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How important are venue-based HIV risks among male clients of female sex workers? A mixed methods analysis of the risk environment in nightlife venues in Tijuana, Mexico

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Abstract

In 2008, 400 males ≥ 18 years old who paid or traded for sex with a female sex worker (FSW) in Tijuana, Mexico, in the past 4 months completed surveys and HIV/STI testing; 30 also completed qualitative interviews. To analyze environmental HIV vulnerability among male clients of FSWs in Tijuana, Mexico, we used mixed methods to investigate correlates of clients who met FSWs in nightlife venues and clients' perspectives on venue-based risks. Logistic regression identified micro-level correlates of meeting FSWs in nightlife venues, which were triangulated with clients' narratives regarding macro-level influences. In a multivariate model, offering increased pay for unprotected sex and binge drinking were micro-level factors that were independently associated with meeting FSWs in nightlife venues versus other places. In qualitative interviews, clients characterized nightlife venues as high risk due to the following macro-level features: social norms dictating heavy alcohol consumption; economic exploitation by establishment owners; and poor enforcement of sex work regulations in nightlife venues. Structural interventions in nightlife venues are needed to address venue-based risks.

Keywords

sex work; risk environment; clients; venues; structural factors; HIV

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INTRODUCTION

Male clients of female sex workers

The Mexican city of Tijuana, located along the U.S. border, is experiencing an emerging HIV epidemic (Strathdee and Magis-Rodriguez, 2008), which disproportionately affects female sex workers (FSWs) and their male clients. HIV prevalence has more than tripled among FSWs along the U.S.-Mexico border in the past decade (e.g., from <1% to 6%) (Strathdee and Magis-Rodriguez, 2008), and has been measured at 4% among their male clients in Tijuana (Patterson et al., 2009).

International research indicates that clients of FSWs function as a “bridge” for HIV/STI transmission through unprotected sex with FSWs, spouses, girlfriends, men, and others (Alary and Lowndes, 2004; Gomes do Espirito Santo and Etheredge, 2005). In a recent study among 400 clients in Tijuana, half reported unprotected sex with FSWs in the previous 4 months; being married was positively associated with unprotected sex with FSWs, suggesting that clients play a central “bridging” role in the HIV/STI epidemic along the U.S.-Mexico border (Goldenberg et al., 2010a) and the immediate need for prevention interventions among them.

Unprotected sex between clients and FSWs has been linked to individual-level factors, including a client’s occupation (Malta et al., 2006; Morris and Ferguson, 2006), ongoing relationships with FSWs (Voeten et al., 2002), national origin (Wong et al., 2005), and substance use (Patterson et al., 2009; Wee et al., 2004). However, client interventions (Leonard et al., 1996; Wirawan and Muliawan, 2002) and previous research suggest that individual-level interventions aimed at altering clients’ behavior or knowledge may be insufficient to achieve lasting changes in HIV/STI incidence or behavior (Goldenberg et al., 2010b). While clients in Tijuana are generally aware of the risks associated with their behaviors, this may not result in preventative measures due to contextual factors, including social isolation, deportation, unemployment and the pervasive influence of the ubiquitous sex and drug trades along the Mexico-U.S. border (Goldenberg et al., 2010b). To develop HIV prevention programs for clients, the wider context surrounding their behaviors and perceptions must be better understood.

Moreover, a prevailing research emphasis on FSWs has limited the reach of prevention activities to clients, limiting their effectiveness by unfairly placing the responsibility for negotiating safer sex on women and girls, whose main barriers to prevention are often abusive or coercive clients (Church et al., 2001; Shannon and Csete, 2010; Shannon et al., 2008a). Therefore, this research aimed to obtain deeper insight into the factors affecting clients’ sexual behaviors and wider transactional sex experiences.

The “risk environment” in sex work settings

HIV vulnerability depends upon interactions between individuals and environments (Bronfenbrenner, 1979; Rhodes, 2009; Rhodes et al., 2005; Shannon et al., 2008a). One framework that gives primacy to this interplay is provided by the “risk environment”, which conceptualizes different *types of environmental factors* (social, economic, policy, and physical) interacting at various *levels of influence* (micro, macro) (Rhodes, 2009). Its theoretical basis draws together broader debates in social epidemiology, political economy, and sociology of health that conceptualize interactions between individuals and environments (Agar, 2003; McMichael, 1999; Pearce and McKinlay, 1998; Rhodes, 2009).

While “risk environment” has been discussed in reference to the harms experienced by injection drug users (IDUs) (Rhodes, 2009; Rhodes et al., 2005; Strathdee et al., 2010; Tempalski and McQuie, 2009) and FSWs (Biradavolu et al., 2009; Kerrigan et al., 2003;

Kerrigan et al., 2006; Lippman et al., 2010; Shannon et al., 2008b), research exploring such influences among clients is scarce (Goldenberg et al., 2010b).

The public health impacts of sex work vary greatly depending on the setting in which sex workers and their clients are situated (Church et al., 2001; Harcourt and Donovan, 2005). The risk environment constituted by sex work settings (e.g., nightclubs, brothels, street) includes the confluence of physical influences such as sex work location and spatial distribution of drugs, alcohol, and harm reduction paraphernalia; social factors such as gendered risk and violence, stigma, social norms for sexual behavior and substance use, and relationships between FSWs, clients and other partners; economic factors such as poverty, inequality and the need to trade sex for drugs; and policy influences such as laws governing sex work, health care access, and human rights (Dandona et al., 2005; Day and Ward, 1997; Harcourt and Donovan, 2005; Larios et al., 2009; McMahon et al., 2006; Scambler and Paoli, 2008; Shannon et al., 2008b).

Macro-level influences—Indoor venues such as nightclubs and brothels are often regarded as safer environments than the street due to differences in macro-level policies regulating establishment practices (e.g., condom provision and use, STI screening), the legal status of indoor sex work (e.g., decriminalization of sex work in brothels), and the presence of venue-based security measures (e.g., alarm systems to deter violent or aggressive clients) (Harcourt and Donovan, 2005; Morisky et al., 2002; Weitzer, 2009). These influences have been associated with safer sex and lower HIV/STI prevalence. In the Philippines, female entertainment workers in establishments with condom use policies were 2.6 times more likely to consistently use condoms compared to those in establishments without such policies (Morisky et al., 2002). In Singapore, significantly lower prevalence of STIs was observed among brothel-based sex workers (who undergo monthly STI screening) versus their street-based counterparts (Wong et al., 1999). Conversely, the street may pose higher risks for HIV/STI transmission between FSWs and clients, largely due to the consequences of laws criminalizing sex work in public locations, and social disapproval/hostility towards sex work (Harcourt and Donovan, 2005; Shannon and Csete, 2010). These macro-level influences undermine HIV prevention among street-based FSWs, who disproportionately experience police- and client-perpetrated physical and sexual violence, and the confiscation of condoms and other harm reduction paraphernalia (Church et al., 2001; Harcourt and Donovan, 2005; Rodier et al., 1993; Shannon et al., 2008a; Shannon et al., 2009; Weitzer, 2009).

Micro-level influences—The different risk environments posed by indoor and outdoor locales are also the result of micro-level economic and social influences in these locations (Weitzer, 2009). Sex work is socially stratified; FSWs on the street are more likely to be younger, have drug dependencies and earn less per transaction than their indoor counterparts, increasing the likelihood of unsafe encounters with clients (Church et al., 2001; Dandona et al., 2005; Thuy et al., 1998; Weitzer, 2009). The impacts of this stratification on HIV/STI risks are illustrated by associations between HIV/STIs, unprotected sex and street-based sex work. In India, street-based sex work was positively associated with unprotected sex with clients, compared to brothel-based sex work (Dandona et al., 2005). Despite some of the protections offered by indoor venues, micro-level social and economic vulnerabilities associated with nightlife venues, such as establishment pressures to serve large numbers of clients or acquiesce to clients' demands for unprotected sex, may increase the HIV/STI risks associated with these settings. In the absence of macro-level interventions (e.g., condom use policies), FSWs and their clients in indoor establishments may be more likely to become HIV-infected; in Vietnam, HIV seroprevalence was positively associated with working in a brothel, which was also associated with inconsistent condom use (Thuy et al., 1998).

Since sex work settings and their characteristics are known to influence HIV risk among FSWs, an understanding of the impacts of sex work environments on clients' behaviors and perceptions is needed to develop interventions that complement environmental and multi-level FSW interventions. While client-focused efforts can address the role that men play in negotiating safer sex, to the best of our knowledge, no studies describing place-based HIV risks from clients' perspectives are available.

Aims and objectives

The aim of this analysis was to use mixed methods to explore reported and perceived HIV risk among clients who meet FSWs primarily in nightlife venues (e.g., bars, clubs) versus other locations (e.g., the street). We hypothesized that selected micro-level factors (e.g., offering increased pay for unprotected sex, being drunk during sex) would be associated with clients who reported meeting FSWs in nightlife venues, compared with men who only met FSWs on the street. We anticipated clients' narratives to reveal perceptions that macro-level features of nightlife venues, such as policy enforcement and condom availability, rendered them "safer" spaces for transactional sex.

METHODS

Study setting

Tijuana (population: 1,483,992), the largest city along the Mexico-U.S. border, hosts a *Zona Roja* (red light district) which is the centre of a thriving sex industry that attracts clients from the U.S., Mexico, and international locations. Similar to other large cities along this border, sex work in Tijuana's *Zona Roja* is tolerated, a practice believed to have originated in response to the presence of U.S. military and entrepreneurs in Northern Mexico and rising prohibitionist policies in the United States in the early 20th century. This has led to the notoriety of Tijuana's bars and clubs – many of which cater specifically to foreigners (e.g., "Chicago Club") – as places for U.S. tourists, soldiers, and U.S.-bound migrants to engage in transactional sex, in addition to binges on drugs and alcohol (Castillo et al., 1999; Curtis and Arreola, 1991). However, our field observations revealed that the proportion of foreign clients in Tijuana's *Zona Roja* has declined with the escalation of violence along the border.

A majority of the city's 9000 FSWs work out of Tijuana's *Zona Roja*, meeting clients primarily in clubs, bars, hotels, or on the street. Adult FSWs who work in this district are required to undergo routine STI/HIV testing to maintain a permit. Such permits are costly and sometimes hard to obtain (Brouwer et al., 2006), and the quasi-legal status of sex work in Tijuana and other Mexican *Zona Rojas* has resulted in the continued harassment of street-based FSWs by police (Castillo et al., 1999).

Data collection

Quantitative surveys, laboratory testing, and qualitative interviews were conducted in Tijuana's *Zona Roja*. The study protocol was approved by Institutional Review Boards in the U.S. and Mexico, and all participants provided written informed consent.

Quantitative surveys—Between June and October 2008, male residents of San Diego ($N = 189$) and Tijuana ($N = 211$) aged 18 or older who had paid or traded for sex with a FSW in Tijuana during the past 4 months were approached on the street in Tijuana's *Zona Roja* by outreach workers and *jaladores* (i.e., local touts who "hook up" clients with FSWs) and invited to participate, as previously described (Patterson et al., 2009). Participants were compensated \$30 USD.

Trained interviewers administered computer assisted programmed interviews (CAPI) using the software QDS (Nova, Bethesda, Maryland, USA) in private offices in Spanish or English. Questions covered demographics, sexual and drug-using behaviors, and other factors hypothesized to be associated with HIV/STI risk. Clients were also asked about the locations where they meet and have sex with FSWs. Participants who reported recent unprotected sex with a FSW were queried about potential reasons for this (“If you didn’t use a condom every time you had sex with a prostitute in Tijuana, were any of the following reasons for not using a condom?” Sample response options: “no condoms were available at the time”/“I didn’t think that my FSW had any STDs”).

Laboratory Testing—All clients were tested for HIV, syphilis, Chlamydia, and Gonorrhea, as previously described (Patterson et al., 2009). Results were available to all participants. Free treatment for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* was provided on-site; those testing positive for HIV or syphilis were referred to municipal health clinics for free medical care.

In-depth interviews—In October and November 2008, trained female and male interviewers conducted in-depth, semi-structured interviews in English and Spanish lasting approximately one hour with a sub-sample of clients ($n = 30$). Clients were purposively sampled (Strauss, 1998) from the larger sample of 400 clients to represent a range in age, marital status, HIV status, and country of residence. Clients were compensated \$20 U.S. for participation.

Interviews consisted of open-ended questions that were revised as data collection and analysis progressed to incorporate emerging themes (Glaser, 1978). Participants were asked to describe and reflect upon their experiences purchasing sex, including motivations for visiting FSWs, condom use, perceived HIV risk, and structural influences on sexual behavior and substance use.

Data analysis

Our analysis followed a QUANT-QUAL mixed methods design, whereby we first analyzed the quantitative data and subsequently drew upon in-depth interviews to contextualize the findings (Creswell, 2003; Tashakkori and Teddlie, 2003).

Quantitative analysis—To examine differences in clients’ behaviors by sex work setting, clients who met FSWs in Tijuana in bars, strip clubs, or nightclubs within the previous 4 months were compared to clients who did not (i.e., who met FSWs only through the street, word of mouth, or public places). Of the 400 clients who completed quantitative surveys, one had incomplete data for the dependent variable and was excluded from the analysis.

Socio-demographic variables were included as potential confounders. Selected behavioral measures were included to examine their relationship to sex work venues (e.g., alcohol use; unprotected sex). Multiple measures of alcohol use were considered; to study the influence of inhibited decision-making abilities, we included binge drinking and being drunk during sex with FSWs. Risk environment variables (e.g., perceived STI risk, peer influences, offering extra pay for unprotected sex, employment in a bar) were included to assess whether social (e.g., social norms; peer influences), physical (e.g., condom availability), policy (e.g., sex work regulation), and economic factors (e.g., economic reliance on working in Tijuana’s bars; offering extra money for unprotected sex) differed between clients who met FSWs in nightlife venues versus those who did not. HIV/STI test results and self-reported STIs/STI symptoms were analyzed for place-based differences.

Statistical analysis: Wilcoxon rank sum tests were used for continuous variables and Fisher's exact tests for dichotomous variables. Logistic regression evaluated differences between clients who met FSWs in nightlife venues versus those who did not. Univariate and multivariate logistic regression compared the two groups. Multivariate models were developed using a manual procedure where all variables of interest with a significance level of less than 10% in a univariate analysis were considered in order of most to least significant. Nested models were compared using the likelihood ratio statistic, retaining variables that were significant at the 5% level. All two-way interactions were explored for variables retained in the final model.

Qualitative analysis and triangulation of qualitative and quantitative data—In-depth interview recordings were transcribed and translated. QSR *NVivo* was used to electronically manage coding. Codes were inductively developed, and constant comparisons were made between data coded within and between categories (Crabtree and Miller, 1999; Glaser and Strauss, 2006). Categories were grouped and regrouped throughout the analysis, and higher-level analyses identified themes which were examined through the lens of the HIV risk environment (Rhodes, 2002).

Following initial coding, the qualitative data were deductively examined to explore their explanatory potential for the micro-level associations observed between clients who met FSWs in nightlife venues and offering FSWs extra money for unprotected sex and binge drinking (i.e., *convergence*). Triangulating our quantitative findings with qualitative data enabled us to *identify and quantify* associations between meeting FSWs in nightlife venues and clients' behaviors, as well as explore the meanings clients attributed to these associations. We derived groupings for the qualitative data based on the factors independently associated with meeting FSWs in a bar/nightclub. Lastly, the qualitative data were analyzed for convergence with the quantitative findings by exploring the ways in which they lent themselves to *explaining* or *contextualizing* the results of our quantitative analysis.

RESULTS

Quantitative findings: Correlates of having met FSWs in nightlife venues

Of 399 clients, 75.4% ($n = 301$) recently met a FSW at a nightlife venue and the remainder met FSWs only in other settings (e.g., the street) (Table 1). Men who met FSWs in nightlife venues were significantly more likely to report recent unprotected sex with a FSW (55.1% vs. 35.1%), binge drinking (consumes ≥ 5 drinks when drinking) (44.9% vs. 17.3%), and being drunk during sex with FSWs fairly/very often (26.2% vs. 10.2%). Clients who met FSWs in Tijuana's nightlife venues were more likely to have offered FSWs higher pay for unprotected sex (19.6% vs. 8.2%), paid more on average for sex with FSWs (\$36.70 vs. \$26.10), and be employed in bars (13.3% vs. 6.1%) compared to clients who met FSWs elsewhere. Although there were no significant differences in HIV/STI status between these groups, clients who met FSWs in nightlife venues were more likely to self-report a recent STI (19.4% vs. 9.4%).

In univariate analyses, clients who met FSWs in nightlife venues were significantly more likely to report unprotected sex with FSWs ($OR = 2.27$), binge drinking ($OR = 3.87$), and being drunk during sex with FSWs during the past 4 months ($OR = 3.12$) (Table 2). These men were also significantly more likely to have ever offered a FSW in Tijuana extra money for sex without a condom ($OR = 2.74$) and to self-report an STI in the past 4 months ($OR = 2.31$). Independent micro-level correlates of meeting FSWs in nightlife venues included offering FSWs extra pay for unprotected sex (Adjusted Odds Ratio (AOR) = 2.65; 95% CI

1.19, 5.93), binge drinking ($AOR = 4.13$; 95% CI 2.30, 7.42), and years of education ($AOR = 1.14$; 95% CI 1.06, 1.22).

Qualitative findings: Clients' perspectives on venue-based risks

Participants in qualitative interviews were predominantly Latino (83.3%) and resided in Tijuana (63.3%); their mean age was 36, and 43.3% were born in the U.S. (Table 3). Half reported recent unprotected sex with FSWs in the past 4 months; 47% also had a steady partner/spouse. Clients perceived Tijuana's nightlife venues as high-risk, and attributed this mainly to the following macro-level themes: social norms for alcohol use, economic pressures facilitating unprotected sex, and poor enforcement of sex work regulations in nightlife venues.

Social norms for alcohol use

Clients described bars and clubs in Tijuana's *Zona Roja* as places where heavy alcohol use is common and often acts as a social prerequisite for meeting FSWs. As in many other settings, purchasing drinks for oneself and FSWs is a necessary part of courting rituals in nightlife venues in Tijuana, though the same prerequisite did not exist when meeting FSWs on the street:

You have to invite them to have a drink with you while you talk to them, and if I fancy the girl, then we'd go to a hotel, but they charge a lot [MCL395, age 30, San Diego resident].

Nightlife venues in the *Zona Roja* adhere to Tijuana's notoriety as a place to party and "let go" of inhibitions – features that particularly appeal to U.S. clients who visit Tijuana's FSWs as an escape from daily life. Binges on alcohol within this setting were described as clouding clients' and FSWs' judgment, often leading to unprotected sex. Many clients juxtaposed this against social norms guiding street-based sex work practices, which were said to be less influenced by alcohol and thus subject to more sound judgment:

A sex worker from a bar, normally they all get drunk at the bar with their client. If the client has money, they are going to get drunk...and she is going to do it without a condom. A street prostitute, even if you offer her \$1,000 pesos, is not going to have sex without a condom...they aren't going to take that chance [MCL021, age 30, Tijuana resident].

This client went on to describe such a first-hand experience, recounting the remorse he felt about what had happened once he had sobered up:

We ended up dancing, drinking. I was drunk and she told me, "I'm gonna charge you more if you don't put on a condom." I told her, "It's cool. I don't care". I thought to myself the next day - that girl charged me twenty more dollars for not wearing a condom! How many times has she done it with other people without a condom? [MCL021, age 30, Tijuana resident]

Economic factors facilitating unprotected sex in nightlife venues

Clients reported that sex in nightlife venues was more expensive than on the street, in particular noting that unprotected sex was known to be available for a higher fee in nightlife venues. Participants often differentiated between bar and street-based sex work by describing street-based transactions as less prone to such practices.

The girls at the bars, they'll ask you, "Do you want to use protection?"... With the ones lined up [street-based FSWs] you gotta use a condom ninety percent of the time. But the ones at the bar give you the option. If you tell them no [...] they say,

it's gonna cost you a little more – another ten or twenty dollars [MCL329, age 31, San Diego resident].

For me, the ones [FSWs] from a bar are higher risk, because I know that for a price they won't use a condom, and for me that's very risky [MCL176, age 39, San Diego resident].

Clients often linked these practices in bars to economic exploitation by bar owners and managers. These men discussed how bar-based FSWs appeared to be under more pressure than women on the street (who were perceived as more independent) to earn more and sometimes engage in unprotected sex for higher pay, accounting for the large proportion of their earnings kept by managers.

Inside a bar there is a higher risk. With the street prostitutes, I feel safer. The pimps from the bars want to charge you for taking a girl to a room...but the street prostitute can keep the money that I give them for their services [MCL089, age 43, Tijuana resident].

Some clients explained that their knowledge of the extent to which unprotected sex with FSWs is common in nightlife venues caused them to seek out transactional sex on the street, which was perceived to be 'safer':

Interviewer: Have you ever been infected with any type of [sexually transmitted] disease?

Client: No, and I think it's because I haven't had relations with a prostitute from a bar. With the street prostitutes I've not had any problems, they've never said that they don't have any condoms or offered me sex without condoms [...] I had a friend that offered the girl more money and she said no; he increased the money from 200 to 1,000 pesos [approximately \$20 to \$100 USD] and she responded that 1,000 pesos wasn't enough to get rid of AIDS, and that is the truth [MCL176, age 39, San Diego resident].

Differential enforcement of sex work regulations

Clients discussed markedly different enforcement of sex work regulations in nightlife venues and on the street. While the street is a highly visible sex work setting, with FSWs typically lined up along the *Callejon Coahuila* (the main sex work 'strip' in the *Zona Roja*), nightlife venues were described as more discreet. Although current sex work regulations technically apply to FSWs working across settings, clients perceived street-based sex work to be more highly regulated due to its visibility. Police and health officials are regularly seen checking the permits of women standing along the *Callejon Coahuila* at any given time. Maintenance of these permits requires regular STI/HIV testing; FSWs who test HIV positive are no longer able to work as sex workers without prosecution in the *Zona Roja*, although in practice, approximately half work without permits (Sirotnin et al., 2010). Recognizing these macro-level forces, clients' narratives illustrated that they situate FSWs' identities within the institutional practices and place-based features of their work environments. For example, many clients perceived street-based FSWs as 'safe' sex partners due to outdoor enforcement of sex work regulations:

I prefer the ones on the street who are controlled with the paperwork than the ones who aren't... The girls on the strip there [Callejon Coahuila] constantly get the health workers asking for their cards. You know, they got to be checked [tested for STIs/HIV], or they can't work. So I would prefer to mess with those girls [MCL190, age 44, San Diego resident].

Supposedly the street prostitutes are cleaner, right? They have sex with one person and then another, but also they supposedly have a permit [MCL031, age 39, Tijuana resident].

Citing this rationale, many clients presumed that street-based FSWs would be more likely than bar-based FSWs to consistently use condoms with clients in order to maintain their permits:

The risk is less likely of you getting a disease from the girls who stand against the wall [street-based FSWs] because if you are standing against the wall, you are not having sex without a condom [MCL190, age 44, San Diego resident].

Conversely, clients perceived that such regulations were much more loosely enforced in local bars and nightclubs. Some men explained that while establishment owners are often aware that their employees do not possess a health permit, corrupt enforcement practices enable these venues to continue employing these women, whereas FSWs on the street may not have the resources to accomplish this.

By trying to control the girls, it's [the regulation system] more negligent... Two weeks ago, I was at a bar and these regulation people came in and took 6 of the girls. None of the girls had a permit, but they let them choose which girls they were leaving. None of them had a health card. I even saw a girl hide behind the bar... They are negligent in deciding who is working there without a permit. The street prostitutes are not the same, imagine if I was to say to my friends that I got sick with syphilis from a street prostitute - you don't hear rumors like that. Now from the girls inside the bars, I wouldn't doubt it [MCL176, age 39, San Diego resident].

DISCUSSION

While research with FSWs has generally suggested that the street is a higher risk locale than indoor establishments, our interviews with clients suggest the contrary. Among 400 male clients of FSWs in Tijuana's red light district, three-quarters had met FSWs in nightlife venues. Micro-level factors including "binge" drinking and offering more money for unprotected sex were positively associated with meeting FSWs in nightlife venues. Qualitative interviews with clients contextualized these findings, suggesting that they perceive nightlife venues as risky places where macro-level social, economic, and policy factors, including social norms for heavy alcohol use, economic exploitation by establishments, and poor enforcement of sex work regulations jointly shape the risk environment.

These findings are supported by evidence that male-catering venues where clients have more control, alcohol/drugs are used, and high numbers of clients are encouraged pose higher risks than other places (Harcourt and Donovan, 2005). A recent analysis comparing Tijuana-based FSWs in bars versus the street identified clients' offers of increased pay as associated with unprotected sex among bar-based FSWs, with no such association observed among street-based FSWs (Larios et al., 2009). In China, FSWs in entertainment venues were more likely than street-based FSWs to report client abuse, coercive sex, and control by establishment owners/pimps as factors contributing to unprotected sex (Yi et al., 2010). In conjunction with the higher levels of disposable income typically available to clients in entertainment venues (Li et al., 2009), these findings offer partial explanations for why men who met FSWs in nightlife venues in Tijuana were more likely to report offering increased pay for unprotected sex. Moreover, FSWs in entertainment venues were less likely to report police arrest (Yi et al., 2010), supporting our finding that low policy enforcement in nightlife venues contributes to the risk environment.

Clients' narratives in this study conflict with some data collected among FSWs, raising the possibility that clients' assessments may be based on inaccurate information. Their perceptions of venue-based FSWs as less likely than their street-based counterparts to maintain a permit conflict with a recent analysis in which permit registration was positively associated with working in a venue-based establishment among FSWs in Tijuana (Sirotin et al., 2010). However, registration was not associated with a lower adjusted risk of HIV/STI infection, and although 100% of registered FSWs were expected to have been previously tested for HIV, only 85% had been, suggesting that they may be purchasing false cards or otherwise bypassing the regulation system (Sirotin et al., 2010). Therefore, registration status may not translate into reduced risk.

The discordance between clients' and FSWs' reports may also be related to classification differences (i.e., how *street-based FSWs* are defined). In qualitative interviews, clients distinguished between three types of FSWs: *street-based*, *bar/club-based*, and *street walkers*. While we did not have the quantitative data to analyze this typology for our analysis, it is noteworthy that clients distinguished between these groups in their risk assessments. Street walkers were said to be the "riskiest" partners, due to their highly visible marginalization, including high rates of addiction, homelessness, and survival sex under the influence of drugs. Street-based FSWs were perceived as the "safest" sex partners due to visible sex work regulation in the main areas where they congregate. Finally, venue-based FSWs were said to represent a middle ground between these groups, due to their reduced visibility, exploitation by establishments, and alcohol use with clients, which predisposed them to have unprotected sex with clients for increased pay. These findings provide insights into the ways in which clients' perspectives can deepen our understanding of the sex work risk environment, building upon (and sometimes challenging) the information provided by FSWs.

Recommended interventions

Growing public health research recognizes that individual-level research and interventions are insufficient alone to understand long-term behaviors or achieve population-level reductions in disease incidence (Frohlich and Potvin, 2008; Syme, 2004). While some men explained that the risks posed by nightlife venues resulted in preventive measures (e.g., condom use; meeting FSWs on the street), most had recently met FSWs in nightlife venues. In unadjusted models, these men were significantly more likely to report unprotected sex with FSWs, despite their perceptions of unprotected transactional sex in such establishments as risky. This suggests that interventions aimed at improving clients' knowledge may be an insufficient prevention strategy. Our analysis identifies Tijuana's nightlife venues as targets for multi-level interventions to promote social and economic settings that support consistent condom use among clients (as well as FSWs and establishment staff) (Li et al., 2009; Morisky and Tiglaio, 2010; Xia and Yang, 2005).

Venue-based 100% condom use policies—Aimed at promoting condom use in all commercial sex acts, such policies address the economic disincentives for establishments to promote condom use by assuring that they will not lose business by enforcing these policies (since clients cannot go anywhere else for unprotected sex). Thailand's 100% condom campaign resulted in an 80% reduction in STIs among men, and a 5-fold decrease in HIV and 10-fold decrease in STI incidence in new military recruits (Celentano et al., 2000; Celentano et al., 1998; Hanenberg et al., 1994; Nelson et al., 1996; Shahmanesh et al., 2008). The replication of the Philippines' multi-level 100% condom use program in 4 establishments found a positive association between establishment condom rules and condom availability and use (Swendeman, 2007). However, to be effective, these policies rely on an uninterrupted condom supply, strong social marketing, and careful

implementation to avoid unintended consequences, such as coercive or punitive practices that can undermine the human rights of FSWs and their clients (Rojanapithayakorn, 2006) or increase risks among street-based FSWs.

Engage establishments and peers to promote condom use—Interventions that engage establishments can play a key role in the creation of “enabling environments” for HIV prevention among clients and FSWs. An intervention study in the Philippines found that combined peer and establishment manager training in HIV prevention resulted in increased positive condom attitudes and establishment policies favoring condom use, and fewer STIs among female bar workers (Morisky et al., 2006), while a peer education intervention among a sub-population of clients (i.e., taxicab and tricycle drivers) documented a significant increase in HIV/AIDS knowledge, condom use attitudes, and condom use with FSWs (Morisky et al., 2005). In the Dominican Republic, an intervention comparing (1) community-based engagement of establishment owners, police, and brokers to facilitate condom use, and (2) the engagement model *and* sanctions on employers that did not enforce 100% condom use, found that condom use increased and incident STIs among FSWs decreased with both interventions; however, more striking reductions and increased consistent condom use were observed where the sanctions were also in effect (Kerrigan et al., 2003; Shahmanesh et al., 2008).

Strengths and Limitations

By incorporating clients’ perspectives into our analysis, this study offers unique insights into venue-based HIV risks among FSWs’ clients – a hard-to-reach group whose narratives have rarely been the focus of research attention. Our analysis is novel in that it approaches venue-based vulnerabilities by analyzing data collected among clients (rather than FSWs), which is especially important given clients’ pivotal role in negotiating safe sex. The triangulation of quantitative and qualitative data enhanced the robustness of our findings by enabling us to report statistical associations as well as potential explanations for them from our target population’s point-of-view.

Though efforts were made to recruit a generalizable sample, it is unlikely that ours represents all clients in Tijuana or elsewhere. However, we believe that clients and FSWs interacting under similar conditions (e.g., where sex work regulations exist but are enforced predominantly on the street) may experience risks similar to those described. This study did not reach populations of clients who may be more prone to meeting FSWs in other venues (e.g., escort services). While it is possible that the high proportion of clients who met FSWs in nightlife venues was a result of our recruitment strategy, this is unlikely since we recruited clients on the street, rather than inside nightlife venues. Rather, the high proportion who met FSWs in nightlife venues may be related to the notoriety of Tijuana’s bars and clubs as places to engage in commercial sex. Our venue-based outcome measure was restricted to whether or not a client met FSWs in nightlife venues in the past 4 months, which does not take into account where the client and FSW engaged in the correlated risk behaviors; however, the vast majority of men reported having sex with FSWs in nearby hotels, regardless of where they were solicited. In conjunction with our qualitative data, our venue-based measure represented the most informative measure available to us. In the future, we recommend developing more refined variables collected from establishments (i.e., interviews with bar owners; observations), FSWs (i.e., regarding work conditions), and clients to inform place-based analyses.

Our use of the risk environment heuristic suggests that certain influences may be more clearly conceptualized within this framework than others. While it enabled us to clearly identify the role of macro-level policy factors (e.g., sex work regulation), alcohol use in bars

was more difficult to situate within only one sphere of influence, as suggested by the model. Even though alcohol use was primarily described as a macro-level social feature of the risk environment, since social norms dictate its necessity in facilitating transactional sex in nightclubs and bars, it could also be conceptualized as a physical influence, since it is more available in nightlife venues than other settings. However, the purpose of the risk environment framework is not to label these influences, but rather to facilitate identification and recognition of environmental influences on health and risk, moving away from a “prevailing emphasis” on the individual-level (Resnicow and Page, 2008; Rhodes, 2009). While it is useful in organizing an understanding of how the environment can impact health, its categories are in fact *artificial separations* between influences that may overlap and interact in ways that together constitute the risk environment (Rhodes, 2009).

CONCLUSIONS

Our findings suggest the importance of *place* in shaping clients’ risks and provide insights into how clients’ narratives can contribute to our understanding of the sex work risk environment. By conducting a mixed methods study among them, this analysis revealed that characteristics of nightlife venues and their clients in Tijuana’s red light district constitute a higher risk environment than previously indicated through research with FSWs. Structural interventions in nightlife venues, such as policies to promote condom use, peer education among clients, and engagement of establishments, are needed. To reduce the predominant onus on FSWs to engage in HIV prevention and given clients’ key role in negotiating safe (or unsafe) sex, it is essential that clients are actively and creatively engaged in future research and prevention.

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Table 1

Socio-demographic, behavioral, risk environment, and HIV/STI variables among male clients of female sex workers in Tijuana, 2008 ($N = 399$)

Measure	Value ($N = 399$)
Socio-demographic characteristics	
Born in United States	162 (40.6)
Born in Mexico	231 (57.9)
Hispanic/Latino	318 (79.7)
Speaks Spanish	351 (88.0)
Speaks English	322 (80.7)
Lives in United States	189 (47.4)
Lives in Mexico	210 (52.6)
Married/common law	170 (42.6)
Years of education (median, IQR ^o)	11 (9, 12)
Employed	241 (60.4)
Sexual behavior and substance use	
Met FSWs in a bar, nightclub, afterhours, or strip club [†]	301 (75.4)
Had unprotected vaginal or anal sex with FSW [†]	196 (50.3)
Has ≥ 5 drinks when drinking	152 (38.1)
How often drunk during sex with FSW [†]	
Fairly/Very often	88 (22.2)
Never/Once in a while	308 (77.8)
How often FSW drunk during sex [†]	
Fairly/Very often	67 (17.0)
Never/Once in a while	328 (83.0)
Has a wife/steady female sex partner	151 (37.8)
Has other casual female sex partner [†]	140 (35.1)
Believes most FSWs are under constant medical supervision	
Strongly Disagree	10 (2.6)
Disagree	178 (45.5)
Agree	199 (50.9)
Strongly Agree	4 (1.0)
Perceived risk of contracting HIV/AIDS from a FSW in Tijuana	
Not very likely	74 (18.6)
Somewhat likely	144 (36.2)
Fairly likely	57 (14.3)
Very likely	123 (30.9)
Had unprotected sex with a FSW because no condoms were available ^l	86 (38.7)
Had unprotected sex with a FSW because FSW accepted more money ^l	85 (39.2)
Ever offered a FSW in Tijuana extra money for unprotected sex	67 (16.8)

Measure	Value (N = 399)
Amount paid for sex with FSW in Tijuana, in dollars (mean, IQR ^o)	34.1 (20,35)
Works at a bar	46 (11.5)
# male friends who visit FSWs (median, IQR ^o)	6 (4, 10)
HIV/STI Status	
Positive HIV test	16 (4.1)
Positive Chlamydia test	30 (7.5)
Any STI/HIV	56 (14.2)
Self reported STI [†]	58 (16.9)

NOTE: Data are *N* (%) of men, unless otherwise indicated. Bolded figures are statistically significant. Certain percentages may reflect denominators smaller than the *n* value given in the column head. Except as specifically noted, these discrepancies are due to missing data.

[†] Refers to past 4 months;

^o IQR: Inter-quartile range;

^l Among clients who reported unprotected sex with a FSW in Tijuana in the past 4 months (*n* = 222)

Table 2

Socio-demographic, behavioral, risk environment, and HIV/STI variables associated with meeting FSWs in a nightlife venue[†] among male clients in Tijuana, 2008 (*N* = 399)

Measure	Odds Ratio (OR)	95% Confidence Interval (CI)	Adjusted OR (95% CI)
Socio-demographic characteristics			
Hispanic/Latino	1.10	0.63-1.92	
Lives in the US	0.97	0.61-1.53	
Married/common law	1.23	0.77-1.96	
Years of education			
1 unit increase	1.11 **	1.04-1.19	1.14 *** (1.06, 1.22)
5 unit increase	1.72 **	1.23-2.41	
Employed	1.26	0.80-2.01	
Sexual behavior and substance use			
Had unprotected vaginal or anal sex with FSW [†]	2.27 ***	1.40-3.67	
Has a wife/steady female sex partner	1.73 *	1.05-2.83	
Had other casual female sex partners [†]	1.81 *	1.08-3.01	
Has ≥ 5 drinks when drinking	3.87 ***	2.19-6.85	4.13 *** (2.30, 7.42)
How often drunk during sex with FSW [†]			
Fairly/Very often	3.12 **	1.54-6.30	
Never/Once in a while	Ref		
How often FSW drunk during sex [†]			
Fairly/Very often	3.24 **	1.43-7.35	
Never/Once in a while	Ref		
Risk Environment			
Believes most FSWs are under constant medical supervision			
Strongly Disagree	Ref		
Agree	1.18	0.29-4.73	
Disagree	1.53	0.38-6.18	
Strongly Agree	1.29	0.09-17.96	
Perceived risk of contracting HIV/AIDS from a FSW in Tijuana			
Not very likely	Ref		
Fairly likely	0.51	0.23-1.12	
Somewhat likely	0.64	0.33-1.25	
Very likely	1.11	0.53-2.28	
Had unprotected sex with a FSW because no condoms were available [‡]	1.92 *	1.03-3.59	
Had unprotected sex with a FSW because FSW accepted more money [‡]	1.86	1.00-3.49	
Ever offered a FSW in Tijuana extra money for unprotected sex	2.74 *	1.26-5.97	2.65* (1.19, 5.93)

Measure	Odds Ratio (OR)	95% Confidence Interval (CI)	Adjusted OR (95% CI)
Works at a bar	2.35	0.96-5.72	
STI/HIV Status			
Self reported STI [†]	2.31 *	1.05-5.10	

NOTE: Variables in the adjusted model have no significant interaction between them. Bolded figures are statistically significant. Certain percentages may reflect denominators smaller than the *n* value given in the column head.

^l Among clients who reported unprotected sex with a FSW in Tijuana in the past 4 months (*n* = 222);

[†] Refers to past 4 months;

p<0.001,

**
p<0.01,

*
p<0.05

Table 3Characteristics of male clients who participated in qualitative interviews in Tijuana, 2008 ($n = 30$)

Measure	Category	Value
Place of residence	Tijuana, Mexico	19 (63.3)
	San Diego County, United States	11 (36.7)
Country of birth	Mexico	17 (56.7)
	United States	13 (43.3)
Language(s) spoken	Spanish	26 (86.7)
	English	27 (90.0)
Race	Latino or Hispanic	25 (83.3)
	White	2 (6.7)
	African American	3 (10.0)
Age, in years (mean, range)		36 (19–54)
Education (mean, range)		11 (5–17)
Employment status	Employed	24 (80.0)
	Unemployed	6 (20.0)
Marital status	Never married	15 (50.0)
	Married or common-law	9 (30.0)
	Separated or divorced	4 (13.3)
	Widowed	2 (6.7)
Has a steady partner/ spouse [†]		14 (46.7)
Has children		20 (66.7)
Religion	Catholic	24 (80.0)
	Protestant	1 (3.3)
	No religion	5 (16.7)
Sexual orientation	Heterosexual	26 (86.7)
	Bisexual	3 (10.0)
	Not sure	1 (3.3)
HIV/STI status	HIV+	2 (6.7)
	HIV/STI+	6 (20.0)

[†] Refers to past 4 months

NOTE: Data are N (%) of men, unless otherwise indicated.