation and physical IPV, monitoring, and controlling were in the expected (positive) direction. The association between negative expectations stemming from condom use negotiation and PrEP use was inconclusive (i.e., the true population association could be negative, positive, or null). Thus, we can make no conclusive statement as to whether such expectations serve as a mediator between IPV and PrEP. Other potential mediators (e.g., perceived risk) should be explored in future research.

Regarding covariates, consistent with extant research literature, having an HIV-positive partner was positively associated with PrEP use. As anticipated, cost-related and health-related barriers were negatively associated with PrEP use. However, contrary to expectations, stigma-related barriers were positively associated with PrEP use. Given that this is a cross-sectional study, it may be that PrEP use led to increased consciousness of anticipated stigma (e.g., "I am concerned that people will see me taking medication and think I have HIV"). Finally, consistent with prior research, [24–27] Black MSM in our sample were less likely to use PrEP, while age was positively associated with PrEP use. This is problematic, as rates of HIV acquisition are high among Black MSM, [28] as well as young MSM [28]. Additionally, research has shown that without addressing racial inequities in relation to engagement in the PrEP continuum of care, PrEP scale-up among MSM may lead to further disparities in HIV acquisition [29]. These findings demonstrate the need for targeted interventions designed to foster HIV prevention programs, including PrEP use, in these populations.

The findings from this study also indicate the need for clinical IPV screening tools and support services for MSM, including those in need of PrEP and/or seeking PrEP. As not all MSM in violent relationships are, in fact, at increased risk of becoming HIV-positive via sexual transmission, individualized risk assessment should be a standard part of an overall sexual health assessment. This assessment might be done in tandem with the administration of screening tools that assess the presence of psychosocial vulnerabilities (e.g., the National Academy of Medicine's social and behavioral determinants of health questionnaire) [30, 31]. Then, counseling provision strategies may be stratified by risk; for example, those with no psychosocial vulnerabilities could receive basic PrEP education, while those with more intensive needs such as exposure to IPV could receive referrals to domestic violence agencies, as well as problem-solving regarding PrEP uptake and adherence. Furthermore, although interventions that target MSM experiencing IPV might ideally facilitate their relationship exit, not all MSM are willing or able to leave their partners. A harm reduction approach suggests the utility of reducing HIV risk while increasing motivation and ability to leave. Interventions addressing IPV in addition to PrEP may be more effective in reducing HIV risk in this population compared to interventions that solely focus on sexual risk reduction.

Our findings need to be interpreted with caution due to several limitations. First, the use of Internet platforms for recruitment and data collection may have contributed to an under-representativeness of individuals for whom access is limited (e.g., the socioeconomically disadvantaged). However, most adults living in the US are able to access the Internet, and recent studies have shown that the "digital divide" (i.e., the gulf between those who have Internet access and those who do not) is narrowing [32]. Additionally, approximately 65% of adults living in the US use social media sites [33]. Nevertheless, gaps in Internet access persist. Chen et al. (2017) found that, compared to

venue-based samples, web-based samples of MSM are less likely to be Black or Hispanic and are more likely to have a higher socioeconomic status [34]. Future research should explore associations between IPV and PrEP use among MSM recruited via a variety of methods. Moreover, this study was cross-sectional; therefore, it was not possible to ascertain the direction of causality. For example, it may be that PrEP use increased controlling behavior on the part of participants' partners. In addition, the use of REDCap as a data collection platform precluded us from collecting IP addresses as a means of preventing duplicate entries. It is hoped that the extensive steps taken to prevent invalid entries may have mitigated the effects of this limitation on the validity of the data collected.

Finally, it was necessary to balance the ethical considerations associated with the reporting of violence in an Internet-based survey with the desire to collect representative data. Online research on IPV may be associated with risk of discovery by an abusive partner (e.g., if the partner monitors the participant's Internet use). Although we provided instructions regarding setting browsing mode to private prior to study completion, as well as deleting one's browsing history after participation was complete, this risk was not eliminated. Thus, to reduce the risk of violence stemming from study participation, we excluded from participation those individuals who expressed safety concerns connected with survey completion. This exclusion criterion, however, likely resulted in underrepresentation of individuals experiencing severe IPV; therefore, our results may not be generalizable to all MSM in violent relationships.

Conclusion

In this study of MSM sampled online, IPV was common. Results indicate that emotional IPV, monitoring, and forced sex may limit PrEP use among MSM. In contrast, controlling behaviors may increase PrEP use among MSM. We suggest clinical IPV screenings among MSM, including those seeking PrEP, as well as PrEP-focused interventions that explicitly address IPV. In doing so, it may be possible to facilitate PrEP use in vulnerable populations, such as MSM experiencing IPV, as well as reductions in IPV among those seeking PrEP.

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Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Research Involving Human and Animal Rights All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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