Correlates of Sexual Coercion among People Who Inject Drugs (PWID) in Los Angeles and San Francisco, CA

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Abstract Experiences of coerced or forced sex have been associated with risk for HIV infection for all adults and may be more common for gays, lesbians, bisexuals (GLB) and people who inject drugs (PWID). In this study, we explored factors associated with prior 12-month experiences of forced or coerced sex among a sample of PWID, with a focus on sexual orientation and gender. PWID ($N = 772$) from Los Angeles and San Francisco were recruited using targeted sampling methods in 2011–2013 and surveyed on a range of items related to demographics, drug use, HIV risk, and violence, including experiences of forced or coerced sex in the prior 12 months. In this racially/ethnically diverse, mostly homeless, and low-income sample of PWID, 25% of participants were female and 15% identified as GLB. Sexual coercion was reported by 9% of gay and bisexual men, 8% of heterosexual females, 5% of lesbians and bisexual women, and less than 1% of heterosexual men. In multivariate analyses, compared to heterosexual males, gay or bisexual males (adjusted odds

ratio [AOR] = 10.68; 95% confidence interval [CI] = 2.03, 56.23), and heterosexual females (AOR = 9.69; 95% CI = 2.04, 45.94) had increased odds of coerced sex in the prior 12 months. Having a paying sex partner (AOR = 3.49; 95% CI = 1.42, 8.54) or having had forced sex prior to the age of 16 by someone at least five years older (AOR = 4.74; 95% CI = 1.88, 11.93) also elevated the odds of coercive sex. Sexual coercion is common among PWID, but especially for gay and bisexual men and heterosexual females. Efforts to reduce sexual violence among PWID are urgently needed.

Keywords Injection drug use · Sexual violence · Sexual coercion · HIV risk

Introduction

Sexual coercion refers to the experience of unwanted sexual contact under force, or the threat of force or pressure [1]. Sexually coercive behaviors can occur along a wide and varied spectrum, ranging from implicit or subtle psychological manipulation to more explicit verbal pressure, and further to the use of outright physical force and violence [1–3]. The physical manifestations of sexual coercion also occur on a contact continuum from unwanted touching or grabbing, to kissing, and penetration [1–3]. Experiencing forced or coercive sex has been associated with negative mental and physical health outcomes and increased HIV risk [4–6]. This is especially true for marginalized populations: persons who inject drugs (PWID),

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particularly female PWID and PWID who report same-sex orientations or contact [7].

The associations with the experience of past and recent sexual coercion among PWID populations remain understudied. Compared to persons who do not inject drugs, PWID were more likely to report having a sexual partner who was physically abusive [8]. One study found a 36% prevalence of lifetime experience of sexual violence among Canadian PWID [9]. Among PWID, women were more likely than men to report having experienced childhood sexual abuse and having been pressured or forced to have sex [10]. Among PWID who were also men who have sex with men (MSM) reported higher prevalence of sexual violence history than those who reported only injection drug use (54% vs. 15%, respectively) [9].

Experiences of sexual coercion among gay, lesbian, and bisexual (GLB) populations also remain understudied. Studies highlight disparities in the prevalence of sexual coercion among GLB populations exist compared to heterosexuals. Duncan (1990) found that 31% of lesbians, 18% of heterosexual women, and 12% of gay men had experienced sexual coercion compared to just 4% of heterosexual men [11]. Similarly, Baier et al. (1991) found that among a sample of students, 37% of GLB were victims of sexual coercion compared to 19% of heterosexuals [12]. One study exploring the experiences of sexual coercion among GLBT groups found that 31% of lesbian women reported experiencing sexual coercion or force in their current or most recent relationship [13]. Traditionally, studies have focused on domestic or intimate partner violence as outcomes within same-sex relationships [1, 14]. However, data showed that 29% of MSM reported past experiences of sexual coercion [5, 6]. Identifying and reducing the disparity in sexual coercion among sexual minority PWID is important due to the consequences of sexual coercion for GLBT populations and implications for HIV and STI infection, particularly for MSM. Kalichman and Rompa (1995) reported that 92% of sexually coercive events experienced by their sample of MSM involved condomless anal intercourse, a primary risk factor for HIV infection for MSM populations [6]. They also found that MSM who reported being sexually coerced were more likely than non-coerced MSM to report drug use for sex, also a known risk factor for HIV infection [6]. Given the dearth of literature on sexual coercion among PWID, this study explored the associations with recent unwanted, coerced, or forced sexual experiences

among PWID. This study also explored differences in the prevalence of previous-year experiences of coercive sex by gender and sexual orientation.

Methods

Procedures

Data for this study were collected from participants in San Francisco and Los Angeles, California from April 2011 to April 2013. Study investigators utilized targeted sampling and community outreach methods [15–17] in locations known to be frequented by PWID to identify and recruit individuals who met the following eligibility criteria: (1) age 18 or older, (2) self-reported injection drug use in the previous 30 days with visual evidence of recent injection [18], and (3) ability to provide informed consent. Participants completed the study survey at community-based sites using computer-assisted personal interview (CAPI) technology (Nova Research, Bethesda, MD) administered by research staff members. All study participants received a \$20 incentive for completing study requirements.

A total of 775 PWID who inject drugs participated in the study. For these analyses, three participants were excluded because they responded “refused to answer” or “don’t know” to the coercive sex item, resulting in a sample of 772 participants for analysis. The study protocol was reviewed and approved by Institutional Review Boards at the University of Southern California and RTI International.

Measures

Sexual Coercion To assess recent experience of unwanted or coercive sex, participants were asked: “In the past 12 months, has somebody used physical force or threats to make you have vaginal, anal, or oral sex with them?” [19]. This item was coded as a dichotomous variable, yes=1, no=0. Participants who answered affirmatively were then asked to identify their relationship to the perpetrator. Response options included various relationships such as steady partner, friend, family member, and stranger. Each of the additional variables described hereafter were included in statistical models as covariates in a regression model.

Demographic Characteristics Participants were asked to provide information related to sociodemographic characteristics, including race/ethnicity, gender, age, sexual orientation, education level, monthly income, housing status, HIV status, mental health status, and country of birth. Due to our interest in sexual coercion and sexual orientation, we reclassified gender and social orientation into one variable with the following categories: heterosexual male, heterosexual female, gay and bisexual males, and lesbians and bisexual females.

Childhood Sexual Abuse Experiences of childhood sexual abuse or coercion were assessed with survey items that asked participants whether they had “Any sex with a person five years older, prior to age 16?” and, “Were you forced to have sex prior to the age of 16?” These items were also coded yes=1, no=0.

Substance Use Participants were asked about their history of injection and non-injection drugs in the last 30 days including powder and crack cocaine, methamphetamine, heroin, prescription opiates, tranquilizers, stimulants, sedatives, and marijuana use. Responses to each of these items were coded as dichotomous variables yes=1, no=0. Additionally, information regarding age at first injection drug use was collected and the total number of years since first initiating injection drug use was calculated.

Sexual Partnerships Participants were asked whether or not they had engaged in sexual activity with different types of partners—steady, casual, or paying sex partners—in the past 6 months. Responses to each of these items were coded as dichotomous yes = 1, no = 0.

Statistical Analysis

Bivariate analyses using Pearson’s chi-square and Fisher’s exact tests for significance were used to identify associations with experiences of coercive sex within the previous 12 months. Items from the same domain (e.g., substance use, sexual partner type) that were associated in the bivariate analyses were then assessed for collinearity using the Pearson’s r correlation test. A Pearson’s r value equal to or greater than 0.3 was used to assess collinearity among the groups of binary variables [20]. All collinear variables were then compared according to their strength of association at the bivariate level. Due to multiple comparisons, we used a Bonferroni correction

such that bivariate significance was set at $p < 0.002$ ($0.05/25$) [20]. Those with the strongest association with the outcome of interest were selected for inclusion in multivariate analysis.

Multiple logistic regression was subsequently utilized to examine factors associated with sexual coercion in the last 12 months. Due to the small number of cases of coercive sex in the previous 12 months, only the covariates most relevant to our research questions were chosen to fit our multivariate logistic regression model to avoid overfitting the model. The final multivariate model included only those variables that were significant at an alpha level equal to 0.05. All statistical tests and computations were performed using SPSS statistical software Version 21.0.

Results

Demographic Characteristics

Among the 772 PWID in the sample, 74% were male, 15% identified as GLB, and 50% were age 50 and over. Mean age was 47.6 years (standard deviation=11.5 years). Regarding racial/ethnic identity, 34% identified as white, 30% identified as Black, and 25% identified as Latino. Seven percent of the sample self-reported being HIV-positive. The sample was mostly low-income (81% had monthly incomes below \$1350) and homeless (62%). Among PWID in the previous 30 days, heroin was the most commonly reported injected drug used (79%), followed by methamphetamine (37%) and prescription opiate use (12%). Forty-five percent of the sample reported experiences of childhood sexual abuse (measured as coerced sex before 16 with a partner 5 years older) and 17% reported childhood sexual abuse. A total of 3% of PWID in this sample reported experiencing unwanted oral, vaginal, and/or anal sex under threat or physical force within the previous 12 months (Table 1).

Correlates of Sexual Coercion in the Previous 12 Months

Statistically significant ($p < 0.002$) bivariate associations in the past 12-month sexual coercion were reported for sex by sexual orientation, age, and both injection and

Table 1 Sociodemographic and drug use characteristics of people who inject drugs in Los Angeles and San Francisco, California 2011–2013 (*N* = 772)

	<i>n</i> (%)
Recruitment city	
Los Angeles	396 (51)
San Francisco	376 (49)
Sex	
Male	570 (74)
Female	202 (26)
Race/ethnicity	
White	264 (34)
Black	232 (30)
Latino	189 (25)
Other	82 (11)
Sexual orientation	
Heterosexual males	494 (64)
Heterosexual females	163 (21)
Gay and bisexual men	76 (10)
Lesbian and bisexual women	39 (5)
Age	
< 30	80 (10)
30 to 39	85 (11)
40 to 49	222 (29)
50 or more	385 (50)
Education: HS grad or more	497 (64)
Monthly income < \$1350	622 (81)
Homeless	479 (62)
Self-reported HIV-positive	53 (7)
Any mental health diagnosis	360 (47)
Sexual partner type in the last 6 months	
Steady	395 (51)
Casual	234 (30)
Paying	88 (11)
Non-injection drug use in the last 30 days	
Heroin	105 (14)
Methamphetamine	191 (25)
Prescription opiate	188 (24)
Powder cocaine	60 (8)
Crack	321 (42)
Prescription tranquilizers	192 (25)
Marijuana	413 (54)
Injection drug use in the last 30 days	
Heroin	610 (79)
Methamphetamine	289 (37)
Prescription opiate	91 (12)
Powder cocaine	82 (11)

Table 1 (continued)

	<i>n</i> (%)
Crack	69 (9)
Age at first IDU	
< 18	284 (37)
18 to 29	358 (46)
30+	130 (17)
Years of IDU	
< 10 years	125 (16)
10 to 19 years	128 (17)
20+ years	519 (67)
Past-year experience coercive sex (oral, vaginal, or anal)	24 (3)
History of childhood sexual abuse	
Sex with person 5 years older, prior to age 16	343 (45)
Forced to have sex, prior to 16 years old	131 (17)

non-injection methamphetamine use, (paid sex partner and childhood forced sex among other items (Table 2).

In the multiple logistic regression model of coerced sex in the previous 12 months, heterosexual females and gay males had greater odds than heterosexual males of experiencing coercive sex, adjusting for paying for sexual partners and experiencing childhood sexual abuse (Table 3). Specifically, heterosexual females were significantly more likely to experience coercive sex than heterosexual males (AOR = 9.69; 95% CI = 2.04, 45.94). Gay males also had elevated odds of experiencing coercive sex compared to heterosexual males (AOR = 10.68; 95% CI = 2.03, 56.23). PWID who reported having a paid sexual partner in the previous 6 months were also significantly more likely to experience coercive sex than PWID who did not report having a paid sexual partner (AOR = 3.49; 95% CI = 1.42, 8.54). Additionally, PWID who reported childhood sexual abuse had greater odds of experiencing coercive sex than PWID who did not (AOR = 4.74; 95% CI = 1.88, 11.93).

Discussion

This study explored associations of experiencing unwanted or coercive sex within the previous 12 months among PWID. The present study shows that PWID experiencing recent coerced sex differed significantly by sex and sexual orientation. Prior research has found that sexual violence is higher among gay and bisexual

Table 2 Bivariate factors associated with experiencing coercive sex (oral, vaginal, anal) in the past 12 months among people who inject drugs in Los Angeles and San Francisco, CA ($N = 772$)

	Coercive sex in previous 12 months <i>n</i> (% reporting event)	<i>p</i>
Gender		< .002
Male	9 (2)	
Female	15 (7)	
Sexual orientation by sex		< .002
Heterosexual male	2 (< 1)	
Heterosexual female	13 (8)	
Gay and bisexual males	7 (9)	
Lesbian and bisexual female	2 (5)	
Age		0.002
< 30	7 (9)	
30+	17 (3)	
Homeless		0.03
No	4 (1)	
Yes	20 (4)	
Any mental health diagnosis		0.02
No	7 (2)	
Yes	17 (5)	
Substance use history		
Methamphetamine injection, last 30 days		0.003
No	8 (2)	
Yes	16 (6)	
Non-injection methamphetamine use, last 30 days		< 0.002
No	10 (2)	
Yes	14 (7)	
Any non-medical prescription drug use, past 30 days		0.05
No	14 (2)	
Yes	10 (5)	
Sexual partner type history, previous 6 months		
Paid sex partner		< .002
No	12 (2)	
Yes	12 (14)	
Casual sex partner		0.01
No	11 (2)	
Yes	13 (6)	
History of childhood sexual abuse		
Sex with person 5+ years older prior to age 16		0.02
No	7 (2)	
Yes	16 (5)	

Table 2 (continued)

	Coercive sex in previous 12 months <i>n</i> (% reporting event)	<i>p</i>
Forced to have sex prior to age 16		< .002
No	8 (1)	
Yes	16 (12)	

men who inject drugs than among gay and bisexual men who do not inject drugs [21]. The multiple vulnerabilities experienced by gay and bisexual PWID may explain this elevated risk; however, very little is known about risk for sexual violence among this population. More research exploring sexual violence incidence and the intersections with other attributes of vulnerability such as sex work and childhood sex abuse are needed, as is consideration of efforts to reduce sexual violence among gay and bisexual men in general. One approach could be to focus on intimate partner violence (IPV, a subset of sexual violence) which has been found to be elevated among gay and bisexual men [22–24] and to be associated with patterns of substance use among both victims and perpetrators [22, 23]. Experiences of IPV are associated with greater odds of HIV infection [25]. A meta-analysis also showed that IPV was associated with increased risk of substance use and engagement in condomless anal intercourse [22]. Given the dearth of research on recent sexual violence against gay and bisexual PWID, studies that explore episodes of sexual violence and consider the wide variety of factors associated with violent victimization among drug injecting gay and bisexual men are needed to inform intervention targets and programs.

Our finding that heterosexual women who inject drugs are at elevated risk for recent coercive sex aligns with extant research that shows that women are disproportionately impacted by sexual coercion compared to men in the U.S. [26]. The coercive sex prevalence was comparable to samples of sexual violence among women treated in emergency departments in New York [27–29]. Heterosexual female PWID were vulnerable to a wider range of assailants than gay/bisexual males or lesbian/bisexual female PWID, a finding similar to other research that examined general violent assailants against PWID [28]. Qualitative research among prescription drug-using youth in New York documented that some male youth use drugs to facilitate sexual violence

Table 3 Multivariate analysis of factors associated with experiencing coercive sex (oral, vaginal, anal) in the previous 12 months ($n = 772$)

	OR	95% CI	<i>p</i>	AOR	95% CI	<i>p</i>
Sex by sexual orientation						
Heterosexual males	—			REF		
Heterosexual female	21.32	4.76, 95.54	< 0.001	9.69	2.04, 45.94	0.004
Gay and bisexual male	24.96	5.08, 122.57	< 0.001	10.68	2.03, 56.23	0.005
Lesbian and bisexual females	13.30	1.82, 97.11	0.01	5.38	0.68, 42.40	0.110
Paying sex partner, previous 6 months	8.84	3.84, 20.37	< 0.001	3.49	1.42, 8.54	0.006
Forced sex before age 16 by someone 5+ years older	10.94	4.58, 26.15	< 0.001	4.74	1.88, 11.93	0.001

OR odds ratio, CI confidence interval, AOR adjusted odds ratio

against women [29]. We found no other studies that examined recent sexual violence against female PWID, indicating the need for more research on this important phenomenon.

We also found that having a history of childhood sexual abuse was associated with coercive sex among PWID. Childhood sexual abuse was also consistent with other studies that demonstrate that early childhood victimization increases vulnerability to substance use and sexual violence in adulthood [30–32]. This relationship has been well established, and the findings of the present study provide additional support to link childhood sexual abuse to adult victimization. Not only has the data shown how childhood sexual abuse leads to substance use in adulthood, but the data from our study suggest that being part of a network of PWID might also perpetuate risk of experiencing sexual coercion. Interventions might explore and address the role of childhood victimization among this population by assessing and increasing coping strategies and self-efficacy in navigating relationships. Other research has hypothesized that childhood sexual abuse decreases self-efficacy to navigate sexual relationships and increases the likelihood of substance use as a coping mechanism [30, 31].

The present study also found that being paid for sex (subsequently referred to as sex work) within the previous 6 months was associated with coercive sex. The finding that paid sex work was associated with sexual coercion is not surprising. Studies have repeatedly found that sex work increases violence exposure and experiences, particularly for drug-involved women [33–36]. Efforts to increase safety for sex workers are widely acknowledged, but have been difficult to implement in settings where sex work is illegal [37, 38].

The results of this study should be considered in light of potential limitations. The study employed targeting sampling methods in Los Angeles and San Francisco and the study sample was comprised mostly of low-income PWID, making our results not generalizable to all PWID in other cities or regions of the country or to PWID of higher incomes. Additionally, our sample yielded only 3% ($n = 24$) who provided affirmative responses to our survey question about past-year experiences of forced or coerced sexual experiences. The small number of cases on the outcome of interest may have limited our statistical ability to detect meaningful relationships among our many relevant covariates of interest.

However, this study presents important and novel findings about the increased vulnerability of sexual and gender minority PWID. The evidence shown here suggests that issues around sexual safety and limitations to sexual autonomy due to drug-use characteristics and other contextual factors may increase susceptibility to HIV infection among PWID, in addition to risk associated with syringe-sharing behaviors. The present data lend additional evidence to support that for some PWID, particularly women and gay and bisexual men, this increased risk may be substantial. More research is needed to fully understand this phenomenon among these highly vulnerable subgroups of PWID.

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Compliance with Ethical Standards

The study protocol was reviewed and approved by Institutional Review Boards at the University of Southern California and RTI International.

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