



A Mixed Methods Analysis of the Venue-Related Social and Structural Context of Drug Use During Sex Among Male Clients of Female Sex Workers in Tijuana, Mexico

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Abstract

Drug use during sex increases risks for HIV acquisition. Male clients of female sex workers (FSW) represent both a key population at risk for HIV as well as a transmission bridge population. In Tijuana, Mexico, drug use is prevalent and there is a need to understand male clients' drug use during sex with FSW. Characteristics of sex work venues may confer higher risks for drug use, risky sex, and HIV/STI. It is essential to understand the venue-related social and structural factors associated with drug use during sex in order to inform HIV prevention interventions with male clients in this region. We used a Mixed-Methods Sequential Explanatory Design to conduct an enriched examination of drug use during sex among male clients of FSW in Tijuana. Findings from logistic regression analysis showed that drug use during sex was significantly correlated with police harassment (AOR = 4.06, $p < .001$) and methamphetamine use (AOR = 33.77, $p < .001$). In-depth interview data provided rich meaning behind and context around the quantitative associations. Social and structural interventions to reduce police harassment, methamphetamine use, and promote condom availability are needed to reduce risks for HIV among male clients of FSW in Tijuana.

Keywords Male clients · FSW · HIV risk · Drug use · Sexual risk behavior · Venues

Drug use is an important driver of sexual risk behavior and risks for HIV and other sexually transmitted infections (STI) [1, 2], especially among populations at relatively high risk for HIV, such as male clients of female sex workers (FSW). Male clients represent a transmission bridge population between FSW and clients' non-commercial steady and casual partners [3]. Compared to other men, male clients of FSW may be more likely to use drugs in general [4, 5], and may do so to enhance the sexual experience [6]. Among male clients of FSW across the world, drug use has been associated with condomless sex and HIV infection [7, 8].

One specific population of male clients of FSW who are particularly at risk for HIV are clients in Tijuana, Mexico.

Tijuana is located on the southwestern border of the United States, is a popular destination for sexual tourism, is experiencing a concentrated and growing HIV epidemic, and falls along a major drug trafficking route [9, 10]. Drugs are readily available and accessible in the city [11]. Our previous research with male clients in Tijuana has shown that drug use is prevalent, with 93% of the participants reporting lifetime drug use, and 80% reporting drug use in the past 4 months [12]. In 2015 we conducted an evaluation of a sexual risk reduction intervention for male clients of FSWs in Tijuana [12, 13]. Overall, the intervention did not demonstrate efficacy in reducing condomless sex [13], and future efforts may need to focus particularly on drug use, and specifically drug use in the context of sex with FSW, to effectively reduce sexual and HIV/STI risk in this population.

Individual-level behaviors and psychological factors like drug use and condom use self-efficacy behaviors are important to examine in HIV prevention research [14]. However, people do not behave in a vacuum; they are surrounded by environmental contexts that help shape behavior. There is a growing recognition that social, contextual, and/or environmental factors play a significant role in HIV risk behavior,

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including general drug use and drug use during sex [6, 15, 16]. The context of HIV risks has been studied among FSW [17–20]. Unfortunately, comparatively little work on social (e.g., drug or condom use social norms) and structural factors (e.g., policing behavior, condom availability) surrounding drug risk behavior has examined the perspectives of male clients [21]. This is problematic given the role of clients as a bridging group, and the fact that sex work is inherently dyadic.

In terms of the specific context of HIV risks among clients, sex work venues, or the spaces and places where FSW meet and have sex with clients, have been shown to possess different characteristics that may confer higher risks for HIV [22–25]. In Tijuana's *Zona Norte*, FSW solicit and have sex with male clients in many different sex work venues, including high end-clubs, bars, cantinas, motels, and street corners. A systematic review of the literature on FSW working in different types of venues showed that categorization of venues by type (e.g., brothel, street) is not sufficient for differentiating between higher versus lower levels of HIV/STI risk [26]. Instead of simply relying on venue categorizations, research beyond mere typologies must be done to examine the specific contextual venue factors that male clients and FSWs experience that might influence drug and sex risk behavior. Such factors include characteristics of the FSW working in the venue (e.g., how “clean” they are perceived to be), norms surrounding substance use and condom use, perceptions of danger and safety, and interaction with police. Mixed methods research utilizing both quantitative and qualitative data can provide an enriched understanding of venue factors and their association with male clients' drug risk behavior (i.e., drug use during sex with FSW).

In the current paper, we use a Mixed-Methods Sequential Explanatory Design [27] to understand the venue-related social and structural context surrounding drug use during sex with FSW among male clients in Tijuana. Our data also offer specificity in understanding both the spaces where clients meet and where they have sex with FSW, as these locations might differ (e.g., meet at a bar, have sex in a hotel). In addition to our use of mixed methods, we also collected event-level data, which has the strength of emphasizing the temporal overlap between factors associated with a sexual event, including where the event took place and substance use during the sexual event.

Methods

Participants and Recruitment

Participants comprised a convenience sub-sample of clients who previously participated in an HIV prevention intervention study. Details of the parent study are published

elsewhere [12]. Eligibility criteria included being biologically male, live in either Tijuana or San Diego, be at least 18 years old, report having purchased sex for money, drugs, shelter of goods in the last 4 months, test HIV-negative at the start of the study, and report having unprotected vaginal or anal sex with a FSW in Tijuana at least once during the previous 4 months.

Participants in the HIV intervention study were recruited using time-locating sampling. Specifically, with the help of outreach workers and the community, we compiled a map of places where male clients of FSW were known to congregate in Tijuana (e.g., bars, hotels). Locations and times for trained outreach workers to visit these places were randomly selected. Prospective participants were approached and were given a study information card. Participants in the intervention study provided consent that they could be contacted in the future for related studies. Staff contacted prospective participants by phone. All current study activities were conducted in the study office located one block from the main strip of sex work venues (e.g., bars, strip clubs, massage parlors) in Tijuana.

Procedures

Quantitative Surveys

A total of 100 clients completed a paper and pencil quantitative survey. Three field staff members who were also staff of the parent study and were native to the community administered the survey in Spanish or English, depending on participant preference. Clients were compensated \$20 U.S. for completing the quantitative survey and/or an in-depth interview (possible total \$40 U.S.).

Quantitative Measures

Sociodemographics Participants reported where they currently live (in the U.S. or Mexico), whether they were born in the U.S., whether they identified as Hispanic/Latino, age, years of education, marital status, whether they had any children, and whether they identified as hetero-, bi-, or homo-sexual.

Last Sexual Event Participants were asked to recall their last sexual event with a FSW in Tijuana. They responded to questions about that event which focused on characteristics of the place where they *met* the FSW, and also where they *had sex* with the FSW, and on their substance use during the sexual event. We use the term “venue” to refer to place, which can also refer to a street-based location. Among the sample, 78% of participants reported that the last sexual event occurred less than 6 months ago.

Drug Use During Sex with a FSW Participants were asked “how high on drugs were you while you had sex with her [the FSW]”? Responses ranged from 1 = not at all, 2 = a little high, 3 = somewhat high, 4 = very high, and 5 = extremely high. For the purpose of this paper, we separated the clients into two groups, clients who reported being not at all to a little high during sex with the FSW (i.e., low drug use during sex), and clients who reported being at least somewhat high during sex with the FSW (i.e., high drug use during sex). Participants also reported which substances they used during sex with the FSW, including alcohol and methamphetamine. They also reported how high on drugs the FSW was, and how drunk on alcohol she was when she and the client had sex.

Risk Environment (Venue) Characteristics of Place Where Clients Met FSW Participants reported where they met the FSW (street, bar or nightclub, brothel, hotel, massage parlor, ballroom, restaurant, billiards, or other). Since street was the most common response, this variable was dichotomized to reflect meeting the FSW on the street versus elsewhere. Participants also reported if they were alone when they met the FSW. They were also asked questions about the following characteristics about the venue where they met the FSW: attractiveness of the FSWs employed there, how “clean” they perceived the FSWs to be, perceived likelihood of the FSWs having HIV or another STI, age range of the FSWs, norms at the venue surrounding condom use, drug use, alcohol use during sex, and drug use during sex (in separate items). They were also asked whether they felt observed while at the venue, whether the atmosphere felt tense, whether they experienced any threats of violence, concern with being harassed by police, previous experience of police taking their money at the venue, their concern with getting into a physical fight, whether they felt safe at the venue, and whether they felt comfortable coming back to the venue.

Risk Environment (Venue) Characteristics of Place Where Clients had Sex with FSW Participants were asked similar questions about the venue where they had sex with the FSW. Specifically, they were asked where they had sex (same place where they met, another room in the back of the bar, in a hotel, in the client’s house, in a friend’s house, in the FSW’s house, in a car, in a public restroom, or other). Since hotel was the most common answer, this variable was dichotomized to reflect having sex with the FSW in a hotel or elsewhere. The participants also reported whether they felt safe at the venue, whether they

felt observed while at the venue, whether the atmosphere felt tense, concern with being harassed by police, previous experience of police taking their money at the venue, their concern with getting into a physical fight, and whether they felt comfortable coming back to the venue.

Condom Use Finally, participants were asked whether they were wearing a condom the entire time they had sex with the FSW on this occasion. Response options were “No, I was not wearing a condom;” “Yes, I used a condom, but it broke or I took it off;” and “Yes, I used a condom the entire time I had sex with her.” Responses were recoded to indicate whether a condom was used the entire time during this last sexual event with a FSW.

Qualitative In-depth Interviews

A total of 21 male clients of FSW were interviewed on a variety of factors, including the venues where men reported meeting and having sex with FSW and substance use. A total of 14 of the interviews were conducted in Spanish, and seven in English. Interviews were primarily conducted by the second (TR) and first author (EP), and lasted about 1 h. Participants were selected using a purposive sampling scheme that aimed to capture a diversity of experiences within the parent study. Namely, we compiled a list of 30 participants randomly selected from the parent study, with effort to gather equal numbers of clients who were born in Mexico versus the U.S., and equal numbers of clients who were randomized into the intervention versus control arm in the parent study, and equal numbers of clients who exhibited behavior change as a function of the intervention study versus no behavior change. Ultimately, the 21 clients who participated in qualitative interviews did not differ from the other nine clients from the list. The in-depth interviews followed loosely structured guides which were iteratively revised as data analysis and collection progressed [28, 29]. We aimed for a total of approximately 30 interviews, but stopped at 21 because theoretical saturation was reached.

Ethics

All participants provided written informed consent to participate in this study and to have their in-depth interview audio recorded. The Institutional Review Board at the University of California San Diego approved all consent and study procedures.

Data Analysis

The quantitative data were analyzed first and we subsequently drew upon in-depth interviews to contextualize the findings [30].

Quantitative Analysis

We conducted bivariate logistic regression analyses to examine correlates of having sex with a FSW while being at least somewhat high on drugs (versus not at all to very little). All independent variables that were significantly associated with the outcome in bivariate analyses at a level of $p < .05$ were included in a multivariate model. We then employed a backwards stepwise approach removing the least significant variable one by one until the model only included predictors that were statistically significant at $p < .05$.

Qualitative Analysis and Triangulation of Mixed Method Data

Interviews were transcribed verbatim and then translated by bilingual, trained staff. All transcripts and translations were accuracy-checked by the second author. Personal identifiers were removed and each participant was identified by a unique number. The de-identified transcripts were saved in an encrypted file on a secured server. The software Atlas.ti managed coding. Interviews were coded (by TR and MS) using inductive techniques to identify major themes related to participants' experiences with FSW, sex work venues, substance use, HIV prevention, and interactions with individuals from institutions in Tijuana, like the police. Initially, the two coders coded the same set of three interviews to identify and discuss coding disagreements, and revise the codebook as necessary to help ensure reliability. Once all the interviews were coded, a selection of the most illustrative quotes was made to inform the analysis of this study. The research team maintained a detailed codebook and an audit trail to keep track of analytic decisions and the team members involved in coding to ensure consensus of the analytic process. The first three authors (EP, TR, MS) supervised and were involved with transcriptions, translations, codebook development, and identification of themes. Using a Mixed-Methods Sequential Explanatory Design we triangulated quantitative data with qualitative data to allow for us to first identify and quantify associations between drug use during sex with FSW and different factors, including clients' sociodemographics, behaviors, and characteristics of sex work venues. After, we then explored the meanings clients attributed to these associations by focusing on themes in the qualitative data related to the factors independently associated with drug use during sex with a FSW.

Results

Quantitative Findings

Results from bivariate and multivariate regression analysis testing associations with drug use during sex with FSW are summarized in Table 1.

Bivariate Results

There were no differences between men who reported low drug use during sex with the FSW and men who reported high drug use during sex with the FSW on sociodemographic variables. There were differences on characteristics related to the venue where they met the FSW. Men with high drug use during sex were more likely to report coming to the venue to have sex with a FSW and do drugs, perceive the FSW who worked at venue to be less "clean," and perceive a higher likelihood that these FSWs had HIV and an STI other than HIV. Men with high drug use during sex were also more likely to perceive the atmosphere of the venue as tense, to be concerned with police harassment, to have experienced police taking their money at the venue, and to be concerned with getting into a physical fight. These men were also more likely to report using methamphetamine during sex with the FSW, and report that the FSW was also high on drugs when the two had sex.

With regards to the characteristics of the venue where they had sex with the FSW, men with high drug use during sex with the FSW were more likely to feel unsafe at the venue, feel observed, be concerned with police harassment, and report that the police have taken their money at the venue. Finally, men with high drug use during sex were more likely to report not using a condom when they had sex with the FSW compared to men with low drug use during sex.

Multivariate Results

Independent correlates of high drug use during sex included clients reporting that police have taken their money at the venue where they met the FSW (AOR = 4.06, $p < .001$), using methamphetamine during sex with the FSW (AOR = 33.77, $p < .001$), and feeling watched or observed in the venue where they had sex with the FSW (AOR = 20.20, $p < .05$).

Qualitative Findings

Clients provided a rich understanding about sex work and sex work venues in Tijuana, their use of methamphetamine and other substances, and interactions with police.

Table 1 Correlates of being high on drugs during sex with a FSW among male clients of FSW in Tijuana, Mexico (n = 100)

Variable	Total (n = 100)		Low drug use during sex with FSW (n = 40)		High drug use during sex with FSW (n = 60)		Unadjusted models		AOR	
	n	%	n	%	n	%	OR	95% CI lower	95% CI upper	
Sociodemographics										
Lives in Mexico (vs. U.S.)	53	53.0	21	52.5	32	53.3	1.11	0.48	2.56	
Born in U.S. (vs. Mexico)	13	13.0	6	15.0	7	11.7	1.13	0.40	4.23	
Hispanic/Latino	84	84.0	33	82.5	51	85.0	2.06	0.43	9.80	
Age (Mean, SD)			38.97	8.29	38.37	9.84	0.99	0.95	1.04	
Education (mean, SD)			5.89	3.14	8.80	3.40	1.02	0.90	1.16	
Employed	59	59.0	21	52.5	38	63.3	1.81	0.76	4.34	
Married/common law	34	34.0	10	25.0	24	40.0	2.00	0.83	4.83	
Has children	72	72.0	29	72.5	43	71.7	1.08	0.39	3.01	
Bisexual (vs. heterosexual)	10	10.0	3	7.5	7	11.7	1.69	0.41	7.00	
Risk environment (venue) characteristics of place where met FSW										
Came to place to have sex with a FSW and do drugs	28	28.0	3	7.5	25	41.7	9.07***	2.51	32.78	
Met FSW on the street	59	59.0	19	47.5	40	66.7	2.21†	0.97	5.02	
Was alone when met FSW	66	66.0	25	62.5	41	68.3	1.21	0.52	2.83	
Attractiveness of FSW's here										
1 = Much less attractive than other women in other places	0	0.0	0	0.0	0	0.0	0.72	0.46	1.13	
2			3	7.5	15	25.0				
3			19	47.5	23	38.3				
4			13	32.5	15	25.0				
5 = Much more attractive than other women in other places			5	12.5	7	11.7				
How "clean" are FSW's here										
1 = Not at all clean	0	0.0	0	0.0	0	0.0	0.42*	0.19	0.92	
2	30	30.0	6	15.0	24	40.0				
3	66	66.0	32	80.0	34	56.7				
4	2	2.0	1	2.5	1	1.7				
5 = The women are the cleanest	2	2.0	1	2.5	1	1.7				
Perceived likelihood of having HIV										
0 = None of them	26	26.0	12	30.0	14	23.3	1.54*	1.03	2.31	
1 = 1 to 5%	42	42.0	19	47.5	23	38.3				
2 = 6 to 10%	16	16.0	8	20.0	8	13.3				
3 = 11 to 25%	11	11.0	0	0.0	11	18.3				
4 = 26 to 50%	5	5.0	1	2.5	4	6.7				
5 = 51 to 75%	0	0.0	0	0.0	0	0.0				

Table 1 (continued)

Variable	Total (n=100)		Low drug use during sex with FSW (n=40)		High drug use during sex with FSW (n=60)		Unadjusted models			AOR
	n	%	n	%	n	%	OR	95% CI lower	95% CI upper	
6 = More than 75%	0	0.0	0	0.0	0	0.0				
Perceived likelihood of having a different STI										
0 = None of them	11	11.0	5	12.5	6	10.0	1.47*	1.08	1.99	
1 = 1 to 5%	29	29.0	14	35.0	15	25.0				
2 = 6 to 10%	19	19.0	10	25.0	9	15.0				
3 = 11 to 25%	18	18.0	7	17.5	11	18.3				
4 = 26 to 50%	19	19.0	3	7.5	14	23.3				
5 = 51 to 75%	3	3.0	0	0.0	3	5.0				
6 = More than 75%	2	2.0	0	0.0	2	3.3				
Age range of FSW's										
1 = Less than 18 years	1	1.0	1	2.5	0	0.0	1.26	0.63	2.52	
2 = 18-25	26	26.0	10	25.0	16	26.7				
3 = 26 to 35	56	56.0	24	60.0	32	53.3				
4 = 36 to 45	8	8.0	2	5.0	6	10.0				
5 = Older than 45	0	0.0	0	0.0	0	0.0				
Condom use norms										
1 = Extremely unlikely	3	3.0	0	0.0	3	5.0	0.64	0.33	1.25	
2	34	34.0	12	30.0	22	36.7				
3	58	58.0	26	65.0	32	53.3				
4 = Extremely likely	5	5.0	2	5.0	3	5.0				
Drug use norms										
1 = Extremely unlikely	0	0.0	0	0.0	0	0.0	1.72	0.87	3.39	
2	9	9.0	5	12.5	4	6.7				
3	58	58.0	25	62.5	33	55.0				
4 = Extremely likely	33	33.0	10	25.0	23	38.3				
Alcohol with sex norms										
1 = Extremely unlikely	1	1.0	1	2.5	0	0.0	0.69	0.33	1.43	
2	1	1.0	0	0.0	1	1.7				
3	42	42.0	13	32.5	29	48.3				
4 = Extremely likely	56	56.0	26	65.0	30	50.0				
Drugs with sex norms										
1 = Extremely unlikely	1	1.0	1	2.5	0	0.0	1.65	0.85	3.17	
2	4	4.0	3	7.5	1	1.7				

Table 1 (continued)

Variable	Total (n = 100)		Low drug use during sex with FSW (n = 40)		High drug use during sex with FSW (n = 60)		Unadjusted models			AOR
	n	%	n	%	n	%	OR	95% CI lower	95% CI upper	
3	45	45.0	18	45.0	27	45.0				
4 = Extremely likely	50	50.0	18	45.0	32	53.3				
Feel observed	26	26.0	9	22.5	17	28.3	1.36	0.54	3.45	
Tense atmosphere	48	48.0	13	32.5	35	58.3	2.91**	1.26	6.72	
Threat of violence	13	13.0	3	7.5	10	16.7	2.47	0.63	9.60	
Police harassment										
1 = Not at all	0.0	0.0	21	52.5	15	25.0	1.88**	1.24	2.86	
2 = A little worried	0.0	0.0	10	25.0	15	25.0				
3 = Somewhat worried	0.0	0.0	6	15.0	18	30.0				
4 = Very worried	0.0	0.0	3	7.5	12	20.0				
Police have taken money										
1 = Never	44	44.0	26	65.0	18	30.0	3.16***	1.65	6.03	4.06*** (1.71, 9.61)
2 = Sometimes	38	38.0	12	30.0	26	43.3				
3 = Often	13	13.0	2	5.0	11	18.3				
4 = Always	5	5.0	0	0.0	5	8.3				
Concern for physical fight										
1 = Not at all	40	40.0	21	52.5	19	31.7	2.15**	1.21	3.82	
2 = A little worried	42	42.0	17	42.5	25	41.7				
3 = Somewhat worried	14	14.0	1	2.5	13	21.7				
4 = Very worried	4	4.0	1	2.5	3	5.0				
Felt safe at the place where met FSW										
1 = Very safe	6	6.0	3	7.5	3	5.0				
2	37	37.0	19	47.5	18	30.0				
3	39	39.0	12	30.0	27	45.0				
4	14	14.0	5	12.5	9	15.0				
5 = Very unsafe	4	4.0	1	2.5	3	5.0				
Comfort coming again										
1 = Very uncomfortable	7	7.0	2	5.0	5	8.3	0.66	0.38	1.16	
2	17	17.0	6	15.0	11	18.3				
3	61	61.0	23	57.5	38	63.3				
4 = Very comfortable	15	15.0	9	22.5	6	10.0				
Substance(s) used during sex with FSW										
Did not use any substances	6	6.0	6	15.0	0	0.0	0.64	0.67	1.53	

Table 1 (continued)

Variable	Total (n=100)		Low drug use during sex with FSW (n=40)		High drug use during sex with FSW (n=60)		Unadjusted models			AOR
	n	%	n	%	n	%	OR	95% CI lower	95% CI upper	
Alcohol	64	64.0	28	70.0	36	60.0	0.64	0.28	1.51	
Methamphetamine	48	48.0	4	10.0	44	73.3	24.75***	7.60	80.62	33.77*** (8.49, 134.23)
FSW high on drugs during sex										
1 = Not at all	47	47.0	32	80.0	15	25.0	3.52***	2.03	6.10	
2	14	14.0	5	12.5	9	15.0				
3	16	16.0	2	5.0	14	23.3				
4	11	11.0	1	2.5	10	16.7				
5 = Extremely	12	12.0	0	0.0	12	20.0				
FSW drunk on alcohol during sex										
1 = Not at all	57	57.0	22	55.0	35	58.3	0.90	0.55	1.48	
2	27	27.0	11	27.5	16	26.7				
3	14	14.0	6	15.0	8	13.3				
4	2	2.0	1	2.5	1	1.7				
5 = Extremely	0	0.0	0	0.0	0	0.0				
Risk environment (venue) characteristics of place where had sex with FSW										
Had sex in hotel next door (vs. other)	51	51.0	20	50.0	31	51.7	1.07	0.48	2.39	
Felt unsafe										
1 = Very safe	29	29.0	14	35.0	15	25.0	1.76*	1.12	2.76	
2	34	34.0	18	45.0	16	26.7				
3	27	27.0	7	17.5	20	33.3				
4	7	7.0	1	2.5	6	10.0				
5 = Very unsafe	2	2.0	0	0.0	2	3.3				
Felt observed	14	14.0	1	2.5	13	21.7	11.02*	1.38	88.07	20.20* (1.71, 239.40)
Tense atmosphere	30	30.0	9	22.5	21	35.0	1.91	0.76	4.75	
Police harassment										
1 = Not at all	72	72.0	35	87.5	37	61.7	2.91**	1.26	6.76	
2 = A little worried	19	19.0	4	10.0	15	25.0				
3 = Somewhat worried	7	7.0	1	2.5	6	10.0				
4 = Very worried	2	2.0	0	0.0	2	3.3				
Police have taken money										
1 = Never	78	78.0	37	92.5	41	68.3	4.59*	1.30	16.26	
2 = Sometimes	18	18.0	1	2.5	17	28.3				
3 = Often	2	2.0	1	2.5	1	1.7				

Table 1 (continued)

Variable	Total (n=100)		Low drug use during sex with FSW (n=40)		High drug use during sex with FSW (n=60)		Unadjusted models			AOR
	n	%	n	%	n	%	OR	95% CI lower	95% CI upper	
4=Always	0	0.0	0	0.0	0	0.0				
Concern for physical fight										
1=Not at all	1	1.0	0	0.0	1	1.7	2.04 [†]	0.89	4.68	
2=A little worried	76	76.0	34	85.0	42	70.0				
3=Somewhat worried	18	18.0	6	15.0	12	20.0				
4=Very worried	5	5.0	0	0.0	5	8.3				
Comfort coming again										
1=Very uncomfortable	11	11.0	6	15.0	5	8.3	1.21	0.78	1.89	
2	12	12.0	6	15.0	6	10.0				
3	51	51.0	17	42.5	34	56.7				
4=Very comfortable	26	26.0	11	27.5	15	25.0				
Did not use condom when had sex with FSW	27	27.0	6	15.0	21	35.0	3.05*	1.10	8.44	
HS intervention	43	43.0	18	45.0	25	41.7	0.91	0.39	2.10	

The significance levels are: *p<.05, **p<.01, ***p<.001

The following themes were identified that contextualized quantitative findings: Police harassment and how drug use heightens harassment, and risks for HIV/STI. The qualitative data also shed light on the quantitative finding that clients who were high on drugs during sex were also more likely to report feeling watched or observed in the venue. In the sections below, we discuss each theme and present some quotes as examples of each theme. Some of the examples include direct quotes of the conversation between the interviewer and the participant in order to provide context around the participants' responses, but also because the qualitative research interview is indeed an "inter-view," [31] wherein "knowledge is constructed in the inter-action between the interviewer and the interviewee" [31]. This is consistent with previous approaches of presenting qualitative data from male clients of FSW [21]. Characteristics of clients who completed in-depth interviews are summarized in Table 2.

Table 2 Characteristics of male clients of FSWs who participated in qualitative in-depth interviews in Tijuana, 2014 (n=19)

Measure	n	%
Place of residence		
Tijuana, Mexico	11	57.9
San Diego County, U.S.	8	42.1
Country of birth		
Mexico	16	84.2
U.S.	3	15.8
Primary language spoken		
Spanish	14	73.7
English	5	26.3
Ethnicity		
Hispanic/Latino	17	89.5
Non-Hispanic/Latino	2	10.5
Age, years (mean, range)	39.1	23-55
Education, years (mean, range)	8.7	0-15
Employment		
Not currently employed	7	36.8
Currently employed	12	63.2
Marital status		
Separated or filing for divorce	7	36.8
Divorced and not remarried	1	5.3
Never married	8	42.1
Common law marriage	3	15.8
Has children		
No	5	26.3
Yes	14	73.7
Sexual orientation		
Heterosexual	14	73.7
Bisexual	5	26.3

Drug Use Heightens Police Harassment

Whereas drugs are available and accessible throughout Tijuana, the *Zona Norte*, where the sex work venues are located, is a particularly popular location where people buy and use drugs. Clients described how police often patrol this area, and often stop individuals who they deem as suspicious looking. They described how police often stopped them for seemingly minor or arbitrary reasons, and how the police would ask for money in exchange for not detaining them. Altogether, male clients of FSW in the *Zona Norte*, and particularly those that use methamphetamine and other substances, appear to be at heightened risk of being stopped and harassed by the police. One client described how he has recently stopped using methamphetamine, which was related to the fact that he became the primary caretaker of his children when his wife began to work. He describes how people, including the police, have treated him differently since he stopped using methamphetamine.

...So it's been a total change, but it's cool to be treated with respect, now I have a credit card, now I have my work card, so it's cool, they say to me, "right this way, sir." "Oh man. Who are they talking to?" Honestly, before when the police car would look around, I would pretend not to notice, go inside, run, whatever as long as they didn't take me because just imagine, all high, desperate because you're high, with withdrawals, you felt very desperate at the thought of them taking you... Before it was an excess and now since I've been, the year that I haven't been doing drugs, it might be their thing, a police car hasn't stopped me, nor have they asked me for any ID... (P5, age 37)

Clients also described purposefully using different substances apart from methamphetamine in order to balance or minimize the appearance of being drunk on alcohol or high on methamphetamine, which was also related to concerns for police harassment.

P: And... that was my main thing and right here when I use crystal by itself I had to use, I have a drink so I don't get too high and I don't feel paranoid. [I used crystal] in the bar's bathroom, some of them have a room, or in the warehouse where they store the beer but most of the time it's in the bar... it is very common around here [to use drugs], well one is drinking, I am not saying that everybody that comes around here only drinks beer but many times once you are already drinking you crave Crystal or a marijuana cigarette supposedly to ease the drunkenness and not go on the street all drunk

I: Mm, and is it easy to get drugs there?

A: At times, at times, because the police sometimes go all the way down... and sometimes it is better not to risk it for them to take you to jail. (P16, age 43)

Risks for HIV/STI

Police behavior also seemed to dictate clients' use of condoms. Many participants described one's possession of condoms as connoting bad or immoral behavior, either by their wives or steady partners, or even by the police. After describing how police would detain him for merely carrying condoms, one client described how now the only reason he does not carry condoms is because of fear of police harassment and detainment.

I: So what if only, imagine that condoms are the only things they find on you, do you think that they will take you the same?

P: of course, yes

I: And for what reason would they take you?

P: Well, they can... they can put me at fault to what, to the good government, all that police stuff of good governance, for indecency {immorality} and all that

I: Aha, even if you are not having sex on the street, even if you're not doing?

P: Even if I'm not drugged... simply for that

I: Mm, and have they ever taken you for that reason?

P: No, I have seen

I: Aha, so then you prefer to not carry condoms for that reason?

P: That is the only reason, nothing else. (P11, age 19)

Participants were always conscious of the likelihood that they get stopped, harassed, and/or detained by police. This understanding meant that they avoided the police, which in some cases also might mean not leaving the sex work venue to purchase condoms before they have sex with the FSW. Upon being asked about his opinion about whether it would be a good idea for sex work venues to make condoms available and free to clients, one client responded:

P: Yes, I feel that would prevent one from... there are times when... one is hanging out on the street a lot or around a lot of women but there are times when we are hesitant on going out to buy some because as I told you, they stop us as we are going out to the pharmacy to buy them because there are police around. That is what stops us. But if there were condoms at the bars or wherever and they would be free, well... I say it would be better, you would avoid everything.

I: There is none in the bars?

P: In bars, no... and if there are they sell them to you, and to be honest they are really expensive, and so there

are times that you are drunk and they tell you "no don't buy the condom they are 50, 60 [pesos], it's better if you buy us a caguama [liter of beer]" and so then I don't use one. But if it was free or... or there was another place where we could go I think that no matter how drunk one was well it would be easier to get and actually use.

I: So, you're saying you would use it more often if it was easier to get?

P: Yes, oh yes, if it were easier to get one would use them more. (P21, age unknown)

The quantitative findings revealed that clients who reported high drug use during sex with a FSW were more likely to report feeling watched at the sex work venue. This is likely related to feelings of paranoia caused by methamphetamine use, which can also confer higher risk for HIV/STI.

P: Well, because of the amount of crystal that one smokes, you think that they're going to hurt you or going for something one begins to imagine many things

I: Oh, OK, so then if they are already there [in the hotel] and maybe she wants to go for a condom?

P: No, I do not allow that because, as I say because of the same drug, one think that she's going to open {the door} for someone else, some other vagrant, that will cause damage or something... and then one grabs her by the neck, "do not move, do not move"

I: So why do you feel that she will do something...?

P: Well yes that is the reason

I: Like paranoia?

P: Yes, too much paranoia

I: And for this very reason, for the reason that you do not feel safe, because you used the drug?

P: That's right (P11, age 19)

Discussion

The aim of the current paper was to examine the venue-related social and structural context surrounding drug use during sex with FSW among male clients in Tijuana, Mexico. Specifically, we sought to understand venue-related correlates of drug use during sex using quantitative data, and to gain a rich understanding of these findings using qualitative in-depth interviews. We found that clients who reported high drug use during sex with FSW were more likely to report that police have taken their money at the venue where they met the FSW, using methamphetamine during sex with the FSW, and feeling watched or observed in the venue where they had sex with the FSW. Upon analysis of clients' narratives, we were able to contextualize quantitative findings and learned about the experience of police harassment among

clients, vulnerabilities related to methamphetamine use, and condom use, all of which were highly interrelated.

Behavior by police, including harassment, has been shown to pose risks for HIV in at-risk populations, including people who inject drugs, and FSW who inject drugs in Tijuana and elsewhere [32–36]. The current findings point to the association between police behavior and HIV risk among another at-risk population—male clients of FSW. Interventions that train police to effectively interact with drug users, including male clients of FSW, in a manner that reduces harms, have the potential to be widely effective at reducing HIV risk for different key populations [37]. By intervening on a structural level (the police system and their behavior), such interventions also have the potential to yield more sustainable solutions compared to behavior change interventions with at-risk populations (e.g., to increase condom use or reduce needle sharing).

Unlike use of other substances, methamphetamine use was significantly associated with being high on drugs during sex with FSW in the quantitative data of this study. Methamphetamine use has been linked to increased drug and sexual risks for HIV among men who have sex with men, as well as heterosexual women and men [1, 38]. For instance, compared to non-users, methamphetamine users report more sexual partners, and higher rates of condomless sex and HIV infection [38]. Some individuals at risk for HIV who use methamphetamine report doing so in order to enhance the sexual experience and lower sexual inhibitions [39, 40]. Previous research has also shown that among FSW in the US-Mexico border region, methamphetamine use is prevalent and has been independently associated with HIV infection [41]. These findings are supported by the current study, which focuses on male clients of FSW in the border region, and shows that methamphetamine use among clients may also be associated with vulnerability to police harassment, furthering increasing HIV risk.

HIV prevention interventions designed to reduce sexual risks for HIV and increase condom use have been tested with many different populations throughout the world. The evidence supporting such interventions are mixed. There is a need to address social and structural factors in the HIV risk environment, and not merely individual behavior. For FSW and their male clients, interventions to increase the availability of condoms in sex work venues are essential. In this study, although clients acknowledged the need to use condoms with FSW to decrease risks for HIV/STI, some clients reported not carrying condoms for fear of police harassment, as well as an agreement that condoms should be made available in the venues. Social and structural interventions that include increasing condom use among FSW and increasing condom availability and condom use norms have shown promise [14, 42–44], and may be effective at reducing HIV risk among male clients and FSW in Tijuana.

Limitations

Results from the current study should be interpreted in light of its limitations. This is a cross-sectional study and causal associations cannot be inferred. While appropriate for our primary aim to understand drug use during sex among male clients in Tijuana, the results may not be generalizable outside of this population and geographic area. While the parent study used a sampling method that is useful for recruiting representative samples of individuals from hidden populations, the current study used a convenience subsample of these participants. Thus, the sample may have been biased to include clients who reside in Tijuana and who were willing to continue to participate in related studies by our research team. While a majority of the participants were reporting about a sexual event that occurred less than 6 months ago, which has been shown to be a reliable recall period for sex and drug use HIV risk behaviors [45], there remains the potential for limited reliability. In spite of the limitations, the current study shed important light on a unique population of male clients of FSW to understand the context of drug use during sex with FSW.

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Compliance with Ethical Standards

Conflicts of interest All authors have no conflicts of interest to declare.

Ethical Approval All procedures were in accordance with the ethical standards of the institutional review board at UCSD and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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

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