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“Over here, it’s just drugs, women and all the madness”: The HIV risk environment of clients of female sex workers in Tijuana, Mexico

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Abstract

HIV vulnerability depends upon social context. Based in broader debates in social epidemiology, political economy, and sociology of health, Rhodes’ (2002) “risk environment” framework provides one heuristic for understanding how contextual features influence HIV risk, through different types of environmental factors (social, economic, policy, and physical) which interact at different levels of influence (micro, macro). Few data are available on the “risk environment” of male clients of female sex workers (FSWs); such men represent a potential “bridge” for transmission of HIV and other sexually transmitted infections from high- to low-prevalence populations. Using in-depth interviews (n=30), we describe the HIV risk environment of male clients in Tijuana, Mexico, where disproportionately high HIV prevalence has been reported among FSWs and their clients. A number of environmental themes influence risky sex with FSWs and the interplay between individual agency and structural forces: social isolation and the search for intimacy; meanings and identities ascribed to Tijuana’s *Zona Roja* (red light district) as a *risky place*; social relationships in the *Zona Roja*; and economic roles. Our findings suggest that clients’ behaviors are deeply embedded in the local context. Using the HIV “risk environment” as our analytic lens, we illustrate how clients’ HIV risks are shaped by physical, social, economic, and political factors. The linkages between these and the interplay between structural- and individual-level experiences support theories that view structure as both enabling as well as constraining. We discuss how the “embeddedness” of clients’ experiences warrants the use of environmental interventions that address the circumstances contributing to HIV risk at multiple levels.

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Keywords

sex work; prostitution; clients; HIV; social determinants; structural factors; risk environment; Mexico

Introduction

The HIV “risk environment”

HIV vulnerability depends upon social context, comprising interactions between individuals and environments (Rhodes, 2009; Bronfenbrenner, 1979; Rhodes, Singer, Bourgois, Friedman, & Strathdee, 2005; Shannon, Kerr, Allinott, Chettiar, Shoveller, & Tyndall, 2008a). One framework that gives primacy to context in understanding HIV risk is provided by Rhodes’ (2002, 2009) “risk environment” heuristic, which comprises *types of environmental factors* (social, economic, policy, and physical) interacting at different *levels of influence* (micro, macro) (Rhodes, 2009).

The “risk environment” framework draws upon broader debates in social epidemiology, political economy, and sociology of health. Social epidemiology emphasizes the risk environment by examining how population-level risks are shaped by determinants that extend beyond the individual (McMichael, 1999; Rhodes, 2009); yet a prevailing emphasis upon “risk factor” epidemiology (e.g., reliance on narrow constructs such as “self efficacy”) (Resnicow & Page, 2008) fails to capture the dynamic and reciprocal interactions between individuals and environments (Pearce & McKinlay, 1998; Rhodes, 2009). Political economy approaches contribute by analyzing how economic and political institutions shape health inequalities, downplaying the role of individual agency (Agar, 2003; Navarro & Muntaner, 2004; Rhodes, 2009). Sociological approaches describe individual–environmental interactions as reciprocal and adaptive, conceptualizing risks as socially situated and describing the different impacts of structural forces on lived experience (Duff, 2009; Giddens, 1984; Rhodes, 2009).

Growing public health research recognizes that individual-level research and interventions are insufficient by themselves to understand long-term behaviors or achieve population-level reductions in disease incidence (Frohlich & Potvin, 2008; Syme, 2004); by expanding the responsibility for HIV risk to encompass social and political influences, this framework provides a useful mechanism for identifying targets for HIV prevention that may be more amenable to intervention than individuals alone (Rhodes, 2009).

Sex work and the HIV epidemic in Tijuana, Mexico

Tijuana, which borders San Diego, California, is experiencing an emerging HIV epidemic (Strathdee & Magis-Rodriguez, 2008). Baja California, the state in which Tijuana is located, has Mexico’s highest cumulative HIV incidence outside Mexico City; in 2006, as many as one in 116 persons aged 15–49 there were estimated to be HIV-infected (Iñiguez-Stevens, Brouwer, Hogg, Patterson, Lozada, Magis-Rodríguez, et al., 2009). Tijuana is also home to a large population of female sex workers (FSWs); a recent study found that among FSWs along the U.S.–Mexico border, HIV prevalence has increased more than sixfold in the past decade (from <1% to 6%) (Strathdee & Magis-Rodriguez, 2008).

Tijuana’s *Zona Roja* (red light district) hosts a thriving sex industry that draws clients from the U.S., Mexico, and international locations. Most of Tijuana’s approximately 9,000 FSWs work there. FSWs in Tijuana are required to undergo routine STI and HIV testing to maintain a sex work permit; nevertheless, about half operate without one, since permits are

costly and sometimes difficult to obtain (Brouwer, Strathdee, Magis-Rodriguez, Bravo-Garcia, Gayet, Patterson, et al., 2006). Free condoms are distributed regularly in the *Zoja Roja* by government officials and local NGOs; condoms are also sold at most sex work establishments and in small shops and stores scattered throughout the district (Muñoz et al., In Press).

Tijuana also lies in a major drug trafficking corridor. Correspondingly, substance abuse is widespread, with 15% of Tijuana's population reporting ever using illicit drugs (three times the national average) (Magis-Rodriguez, Gayet, Negroni, Leyva, Bravo-Garcia, Uribe, et al., 2004). The city is home to approximately 10,000 injection drug users (IDUs) (Magis-Rodriguez, Brouwer, Morales, Gayet, Lozada, Ortiz-Mondragon, et al., 2005). Drug use is also common among local FSWs. In 2008, FSWs along the U.S.–Mexico border who inject drugs were found to have particularly high prevalence of HIV, syphilis, gonorrhea, and Chlamydia, which were measured at 12.3%, 22.7%, 15.2%, and 21.2%, respectively (Strathdee, Lozada, Semple, Orozovich, Pu, Staines-Orozco, et al., 2008c).

Male clients of FSWs and the HIV “risk environment”

Clients of FSWs function as a “bridge” for HIV and STI transmission (Alary & Lowndes, 2004; Gomes do Espirito Santo & Etheredge, 2005). Data from 70 countries suggest that the number of HIV-infected FSWs is the strongest predictor of country-wide HIV prevalence in the general population (Talbot, 2007). The first large study of FSWs' clients in northern Mexico, which involved 400 U.S. and Mexican men in Tijuana, recently reported an HIV prevalence of 4% (Patterson, Goldenberg, Gallardo, Lozada, Semple, Orozovich, et al., 2009). Half of these men reported unprotected sex with FSWs in the previous 4 months. Being married was independently and positively associated with reporting unprotected sex with FSWs, suggesting that clients of Tijuana FSWs may play an important role in HIV and STI transmission on both sides of the border (Goldenberg, Gallardo Cruz, Strathdee, Nguyen, Semple, & Patterson, 2010).

While “risk environment” has been discussed in reference to the harms experienced by IDUs (Rhodes, 2009; Rhodes, et al., 2005; Tempalski & McQuie, 2009), it has less frequently been applied to FSWs and their clients (Shannon et al., 2008a; Shannon, Rusch, Shoveller, Alexson, Gibson, & Tyndall, 2008b). FSWs' risk environment includes physical influences such as sex work settings and population mobility; social factors such as gendered risk and violence, stigma, social norms, and relationships with clients and intimate partners; economic factors such as poverty, inequality and the need to sell sex for drugs; and policy influences such as laws governing sex work, health care access, and human rights (Dandona, Dandona, Gutierrez, Kumar, McPherson, Samuels, et al., 2005; Day & Ward, 1997; Larios, Lozada, Strathdee, Semple, Roesch, Staines, et al., 2009; McMahon, Tortu, Pouget, Hamid, & Neaigus, 2006; Scambler & Paoli, 2008; Shannon et al., 2008a).

While some individual-level data on HIV risk have been collected among FSWs' clients, information on contextual risks from clients' perspectives is lacking. Epidemiologic studies have linked unprotected sex between clients and FSWs to a client's occupation (Malta, Bastos, Pereira-Koller, Cunha, Marques, & Strathdee, 2006; Morris & Ferguson, 2006), employment status (Goldenberg et al., 2010), ongoing relationships with FSWs (Goldenberg et al., 2010; Shannon, Bright, Gibson, & Tyndall, 2007; Voeten, Egesah, Ondiege, Varkevisser, & Habbema, 2002), national origin (Strathdee et al., 2008c; Wong, Chan, Koh, Barrett, Chew, & Wee, 2005), and substance use (Patterson et al., 2009; Wee, Barrett, Lian, Jayabaskar, & Chan, 2004). Due to the dearth of qualitative data on contexts of these risk factors, our objective was to describe the HIV risk environment of FSWs' clients in Tijuana.

Materials and methods

Study setting

Tijuana is the largest city on the Mexico–U.S. border, with a population of 1,483,992, and is the world’s busiest international land crossing (U.S. Department of Transportation, 2009). It has one of the highest population growth rates in Latin America, with over half of its inhabitants born in another state or in Central America (Magis-Rodriguez et al., 2004; Strathdee, Lozada, Pollini, Brouwer, Mantsios, Abramovitz, et al., 2008b). Many of its inhabitants have been repatriated there by the U.S. Border Patrol. In 2008, the U.S. deported over 1 million individuals (mostly Mexican nationals), and deportations from San Diego County increased from 110,075 in 2002 to 163,392 in 2008, or by 48% (U.S. Department of Homeland Security, 2009). Transience and the intermingling of large, vulnerable populations such as drug users, FSWs, deportees, and clients predispose Tijuana to be a high-risk environment for the acquisition of HIV. Ethical approval was granted by the IRBs of the University of California, San Diego and of Tijuana General Hospital.

Data collection

In October and November 2008, we conducted in-depth, semi-structured, qualitative interviews lasting approximately one hour with FSWs’ clients (n=30) in Tijuana’s *Zona Roja*. Data were collected by trained interviewers (one female, four males). Approval was obtained from the governing local institutional review boards, and all participants provided written informed consent.

Clients (n=30) were purposively sampled (Strauss & Corbin, 1998) from a larger study of 400 clients aged 18 years or older who had paid or traded for sex with a FSW in Tijuana in the past 4 months (Patterson et al., 2009). Clients were selected to represent ranges in age, marital status, HIV status, and country of residence. Participants’ sociodemographic characteristics and laboratory results for HIV and STIs were collected during the larger study (Patterson et al., 2009). Clients were compensated \$20 U.S. for their time.

Interviews consisted of open-ended questions that were revised as data collection and analysis progressed (Glaser, 1978). Participants were asked to describe and reflect upon their experiences purchasing sex from FSWs in Tijuana. Questions explored clients’ motivations for seeking commercial sex, their condom use, perceived STI and HIV risk, and narratives on how socio-cultural and structural factors influence sexual and drug using behaviors.

Data analysis

Recordings were transcribed and Spanish language interviews were translated (data presented as translations are indicated in *Results*). QSR *NVivo* software was used to manage coding and analysis. Codes were inductively developed, and constant comparisons were made between data coded within and between categories (Crabtree & Miller, 1992; Glaser & Strauss, 1967). Categories were grouped and regrouped throughout the analysis, and higher-level analyses identified social and economic themes which were examined through the lens of the HIV “risk environment” (Rhodes, 2002).

Results

Clients were predominantly Latino (83.3%) and resided in Tijuana (63.3%); their mean age was 36 (Table 1). Just over half reported recent unprotected sex with FSWs, while 47% reported having a steady partner or spouse (Table 2). Drug use was common, and over half had recently used drugs during sex with FSWs.

Participants described a number of interrelated themes that appeared to influence risky sex with FSWs: social isolation; place-based risks; social relationships; and economic roles. While these categories provide rubrics for unpacking clients' experiences, the linkages between them and the interplay between individual- and structural-level experiences within them powerfully illustrate the HIV risk environment in this setting.

Social isolation and the search for intimacy

Social isolation, frequently resulting from deportation, and clients' search for intimacy were cross-cutting themes. Although deportees were not a specific recruitment target, almost all of the Mexican-born participants had been deported to Tijuana from the U.S., leading to separation from partners and families who remained *al otro lado* ("on the other side"). The following quotes from deportees illustrate their frustration and loneliness:

When I first got here, I had nobody. Who can I count on? Can't count on nobody. It's hard for somebody that lived there [the U.S.] all their life and gets deported. They don't have family here and it's hard to get a job... I suffer a lot [Age 33, Tijuana resident].

[I was] deported here, stuck here with no family [...] I'm completely alone. If shit happens to me, I don't know who to call [Age 40, Tijuana resident].

Clients described social isolation as tied to their sexual behaviors with FSWs. They frequently sought out FSWs to buffer isolating experiences such as deportation:

Client: I'd never lived here in my life. I just happened to be born here [...] It was a foreign country to me. I speak the language, but the customs, the economy, the way of life? Nothing like how I was living in California.

Interviewer: How did you feel? What was going on with you?

C: Loneliness...immense loneliness. That this city cannot fulfill

I: Oh, my goodness. Do you think that being lonely pushed you to find some company in a female sex worker?

C: I'm in my motel room thinking, "what am I gonna do the rest of the night?" These girls come to mind that I can have sex with for a small amount of money, so I do [Age 34, Tijuana resident].

Most participants described how deportation and loneliness led to visiting FSWs and using drugs simultaneously. Heavy drug use and unprotected sex were seen by some as inextricably linked responses to a lack of social support. In conjunction with a perceived lack of economic opportunities, social isolation was described as a driving force for risk behavior in all of its forms:

Here you have no family, you feel abandoned, nobody cares and you stop caring about yourself. I ain't got no prospects in life. I'm gonna die anyways. So they start having sex like that. They stop using protection. There's the core problem right here, 'cuz they don't have nobody here. Everybody here, they have no family here. The people here are deported and have nobody to help them out. They're using drugs, selling their body and even men turn gay and start selling their body. Tripped me out when I first saw this. Whoa, what's all this, you know what I mean? [Age 31, San Diego resident]

Place-based meanings and identities regarding risk

Most clients contextualized their behaviors and HIV risks within the *Zona Roja* by discussing (a) *risky places*, (b) *risky identities*, and (c) *risky lifestyles*.

Risky places—The social construction of the *Zona Roja* as a high-risk *place* was described as it related to the contrast between its poverty and the affluence of nearby San Diego. Men who had lived in the U.S. perceived that different sexual behaviors and greater economic opportunities in the U.S. resulted in lower HIV risks there compared to Tijuana. For example, clients discussed how living in the U.S. was more likely to facilitate legitimate employment, reduced drug use, and stable intimate relationships:

There [the U.S.] I wasn't going out on the streets to look for women. I had a job and when I got home, I spent time with my family. It was very different [Age 38, Tijuana resident, translation].

When I lived on the other side [the U.S.], I didn't know anything about prostitutes [...] Here in Tijuana, what I see in regards to prostitution is that it's normal, because I live in this area [Age 49, Tijuana resident, translation].

By contrast, Tijuana was perceived as a *risky place*, where temptation and chaos reign:

Here [Tijuana] there's more girls around. It's more tempting. More girls in little skirts and high heels. Where over in the [United] States, you gotta go find them... Right here, just cruise around the block where I live. There's a girl [FSW] there and down the street [Age 30, Tijuana resident].

I've tried to change, but since I live in a zone where there's a lot of drugs and prostitution, it's difficult. You need to get out of here if you want to change your life, right? We are in a zone of prostitution and drugs. It's the way I see it, because I am in the middle of it [Age 19, Tijuana resident, translation].

The perceived inevitability of HIV risk characterized the neighborhood as a *risky place*. Participants highlighted the normalization of sex work and drugs and the higher probability of having an infected sex partner or knowing someone who had died from AIDS:

I've been in this area for the last 10 years, where it's very natural that people work selling sex. It's viewed as something normal. If I were to think back to when I wasn't living here, I would think this is very risky...of all the people that I've hung out with here, I can count very few that are alive. Some of them got killed, and many others died of AIDS [Age 29, Tijuana resident, translation].

Risky identities—The *Zona Roja* has shaped clients' identities as residents or regular visitors. Many framed their behaviors within descriptions of how they manage risk, HIV being only one of many risks faced by individuals who live, work, or hang out in the *Zona Roja*:

The way we live our lives here in TJ [Tijuana], in this little area, you live a fast life anyways. We are hustling to survive, so every day that you live is a risk...Having sex without a condom is part of that. If you don't want to have risks in your life, you need to go somewhere else. You don't buy sex. You have sex with your wife. Live a normal life like a good citizen [Age 31, San Diego resident].

Clients described different degrees of control over managing (or failing to manage) risk. U.S. residents tended to see the *Zona Roja* as an entertainment venue where they can indulge in sex and drugs and return to "normal" life in the U.S. within half an hour:

Here, drugs are cheap. And when I get high on crystal meth, I get in the mood for sex. Since this area is full of that lifestyle, it goes hand-in-hand. So, I come down here to get drugs, sex, a cheap hotel and get my thrills [Age 49, San Diego resident].

Tijuana residents tended to cast the neighborhood in a more negative light, although locals constructed different identities around risk management. Many provided fatalistic accounts of their own HIV risk, describing feeling trapped, overwhelmed, and unable to control the risks posed by the bad influences and chaos surrounding them:

In this area, you see the devil here; the only things you see are illnesses, drug problems, prostitution, rape, people dropping dead on the street, drug trafficking, all these people in this hell here [...] Being here, seeing prostitution, people that don't care about anything, one feels fed up. And if you can't fight the enemy, you join the enemy [Age 19, Tijuana resident, translation].

However, others expressed comfort in living in a place so chaotic that they didn't have to worry about their own behavior being judged. To these men, the environment offered a sense of belonging that they accepted. Others viewed the area's risky nature negatively, but identified Tijuana as a place of controlled risks, exemplified by a few clients who described strategies they had developed to buffer its negative impacts (see *Economic roles*).

Risky lifestyles—Clients illustrated how *risky lifestyles* and behaviors are inseparable from the meanings and identities associated with the *Zona Roja* as a place. “Normal” lifestyles in this setting were said to include drug use and unprotected sex with “risky” individuals (e.g., FSWs, drug users). Clients frequently discussed the extent of drug use within their social networks as a powerful barrier to treatment or cessation. Most described illicit drugs as a central feature of their daily environment and as linked to HIV risk through *risky lifestyles* (i.e., as part of their day-to-day experience of risk):

If we didn't have so many drugs or a drug problem on the streets, then people would think more clearly and use protection [Age 43, Tijuana resident, translation].

Clients were aware of how substance abuse influenced their sexual behavior, describing being “lost in the moment” or forgetting to use a condom when under the influence of drugs. Methamphetamine and heroin were primary drugs of concern, although some men linked alcohol to unprotected sex with FSWs:

I'm looking for sex on the streets, without condoms. Because of the drugs I don't think about it. You lose your head and go crazy, and I do it without condoms [Age 39, Tijuana resident, translation].

Normally I try to keep safe; but if I'm drunk or high, I don't care in the moment. Then later I think, “What if the girl has an infection?” Especially in this part of Tijuana [Age 47, Tijuana resident, translation].

Social relationships in the Zona Roja

Social relationships in the *Zona Roja* are central to clients' HIV risk environment. Social relationships between clients and FSWs were blurred, with clients sometimes referring to FSWs as “girlfriends” or “friends.” Ongoing relationships with FSWs were attributed to clients' social isolation and desire for intimacy, the advantages of being with a FSW who is familiar with a client's sexual preferences, and the exchange of sex for drugs.

The sexual part I could do without returning to the same girl, but there are some girls that I find again. I invite them to go out with me... I don't just look for sex, but also [for] a friendship [Age 30, San Diego resident, translation].

Many people like to be with the same girl because they get used to her and she knows what you like. You know where to touch her or what she likes. With a different girl, you need to tell her all over again...it takes 2 or 3 times to get comfortable with her [Age 40, Tijuana resident, translation].

They are sort of my friends. I invite them and if they want to be with me, that's fine. And we don't always have sex. Sometimes we just hang out and do drugs [Age 38, Tijuana resident, translation].

Ironically, the efforts by clients and FSWs to cope with the chaotic and isolating environment of the *Zona Roja* may pose the greatest source of HIV risk through the increased probability of unprotected sex within established relationships. The rapport developed through ongoing social ties was often cited as the rationale for unprotected sex with FSWs:

They were street prostitutes—but when I had sex with them there was a friendship. I already knew them, so we'd do it without a condom [Age 28, San Diego resident, translation].

With the girls [FSWs] that are my friends, many times I didn't use condoms. When I'm sober I feel remorseful, because what if the girl is sick? But 40% of the time, I haven't used a condom [Age 33, Tijuana resident, translation].

The majority of clients reported recently having sex with an FSW at a private home—a “privilege” associated with maintaining an ongoing relationship. By altering the context of sex from professional to personal, clients felt they had more trustworthy relationships and were less likely to use condoms:

Interviewer: So do you know women here that you can go to for unprotected sex?

Client: Yeah, 'cuz I know them real good. They live in the middle of things, so I knock on the door. I've known them over the years [...] It's more like a relationship than a business. I'd say there's about ten [FSWs] like that, that I've known at least ten years [Age 49, San Diego resident].

Economic roles in the Zona Roja

Economic relations in the *Zona Roja* were described as another key feature of clients' HIV risk environment. Most local clients earned their income from the neighborhood's sex or drug trades (or both), working for bars and hotels, selling drugs, or performing odd jobs. Many described themselves as *jaladores*—street- and bar-based touts responsible for recruiting and matching clients (especially Americans) with FSWs. As one client who had begun to work as a *jalador* after being deported explained:

Interviewer: How did you handle the situation when you first got here?

Client: At first, it was very difficult because I didn't have anything and I didn't know anybody. But I was street smart. Here with all the tourists, I quickly learned how to survive [...] I went to the streets and talked to tourists and started working as a *jalador*...The girls [FSWs] see me with Americans and ask me to find them clients; I help them find work and they pay me for finding a client. That's how one survives around here [Age 33, Tijuana resident, translation].

Clients who performed other economic roles explained how they occasionally also worked as *jaladores* due to economic hardship and the opportunities posed by regular encounters with men seeking sex:

I work at a strip club [...] I clean the tables and I run into a lot of people from the other side [the U.S.] looking for girls. That's why they come here. I introduce them to girls that dance there. Or for translating, they give me five dollars [Age 30, Tijuana resident].

I struggle to pay the rent and sometimes I sleep on the streets. I work as a jalador or a shoe shiner...but when I'm shoe shining I meet people and ask if they want to go to massage parlors. I'll take them for a fee [Age 40, Tijuana resident, translation].

Our findings indicated that the economic strategies that clients develop to survive in the *Zona Roja* are also important drivers of HIV risk. Economic roles that put clients in close contact with FSWs and drugs were described as facilitating unprotected sex with FSWs. Men working in the *Zona Roja* doubted their abilities to effectively engage in HIV prevention as long as they remained economically dependent on the sex and drug trades:

I'm surrounded by all this. There's a lot of prostitution; that's why I'm always at risk of having sex... Because you're always thinking it [Age 33, Tijuana resident].

These women [FSWs] have become my friends. When I'm working I only have a few minutes off [...] Since the opportunity is there, we have sex. This happens daily if I have a chance [Age 33, Tijuana resident, translation].

However, others felt that these conditions gave them enhanced *agency*. By understanding the extent to which FSWs' sexual encounters are unprotected (since they are the ones making the arrangements), some *jaladores* described themselves as more aware of HIV or more likely to use a condom with a FSW:

I know men that don't like to use condoms. And there are illnesses. I always wear a condom, because I know that some clients pay more so they won't have to use condoms. They won't even leave with a sex worker if she wants to use condoms. What are they looking for, diseases? [silence] I try to be safe because you only have one life to live [Age 49, Tijuana resident, translation].

In my job, people share their sexual experiences with me. The majority say it doesn't feel the same using condoms, especially using drugs. But I tell them, you are playing roulette with your life, with each of your sexual relations [Age 43, Tijuana resident, translation].

Involvement in the local drug trade - most often a secondary economic role - was another activity that clients frequently discussed in relation to their perceived HIV risk. Such men often contextualized sex with FSWs within the setting of trading drugs for sex:

The majority of the time, I don't pay for sex. I invite them to use drugs with me and we go to a room. We have sex because of the drugs and not money [Age 39, Tijuana resident, translation].

I didn't pay her; instead, we used my drugs. Some girls from the neighborhood just want to do drugs, and then we get intimate [Age 40, Tijuana resident, translation].

Clients who traded drugs for sex and used drugs with FSWs stated that these practices increased their likelihood of having unprotected sex with FSWs. Using drugs impaired clients' judgment and condom negotiation skills. Some perceived methamphetamine as the riskiest drug, explaining that they were unable to control condom use while under its influence. Moreover, involvement in the drug trade was intermingled with blurred social relationships with FSWs:

This girl that I met at the whorehouse—to have sex with her, I'd have to invite her to do drugs [...] We went to my house and were doing drugs, and she asked if I was going to use a condom. I didn't use one, because I was under the influence of drugs and wasn't thinking straight [Age 31, San Diego resident, translation].

I was drunk, stoned, looking to have sex. I invited her to use drugs with me. We started to have sex without condoms. I had sex with her often, like for a month,

without condoms. And she was a street prostitute [Age 39, Tijuana resident, translation].

Discussion

Our analysis identified the following key features of clients' HIV risk environment: social isolation and the search for intimacy; place-based meanings and lived experiences of risk; social relationships in the *Zona Roja*; and economic relations. These findings illustrate how risk is situated in local context and is simultaneously a product and an adaptation of agency (Rhodes, 2009; Giddens, 1984).

The *Zona Roja* as a *risky place* was discussed as a key environmental influence on HIV risk. Features of *place and lived experiences* play an important role in HIV and STI epidemics (Goldenberg, Shoveller, Ostry, & Koehoorn, 2008; Maas, Fairbairn, Kerr, Li, Montaner, & Wood, 2007; Shoveller, Knight, Johnson, Oliffe, & Goldenberg, 2010; Tempalski & McQuie, 2009) and in individuals' mechanisms for coping with risks posed by marginalized settings (Popay, Thomas, Williams, Bennett, Gatrell, & Bostock, 2003). Correspondingly, interventions that are tailored to local contexts and which learn from existing coping mechanisms present an opportunity for high-impact public health action in risky places.

While *social isolation and the search for intimacy* play a central role in the genesis of HIV risk, this has often been framed in terms of clients' individual-level shortcomings (e.g., social inadequacy, misogyny) (Vanwesenbeeck, 2001; Xantidis & McCabe, 2000) rather than within wider structural conditions (e.g., deportation, incarceration). Internationally, migration, deportation, and social isolation have been linked to elevated HIV risk (Desmond, Allen, Clift, Justine, Mzugu, Plummer, et al., 2005; Goldenberg et al., 2008; Zuma, Lurie, Williams, Mkaya-Mwamburi, Garnett, & Sturm, 2005). We argue that these are consequences of wider geopolitical forces, such as U.S. immigration policies and enforcement actions. As a response to limited options for legal migration to the U.S., extensive Mexican social and familial networks in the U.S., and economic disparities between the two countries (the median income gap between Mexico and the U.S. is the largest between any two contiguous countries), large numbers of Mexicans enter the U.S. illegally. We believe that intensified border enforcement and increased deportations, which have occurred in response to this movement, have had serious mental and physical consequences that have perhaps been overlooked. In 2008 alone, 693,592 undocumented Mexican nationals were apprehended, and deportations of Mexican migrants increased by 63% between 2000–2008. These deportees most often end up at Mexico's northern border, including two deportation centers in Tijuana, where health, social, and economic support and limited and most deportees are separated from their families and lacking in resources (i.e., isolated and disenfranchised). These trajectories should be further explored from both a social justice as well as a public health perspective. HIV prevention programs that encompass health services and economic and social support for deportees (e.g., shelter, counseling, HIV and STI testing, drug abuse treatment) should be developed in these settings (Bronfman, Leyva, Negroni, & Rueda, 2002; Strathdee, Lozada, Ojeda, Pollini, Brouwer, Vera, et al., 2008a).

Social relationships in Tijuana's *Zona Roja* constitute a source of HIV risk, which is problematic since ongoing relationships with FSWs, other clients, and drug users may represent individual attempts to cope with environmental risks. Previous research has found that clients reporting ongoing relationships with the same FSW were more likely to report unprotected sex with FSWs (Goldenberg et al., 2010). Condom use between clients and FSWs generally increases with social distance between the two (Gibney, Saquib, & Metzger, 2003; Shannon et al., 2007). While this is undoubtedly a challenging area that may not be

responsive to traditional interventions (e.g., access to condoms and information alone), successful interventions have been reported in India (Lowndes et al., 2010; Ramakrishnan et al., 2010), the Dominican Republic (Kerrigan et al., 2003; Kerrigan et al., 2006) and Guatemala (Sabido et al., 2009). These have often included social and structural approaches; for example, in the Dominican Republic, environmental-structural support for condom use (e.g., perceived establishment support for condom use) was a significant predictor of consistent condom use between FSWs and regular clients (Kerrigan, et al., 2003). Subsequently, an environmental-structural intervention including community solidarity (e.g., meetings between FSWs and establishments to strengthen commitment to HIV/STI prevention), environmental cues (e.g., 100% condom posters, condoms, and safe sex messages in establishments), clinical services for FSWs, and policy factors (e.g., holding establishment owners responsible for compliance) resulted in a significant increase in condom use between FSWs and regular sex partners (“trusted partners” or those with whom a FSW had engaged in sex at least 3 times) (Kerrigan, et al., 2006).

Economic roles in the *Zona Roja* play a central role in shaping HIV risk, although some clients also described them as protective. While several occupations (e.g., drug trafficking, trucking, mining) have been identified as perpetuating HIV risk (Case, Ramos, Brouwer, Firestone-Cruz, Pollini, Fraga, et al., 2008; Meekers, 2000; Morris & Ferguson, 2006), the economic roles that have emerged in the *Zona Roja* (e.g., *jaladores*) are a new and important insight. “Middlemen” between FSWs and clients have been described and identified in some other studies as promising targets for peer-based interventions. At truck stops in Uganda, middlemen, who speak the local language and are perceived to be acquainted with ‘safe’ (HIV-negative) FSWs, introduce truck drivers to ‘suitable’ sex partners; the authors discuss the middlemen’s potentially key position to provide condoms, promote condom use, provide information about HIV and STIs, and possibly refer drivers and FSWs to prevention services (Gysels, Pool, & Bwanika, 2001). Since some *jaladores* stated that they acquired preventive behaviors by negotiating transactional sex, and since they represent “middlemen” between clients and FSWs, their potential as peer educators should be explored. As their accounts of HIV prevention and risk behaviors varied (some seeing their economic roles as putting them at greater risk, while others adopted protective behaviors as a result of negotiating transactional sex), more research with *jaladores* and middlemen in other settings is needed.

While our previous findings suggested the importance of *contextual drivers* of HIV risk among FSWs, those papers approached the issue from a *social epidemiology* perspective, examining a narrower range of contextual features. For example, in one earlier paper our team examined how sex work venues, condom access, and economic incentives related to the number of unprotected sex acts in FSWs, finding that bar- and street-based sex workers experience different risks (Larios, Lozada, Strathdee, Semple, Roesch, Staines, et al., 2009). These findings suggested the importance of structural and environmental interventions for FSWs and of client-focused prevention efforts; however, participants’ perspectives on how their environment affects behavior, wider structural influences on behavior (e.g., immigration policies; *place*), and clients’ experiences were not included. Previous research on sex workers has concluded that interventions should include clients, but very little is known about clients, with most accounts describing only individual-level determinants of unprotected sex. For this reason, the present study gathered in-depth accounts of clients’ experiences and applied the “risk environment” heuristic to their narratives to examine the potential role of wider environmental and structural influences.

Adopting the “risk environment” theoretical lens enabled us to contextualize these findings within broader debates on relationships between social contexts and health. Expanding responsibility for HIV risk to encompass social and political institutions is useful for identifying broad targets for HIV prevention that are amenable to intervention (Rhodes,

2009). While the “risk environment” heuristic draws upon theories from social epidemiology, political economy, and sociology of health, sociological theories that account for the differential impacts of structure on lived experience at the local level (Duff, 2009; Giddens, 1984) were particularly appropriate for contextualizing the negative and protective influences of risk environments. For example, the preventive behaviors described by *jaladores* support Giddens’ (1984) *structuration* theory, which positions individuals as active in relation to structural experiences (e.g., economic roles developed to cope with deportation), conceptualizing structure as both constraining and enabling. Giddens’ (1991) theory of *ontological security* also provides a possible interpretation of the disconnect between knowledge and behavior that our participants described; if a person does not have a “cognitive and emotive anchor” based on a sense of order and reliability in his experiences, then “chaos lurks”. Ontological security is also said to shape responses to fear and danger, which are formulated in “terms of the emotional and behavioural ‘formulae’ which have come to be part of [an individual’s] everyday behavior and thought” (Giddens, 1991).

Strengths and limitations

To understand the sex work risk environment, the perspectives of both FSWs and their clients are necessary. While structural and environmental aspects of FSWs’ risk environment in Tijuana and internationally have been described (e.g., see Larios et al., 2009; Strathdee et al., 2008b; Shannon et al., 2007; Kerrigan et al., 2003; Kerrigan et al., 2006), the scarcity of such analyses among clients motivated us to focus exclusively on their experiences to present a unique and complementary perspective. Building upon this foundational work, future comparative studies that marry the narratives of FSWs and their clients are recommended.

FSWs’ clients are hard to reach, and despite our best efforts to recruit a diverse sample, we do not consider ours to represent all clients in Tijuana. Although we did not purposely sample *jaladores* or deportees, numerous men from both groups participated, reflecting the fluidity of the border and the local importance of these identities. Studies of sensitive and stigmatized behaviors such as unprotected sex with FSWs and drug use are subject to social desirability bias that may result in under-reporting of risk behaviors; to reduce such biases, we conducted the study in partnership with an NGO that is trusted by our study population; hired community-based outreach workers; phrased questions in a non-judgmental manner; ensured participants of confidentiality; and encouraged participants to ask questions and to discuss issues that affect them in their own words. Our purpose was not to generalize the findings, but to elicit insights on how local contexts affect HIV risk. Analyzing clients’ stories enabled us to contextualize our previously collected epidemiologic data and to shed light on some of the “upstream” drivers of HIV vulnerability. While the majority of the data collected suggest that Tijuana’s *Zona Roja* is a “risky” setting for our study population, some participants provided accounts of resilient responses to this context.

Conclusion

Our findings suggest that clients’ behaviors are deeply embedded in local context. Using the HIV “risk environment” as our analytic lens, we have illustrated how clients’ risks are shaped by physical, social, economic, and political factors. The linkages between these and the interplay between individual- and structural- level experiences within them support theories that view structure as both enabling and constraining (Giddens, 1984; Rhodes, 2009).

While individual-level knowledge and condom access are often the main targets of traditional HIV prevention interventions, most of our participants reported reasonably good information and access to condoms, and attributed behaviors that they knowledgeably

described as risky (e.g., unprotected sex with FSWs) to other factors (e.g., loneliness, perceptions of HIV as one of many daily risks). Rather, the “embeddedness” of clients’ experiences warrants the use of environmental interventions that address the circumstances contributing to clients’ HIV risk at multiple levels. Moreover, as Syme has argued, individual-level interventions alone can have only limited success, since they do not alter the societal conditions that are the root causes of disease (Syme, 2004). Recommended actions are context-specific; examples from this setting include providing social, economic, and health services to recent deportees; *jalador*-led peer education and condom distribution; and safer-sex interventions that address ongoing relationships between FSWs and clients and the influence of drugs and alcohol. Globally, client-focused interventions have the potential to address the important role that clients play in negotiating safer sex, complementing existing interventions among FSWs.

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Table 1

Sociodemographic characteristics (n=30)

Variable	Category	Values
Place of residence (n, %)	Tijuana, Mexico	19 (63.3%)
	San Diego County, United States	11 (36.7%)
Country of birth (n, %)	Mexico	17 (56.7%)
	United States	13 (43.3%)
Language(s) spoken (n, %)	Spanish	26 (86.7%)
	English	27 (90.0%)
Race (n, %)	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 (n, %)	Employed	24 (80.0%)
	Unemployed	6 (20.0%)
Living situation (n, %)	Alone	15 (50.0%)
	With partner	8 (26.6%)
	With adult who is not partner	5 (16.7%)
	Homeless or other	2 (6.7%)
Marital status (n, %)	Never married	15 (50.0%)
	Married or common-law	9 (30.0%)
	Separated or divorced	4 (13.3%)
	Widowed	2 (6.7%)
Children (n, %)	Has children	20 (66.7%)
	Does not have children	10 (33.3%)
Religion (n, %)	Catholic	24 (80.0%)
	Protestant	1 (3.3%)
	No religion	5 (16.7%)
Sexual orientation (n, %)	Heterosexual	26 (86.7%)
	Bisexual	3 (10.0%)
	Not sure	1 (3.3%)

Table 2

Sexual behaviors, drug use, and HIV/STI status (n=30)

Variable	Category	Values
No. sex partners [†] (mean, range)	FSWs	8 (1–35)
	Casual, non-FSW partners	4 (1–15)
Steady partner or spouse [†] (n, %)	Yes	14 (46.7%)
	No	16 (53.5%)
Unprotected vaginal or anal sex with FSW [†] (n, %)	Yes	17 (56.7%)
	No	13 (43.3%)
No. years having sex with FSWs (mean, range)		11 (0–37)
Reported ongoing relationships with FSWs (n, %)	Yes	15 (50.0%)
	No	15 (50.0%)
Offered FSW extra money for unprotected sex (n, %)	Yes	7 (23.3%)
	No	23 (76.7%)
Has male friends who visit FSWs (n, %)	Yes	30 (100.0%)
	No	0 (0%)
History of drug use (n, %)	Has used heroin	17 (56.7%)
	Has used cocaine	23 (76.7%)
	Has used methamphetamine	26 (86.7%)
Injection drug use [†] (n, %)	Yes	10 (33.3%)
	No	20 (66.7%)
Substance abuse during sex with FSWs [†] (n, %)	Client was high	17 (56.7%)
	Client was drunk	4 (13.3%)
HIV/STI status (n, %)	HIV positive test result	2 (6.7%)
	HIV/STI positive test result	6 (20.0%)

[†]Refers to past 4 months