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UNIVERSITY OF CALIFORNIA, SAN DIEGO
SAN DIEGO STATE UNIVERSITY

**Unpacking Mobility, Sex Trafficking, and HIV Vulnerability in Two Mexico-U.S.
Border Cities**

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Public Health (Global Health)

by

Shira Miriam Goldenberg

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San Diego State University
Professor David Engstrom
Professor Thomas Novotny
Professor Paula Usita

2011

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The Dissertation of Shira Miriam Goldenberg is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

Co-Chair

Chair

University of California, San Diego

San Diego State University

2011

DEDICATION

This dissertation is dedicated to the bravery, courage, and resilience of all the women who experience exploitation at the hands of others. To the women who donated their time and openly shared their painful histories for this project, I would like to extend my gratitude. My hope is that these stories will represent one step closer to breaking away from the silence and misunderstanding surrounding trafficking in persons and widespread other forms of gender-based violence in Mexico and internationally. For without the stories and involvement of trafficked and exploited women, efforts to prevent and address sex trafficking and gender-based violence will be unlikely to truly succeed.

EPIGRAPH

A: *Women have to speak...if women don't want to admit that they're being mistreated, nothing's going to happen...*

Q: *So, how do you think that can change?*

A: *When women open their eyes [Study participant, Tijuana, 2011]*

TABLE OF CONTENTS

SIGNATURE PAGE	iii
DEDICATION	iv
EPIGRAPH	v
TABLE OF CONTENTS	vi
ACKNOWLEDGEMENTS	ix
VITA, PUBLICATIONS, AND FIELDS OF STUDY	xi
ABSTRACT OF THE DISSERTATION	xiii
CHAPTER 1: Introduction	1
Background & Significance	1
Defining Sex Trafficking	1
Mobility, trafficking in persons, and HIV/STI vulnerability	3
Sex trafficking and HIV/STI vulnerability	5
Study Setting: the Mexico-U.S. border	7
Structural causes of sex trafficking	9
Conceptual framework	11
The HIV risk environment	11
Structural violence	14
Aims and hypotheses	15
Dissertation outline	16
Overview of research methods	17
Figures	22
References	23
CHAPTER 2: Mobility and HIV in Central America and Mexico: A critical review ...	32
Introduction	33
Mobility as a social and structural driver of HIV vulnerability	33
Mobile Populations in Central America and Mexico	35
Dynamics of Population Mobility in Central America and Mexico	38
Methods	39
Inclusion criteria	39
Search strategy	40
Data management and analysis	40
Results	41
Epidemiology of HIV/STIs and mobility	41
The social and structural context of HIV/STI vulnerability among mobile populations	45
Interventions and initiatives in Central America and Mexico	50
Discussion	51
Strengths and limitations	54
Public health implications	54
Acknowledgements	56
Tables	58
References	62
CHAPTER 3: Exploring the impact of underage sex work among female sex workers in two Mexico-U.S. border cities	73
Introduction	75

The sex work “risk environment”	77
Objective	80
Methods	81
Data collection	81
Data analysis	82
Results	84
Discussion	86
Strengths and limitations	89
Recommended interventions	90
Acknowledgements	92
Tables	93
References	97
CHAPTER 4: Unpacking structural violence, sex trafficking and HIV risk among formerly trafficked female sex workers in Tijuana, Mexico	105
Introduction	107
Defining sex trafficking	107
Trafficking along the Mexico-U.S. border	108
Sex trafficking, structural violence, and HIV vulnerability	108
Methods	110
Study setting	110
Data collection	111
Data analysis	112
Results	113
Participant characteristics	113
Findings	114
Discussion	128
Strengths and limitations	131
Public health implications	132
Acknowledgments	135
Tables	136
References	138
CHAPTER 5: Discussion	143
Summary of Results	143
Recommended interventions	146
Structural interventions	148
Individual-level interventions	153
Significance	156
Strengths and limitations	158
Quantitative arm	158
Qualitative arm	160
Knowledge translation implications	163
Directions for future research	163
Conclusions	169
Figures	171
References	172
APPENDICES	176

Appendix 1: Protection of Human Subjects	176
Risk to Subjects.....	176
Protection against risks.....	178
Potential benefits	180
Data safety and monitoring.....	181
References	182
Appendix 2: Qualitative Interview Guides.....	183
Appendix 3: Final Project Report	190
Final Report in English.....	190
Final Report in Spanish	201

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Chapter 2 is a reprint of the material as it appears in the Journal of Immigrant and Minority Health: Goldenberg SM, Strathdee SA, Peres-Rosales MD, Sued O. Mobility and HIV in Central America and Mexico: A Critical Review. Journal of Immigrant and Minority Health (Online First, July 15, 2011). DOI: 10.1007/s10903-011-9505-2. The final publication is available at www.springerlink.com. Shira Goldenberg was the primary investigator and author of this paper.

Chapter 3, in full, is a reprint of the material as it appears in the journal AIDS and Behavior: Goldenberg SM, Rangel G, Vera A, Patterson TL, Abramovitz D, Silverman JG, Raj A. Exploring the impact of underage sex work among female sex workers in two Mexico-U.S. border cities. AIDS and Behavior (In Press). DOI: 10.1007/s10461-011-0063-3. The final publication is available at www.springerlink.com. Shira Goldenberg was the primary investigator and author of this paper.

Chapter 4, in part is currently being prepared for submission for publication of the material as: Goldenberg SM, Bojorquez I, Rolon ML, Engstrom D, Usita P, Strathdee SA. Unpacking structural violence, sex trafficking and HIV risk among formerly trafficked female sex workers along the Mexico-U.S. border. Shira Goldenberg was the primary investigator and author of this material.

VITA, PUBLICATIONS, AND FIELDS OF STUDY

VITA

- 2011 Doctor of Philosophy in Public Health (Global Health), University of California, San Diego and San Diego State University, San Diego, CA
- Dissertation: *Unpacking Mobility, Sex Trafficking, and HIV Vulnerability in Two Mexico-U.S Border Cities*
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- 2004 Bachelor of Arts (Environmental Health/International Development), McGill University, Montreal, BC

PUBLICATIONS

1. Goldenberg SM, Rangel G, Vera A, Patterson TL, Abramovitz D, Silverman JG, Raj A, Strathdee SA. Exploring the impact of underage sex work in two Mexico-U.S. border cities. *AIDS and Behavior* (In Press, October 1, 2011).
2. Goldenberg SM, Strathdee SA, Peres-Rosales MD, Sued O. Mobility and HIV in Central America and Mexico: A Critical Review. *Journal of Immigrant and Minority Health* (Online First, July 15, 2011).
3. Goldenberg SM, Strathdee SA, Gallardo Cruz M, Rhodes T, Wagner KD, Patterson TL. "Over here, it's just drugs, women and all the madness": The HIV risk environment of clients of female sex workers in Tijuana, Mexico. *Soc Sci Med* 2011; 72(7): 1185-1192.
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ABSTRACT OF THE DISSERTATION

Unpacking Mobility, Sex Trafficking, and HIV Vulnerability in Two Mexico-U.S. Border Cities

by

Shira Miriam Goldenberg

**Doctor of Philosophy
in Public Health (Global Health)**

**University of California, San Diego, 2011
San Diego State University, 2011**

**Professor Steffanie A. Strathdee, Chair
Professor Thomas L. Patterson, Co-Chair**

Background: Sex trafficking is a human rights abuse that carries particularly negative health and social consequences, including HIV and sexually transmitted infections (STIs). While HIV/STI infection and sex trafficking have been linked in Asia, the context of these associations and their applicability in Mexico is poorly understood.

Aims: Aims of this dissertation were to (1) Critically review evidence linking mobility, trafficking, and HIV vulnerability in Mexico and Central America; (2) Explore associations between features of the risk environment, sex work and drug use history, and underage sex work among female sex workers (FSWs) in Tijuana and Cd. Juarez, Mexico; and (3) Describe and “unpack” sex trafficking and its relationship to HIV/STI vulnerability among formerly trafficked FSWs in Tijuana.

Methods: This study employed qualitative and quantitative methods to investigate sex trafficking, mobility and HIV vulnerability. In Chapter 2, a critical review of

the epidemiology and context of HIV vulnerability among mobile populations in Central America and Mexico was conducted. Chapter 3 draws upon questionnaires and HIV/STI testing among FSWs (n=624) in Tijuana and Cd. Juarez. In Chapter 4, in-depth interviews were conducted with formerly trafficked FSWs in Tijuana (n=31).

Results: Chapter 2 found that among mobile groups in Central America and Mexico, social isolation, socio-economic impacts of displacement, gender inequalities, and stigma/discrimination strongly shape HIV/STI risk. In Chapter 3, underage sex work entry was positively associated with inhalants as the first drug used, forced first injection, number of drug treatment attempts, and recent receptive syringe-sharing. Number of recent condom negotiation attempts with steady partners and depression as a reason for first injecting were negatively associated with underage entry into sex work. In Chapter 4, sex trafficking was linked to elevated HIV/STI vulnerability through gender-based violence, economic vulnerability, migration, and stigma.

Conclusions: These findings contribute to a foundation of knowledge to advocate for strategies to reduce sex trafficking and HIV. Multi-level, intersectoral interventions to prevent sex trafficking and HIV infection are needed for vulnerable youths, migrants, and FSWs in Mexico-U.S. border cities; recommended components include strengthening the response to gender-based violence, peer-delivered prevention, and the provision of shelter, food, job placements, and psychological support.

CHAPTER 1: Introduction

Sex trafficking is a human rights abuse that carries many negative health and social consequences, including the human immunodeficiency virus (HIV) and sexually transmitted infections (STIs). Despite very high HIV prevalence among trafficking survivors, there is a paucity of published studies that assess the public health impacts of sex trafficking in the Americas, including HIV/STIs(1-3). Little is known regarding the experiences of trafficked women in Mexico-U.S. border cities, which are characterized by thriving sex industries, high levels of mobility, and high prevalence of HIV/STIs. Therefore, this dissertation will seek to better understand the linkages between trafficking and HIV/STIs through the following aims:

1. Critically review evidence linking mobility, trafficking, and HIV vulnerability in Mexico and Central America (Chapter 2);
2. Explore associations between features of the risk environment, sex work and drug use history, and underage sex work entry among female sex workers (FSWs) in Tijuana and Ciudad Juarez, Mexico (Chapter 3);
3. Describe the structural context of sex trafficking and its linkages to HIV/STI vulnerability from the perspectives of formerly trafficked FSWs in Tijuana (Chapter 4).

Background & Significance

Defining Sex Trafficking

Sex trafficking is a human rights violation with enormous health and social consequences, including HIV and STIs(3-8). Influenced by political attention to migration flows, the HIV pandemic, and child sex tourism, attention to sex trafficking has recently proliferated(2). In 2001, the U.N. Protocol to Prevent, Suppress, and Punish Trafficking

in Persons, Especially Women and Children (Palermo Protocol) constituted the first international effort to criminalize trafficking, and the U.S. Trafficking Victims Protection Act mandated victim protection, service provider support, and prosecution(2).

This dissertation will operationalize sex trafficking using the internationally recognized definition provided by the Palermo Protocol, in which sex trafficking constitutes any act of recruitment, transportation, transfer, harboring or receipt of persons, using threat, force, coercion, abduction, fraud, or deception, for the purpose of prostitution or other forms of sexual exploitation, including all cases of sexual exploitation of minors(9). This definition encompasses common scenarios, including those in which a person consents to a particular job (e.g., sex work) but are deceived about the working conditions (e.g., levels of violence that will be used against them); is promised one job (e.g., housekeeping), but is then forced/coerced into another (e.g., sex work); or began to sell or trade sex prior to age 18.

The highly polarized debate on sex trafficking has led to definitional issues that have hampered meaningful progress in this field – most importantly, the failure to adequately distinguish between sex work and trafficking(10, 11). The official definition of sex trafficking hinges upon the use of coercion or force, while sex work is a term that refers to selling or trading sex, not necessarily involving any means of coercion or force(11). However, distinctions between trafficking and sex work remain blurred(10, 12); media reports and trafficking researchers often conflate these, conceptualizing sex work as inherently coercive and abusive(13). Sex work researchers have critiqued this approach as a “moral crusade” against prostitution that positions women and girls as powerless(10, 12, 14), arguing that women possess the *agency* to consent to economically motivated migration and to sex, which may constitute rational options in light of limited economic opportunities for survival. Sex work researchers and civil

society organizations have described the conflation of trafficking and sex work as an ideology which makes “strategic use over sexuality, gender, and immigration to curtail migration”, which ultimately does little to strengthen the rights of trafficked persons(10, 15). The consequences of this ideology in the U.S. have included the disproportionate allocation of anti-trafficking resources to anti-prostitution measures (e.g., raids on sex work venues, though few of those arrested are in fact screened or identified as trafficked)(15, 16).

The direct effects of these definitions and ideologies on the well-being of sex workers and migrants call attention to the need to clarify and operationalize definitions of sex trafficking through research that are based in *trafficked persons’* experiences(2, 14). This dissertation will draw upon participants’ narratives to distinguish between descriptions of sex work that is undertaken voluntarily, and trafficking (i.e., sex work that which is forced/coerced at some point in time) to elucidate a more nuanced and empirically founded understanding of sex trafficking and its influence on HIV/STI risks. Ultimately, this study aimed to develop recommendations for action-oriented strategies to support the human rights of sex workers who perceive themselves as truly forced into sex work and who desire support, as well as to develop strategies to reduce harm among those wishing to continue practicing sex work(17, 18).

Mobility, trafficking in persons, and HIV/STI vulnerability

Globally and across Latin America, women seeking a better livelihood often migrate to improve their economic situation. Mobility refers to the migratory experience (e.g., rural-urban migration, international migration) as well as other types of population movements (e.g., human trafficking, truck driving, seasonal agricultural work, neighborhood mobility). Though some women intentionally migrate for sex work or

voluntarily engage in sex work to meet subsistence or remittance needs during their journey or in their destination, others are trafficked across borders for sexual exploitation(10). While sex trafficking often includes migration, it can also occur in the absence of mobility, such as in the case of women who are forced or coerced into sex work within their home communities. However, although sex trafficking according to the Palermo Protocol is distinct from voluntary migration for sex work or migrant smuggling (i.e., “the procurement for financial or other material benefit of illegal entry of a person into a State of which that person is not a national or resident”(19)) distinctions between voluntary migration for sex work, migrant smuggling and trafficking have often been blurred – especially along the Mexico-U.S. border context, where *coyotaje* (migrant smuggling), sex work, and sex trafficking are rife and may co-occur(20, 21) .

Population mobility has been widely implicated as a critical determinant of HIV and STI transmission dynamics in Africa and Asia(22-26). Mexico and its neighboring countries are host to complex and large flows of Mexican and Central American migrants destined for the United States, Canada, or Mexico, which are primarily fueled by poverty, unemployment, gender inequalities, and transnational networks(27-29). However, there is a lack of empirical data regarding the relationship between regional mobility and HIV/STIs. The different reasons for which people migrate – for example, forced versus voluntary migration – carry implications for vulnerability to HIV/STIs, with the former experiencing more pronounced risks than the latter(1, 30-32). Yet, previous research has failed to recognize the ways in which different types of mobility may differentially impact public health, including HIV/STI risk(1). In light of restrictive immigration policies, a search for improved economic opportunities often forces mobile populations to assume the consequences of riskier forms of migration, including relying on human smugglers or traffickers to facilitate migration(1).

Human trafficking has been identified as one of the riskiest forms of population mobility in terms of its health and social impacts(1), including HIV. Sex trafficking is the most prevalent form of human trafficking, accounting for 70% of victims(33). While men and women are affected, 80% of victims are female(34). Due to the paucity of research documenting the linkages between high levels of regional mobility, trafficking and HIV, the first aim of this dissertation will be to critically review and synthesize the evidence linking mobility, trafficking and HIV/STIs in Mexico and Central America (aim 1).

Sex trafficking and HIV/STI vulnerability

HIV and other STIs are among the most serious health and social consequences of sex trafficking(3, 4, 6-8, 35-37). Although HIV prevalence among sex trafficked women and girls in Latin America is unreported, very high prevalence has been documented in Asia (e.g., 22-45.8% among trafficked women and girls in India and Nepal)(3, 4, 6, 36, 37). Among trafficking victims, contextual features of trafficking experiences contribute to vulnerability to HIV and other STIs, including age, gender, violence, substance abuse, and stigma. These experiences can be understood within the recruitment and initiation, methods of control, and post trafficking phases; while these categories provide a rubric for unpacking vulnerability, they are often not linear or distinct.

Recruitment and initiation into sex work often hinge upon promising victims certain jobs (e.g., domestic work), through which they are later forced into sex work(38, 39). Many females are trafficked as girls, which is associated with elevated HIV risk(3). In a study along the Mexico-U.S. border, 9.8% of FSWs reported sex work initiation under the age of 18 (the legal age of consent); this was associated with being forced into sex work, emotional, physical, and sexual abuse, and having a relative recommend sex

work as a profession(40). In Nepal, compensation for girls is twice that of their older counterparts, and girls are detained for longer and trafficked to multiple locations to avoid detection – two factors that also increase HIV risk(3). Clients often seek unprotected sex with girls over women due to beliefs that sex with them cures illnesses or reduces the risk of HIV infection(3). Compared to women who are trafficked into sex work, girls are also less likely to be able to negotiate safe sex with clients and traffickers, possess knowledge and skills related to HIV prevention, and access medical care(6, 35). Biological factors related to gender and age of sex work initiation or trafficking also contribute to vulnerability. Among young women and girls, trauma to an immature genital tract leads to increased risk of HIV and other STIs(3, 41).

Methods of controlling women who are trafficked into sex work include exposure of victims to various degrees and types of abuse and violence, psychological and economic tactics, and physical confinement(42, 43). During trafficking, 75% of female survivors in Europe were unable to go where they wanted or do as they wished(44). Psychological tactics include blackmail, trickery, threats, and intimate relationships with victims(42-44); debt bondage and other economic dependencies are other methods of control(13). Factors related to methods of control that have been associated with HIV risk include moving victims to multiple locations, duration of control, sexual and physical violence, and forced drug use. Duration of forced sex work and being forced to work in multiple brothels have been positively associated with HIV infection in South Asia(3). In a study comparing trafficked to non-trafficked FSWs in India, higher prevalence of violence among trafficked FSWs and a positive association between HIV infection and sexual violence were reported(45). In 7 European countries, prevalence of physical and sexual abuse during trafficking were reported by 75.5% and 89.6% of 192 females accessing post-trafficking services, respectively(46). To avoid

detection, traffickers often limit access to care, exacerbating the risks experienced by trafficked women and girls(47).

Post-trafficking experiences such as stigma and ostracism increase trafficking survivors' susceptibility to future abuse, elevate the likelihood that survivors with re-engage in risk behaviors, and pose barriers to accessing care, including rehabilitation services(4, 47, 48). The mental health impacts of trafficking may also increase survivors' vulnerability. Among European female survivors, 39% reported suicidal thoughts in the past week and over 50% met criteria for post-traumatic stress disorder(44). Childhood sexual abuse and trauma have been linked to future risk behaviors in women(49), suggesting that victims (especially girls) experience severe health and social sequelae post-trafficking. In the absence of appropriate support, survivors of abuse are more likely to be revictimized(3, 21); for example, abusive relationships with traffickers and pimps have a tendency to repeat themselves in future interactions(3).

Study Setting: the Mexico-U.S. border

“They [FSWs] are controlled by men that bring them from the south for prostitution, ‘padrotes’ [pimps]. They keep the girls under threat...they bought them to provide a service. All of the street prostitutes belong to someone.”

[Male client of FSWs, Tijuana, 2008]

Although the true number of trafficking victims is unknown due to challenges in data collection (i.e., the inherently hidden nature of trafficked persons)(50), Latin America is an important region for trafficking in persons. The region is reported to be the source of 100,000 victims trafficked across international borders annually, yet it is one of the most under-researched and under-funded regions of the world regarding human trafficking(21, 51). In 2007, 41% of trafficking victims in the U.S. were Latin American(53). Mexico is a major source, transit, and destination for human trafficking;

most individuals trafficked to the U.S. are trafficked from or through Mexico(2, 52-53). Trafficking in the region is reported to be increasing, including the exploitation of Central American women and child migrants in sex tourism locations(27, 53) including border areas, tourist destinations, ports, and areas hosting migrant workers(21).

This study was conducted in Tijuana (pop: 1,483,992) and Cd. Juarez (pop: 1,313,338), Mexico, bordering San Diego, CA and El Paso, TX, which are the largest cities along the Mexico-U.S. border. Approximately 10,000 women from southern and central Mexico are believed to be trafficked to the Mexico-U.S. border for sex annually(51). Both cities host large sex industries that attract U.S., Mexican, and international clients(54-56). In Tijuana, an estimated 9000 FSWs sell or trade sex to clients from the U.S., Mexico, and international locations, while approximately 4000 FSWs work in Cd. Juarez(20, 56, 57). Sex work is quasi-legal in Tijuana's red light district, where registered undergo routine STI/HIV testing to maintain a permit; many operate without permits, which are unavailable to minors and migrants who lack work permits(58). Along the Mexico-U.S. border, FSWs and their clients experience disproportionately high and increasing prevalence of HIV and STIs; HIV prevalence has increased sixfold from <1% to 6% among FSWs in Tijuana and Cd. Juarez in the past decade(59).

Tijuana and Cd. Juarez are located along major drug trafficking corridors, contributing to substance abuse among FSWs(60). Methamphetamine, cocaine, and heroin use is a growing problem in both cities(61). Tijuana and Cd. Juarez are home to approximately 10,000 and 6000 injection drug users (IDUs), respectively(62, 63). Injection drug use is also common among local FSWs. In 2008, the prevalence of HIV, syphilis, gonorrhea, and Chlamydia, was measured at 12.3%, 22.7%, 15.2%, and 21.2% among FSWs who inject drugs in both cities(59).

Violence is also highly prevalent in these northern border cities(64). In the last decade, Cd. Juarez has witnessed the unsolved murder, abduction, torture, rape, and disappearance of hundreds of young women and girls(65-67). Public authorities have relied on social hostility towards prostitutes to exculpate themselves from the violence, suggesting that these victims were prostitutes(67, 68). In Mexico, gender-based violence occurs with impunity(67, 68); FSWs in Mexico-U.S. border cities frequently report rape, physical attacks, threats, extortion, and displacement by police(69).

While published studies of trafficking and HIV in this context are absent, the emerging HIV epidemic, high and rising HIV prevalence among FSWs, and the widespread nature of sex trafficking along this border suggest the urgent need for data linking sex trafficking and HIV/STIs in this context.

Structural causes of sex trafficking

The fundamental causes of sex trafficking (and its associated health consequences, including HIV) are structural (Figure 1.1). Global disparities in income-earning and employment opportunities, as well as gender inequities, “create a deep level of desperation in vulnerable communities, providing ground for traffickers”(21, 70). Indigenous communities across Mexico and Central America experience disproportionately high levels of poverty and social marginalization(71, 72), positioning ethnic and minority groups in the region as popular targets for traffickers. In Mexico, trafficking is exacerbated (and sometimes directly facilitated) by competing anti-crime priorities and corruption, complicity and impunity among law enforcement, immigration and other government authorities(51, 52, 73, 74).

Limited options for legal migration and immigration for women experiencing severe poverty is an important determinant of trafficking(10, 15) – a particularly salient

characteristic in the Mexico-U.S. border context. Globally, women comprise an increasing proportion of migrants in search of economic opportunities; this is especially true for Mexican and Central American migrants, among whom traditional patterns of large scale, male-led migration are being replaced by female migration(75). The presence of large Mexican and Central American diasporas in the U.S. also attracts Northbound migrants for the purposes of family reunification(27-29). With the tightening of U.S. immigration restrictions and border enforcement – a policy often touted as *preventing* trafficking – increasingly desperate women may knowingly turn to traffickers to facilitate migration. Among trafficked persons, lack of immigration status and the threat of deportation is often used by traffickers as a further instrument of coercion and control(76).

Anti-trafficking measures – including the use of police raids targeting prostitution or the criminalization of various facets of sex work – unfortunately may also contribute to the silence and vulnerability of trafficked women and girls. Such measures have been critiqued as prioritizing criminal justice priorities over trafficked persons' well-being, the consequences of which have often included fear, trauma, mistrust, and displacement among sex workers and migrants – driving potentially trafficked persons outside the reach of most prevention and discouraging the reporting of violence or trafficking to law enforcement(77). A lack of standard victim identification procedures may also result in the excessive use of force, interrogation techniques, and other violations of the rights of potentially trafficked persons, as one service provider explained:

“I have had prosecutors shout at my clients trying to bully them into cooperating. When you’re dealing with a teenager who has been repeatedly raped and impregnated by her trafficker, this is not the way to behave humanely.”

[Service provider, U.S., 2009, in (77)]

Access to services for trafficked persons represents a key opportunity to identify and assist trafficked persons. However, potentially trafficked persons, including sex workers and migrants, are often unaware of the availability of existing services, or choose not to access services which are made contingent upon cooperation with law enforcement priorities(77). Resources for trafficked persons are still in development in many nations, including Mexico(2). Mexico is characterized by an “alarming” lack of support, including medical, legal, and economic assistance(21). In Latin America, inadequate victim protections and support contribute to ‘double vulnerability’ among victims, who experience the harms of trafficking as well as fear of detention or deportation, inhibiting them from seeking assistance(21, 52, 73). In the absence of support and protections, trafficking and re-trafficking (i.e., trafficked persons who successfully exit trafficking situations are subsequently exploited by traffickers again) are perpetuated. This has been particularly true of the Mexican context, in which “the process of deportation-smuggled-trafficked continues without adequate intervention, particularly in the routes from Central America to Mexico”(21)(p.130).

Conceptual framework

The conceptual framework guiding this dissertation (Figure 1.1) draws upon two main theoretical frameworks to conceptualize the relationship between structural factors and individual-level experiences of HIV risk *and* vulnerability to trafficking: Rhodes’ HIV *risk environment* framework (Chapter 3) and Galtung’s theory of *structural violence* (Chapter 4).

The HIV risk environment

International research demonstrates that disease outcomes and their associated risk factors represent the product of interactions between individuals and environments(78, 79). Chapter 3 of this dissertation was guided by Rhodes' "risk environment" framework, which conceptualizes environmental influences on HIV risk according to their level of operation (micro, macro) and sphere of influence - physical, social, economic, and policy(80). This heuristic draws together broader debates in social epidemiology, political economy, and sociology of health that conceptualize interactions between individuals and environments(80-83), and has been applied to understand the experiences of injection drug users(78, 80, 84, 85), FSWs(86-90), and FSWs' male clients(91, 92). Although features of FSWs' risk environment have been previously described(87, 93-98), less is known regarding the risk environment of underage or trafficked FSWs whose hidden, illicit status and younger age may predispose them to experience higher risks than their non-trafficked counterparts (e.g., FSWs working without force/coercion).

Social influences: Micro-level influences related to the risk environment include social norms and practices related to HIV prevention and substance use, such as prevailing norms related to sex work and substance use (e.g., social acceptability of syringe sharing) and peer influences (e.g., type of clients and injecting partners; forced drug use)(80, 91, 99, 100). Among FSWs, gendered power dynamics also pose challenges to HIV prevention; this is especially true among girls, who are less likely to possess the power to negotiate condom use with clients(6, 35). At the macro-level, stigma, discrimination, and gender-based violence often compromise women's and girls' abilities to control condom use or refuse unsafe sex, and are associated with HIV infection(12, 80, 101, 102). Gender-based violence (GBV), which includes child sexual abuse, rape, domestic violence, sexual assault/harassment, and trafficking of women

and girls, occurs across Mexico with impunity(64, 67, 68). GBV is a serious concern in Mexico-U.S. border cities, where FSWs frequently report rape, assault, threats, extortion, and police displacement(68, 103). Although trafficked FSWs are believed to experience higher risks related to their social environment than their adult counterparts, few empirical studies have assessed the relationship between these factors (e.g., GBV) and HIV risk among this population.

Economic influences: Poverty and the need to sell or trade sex in order to meet subsistence needs or support children, as well as earnings from sex work and offers of increased pay for unprotected sex by clients, are micro-level economic influences on risk(104). Macro-level markets for commercial sex and drugs also shape the risk environment. The role of Mexico-U.S. border cities as popular destinations for child (and adult) sex tourists from the U.S., Mexico, and international locations strongly influence the risks posed by these settings(39, 91, 105). Living costs, fees associated with sex work registration, and the cost of HIV prevention resources (e.g., syringes) also influence risk at the macro-level. FSWs in Tijuana often cite the costs of regular HIV/STI testing and female condoms as barriers to HIV prevention.

Policy influences: At the macro level, laws related to sex work and drug use and their enforcement often displace FSWs to isolated settings, increasing the potential for exploitation or violence(84, 87). In settings where sex work is regulated or legalized, underage FSWs and undocumented migrants are typically excluded from the protections offered to registered, adult FSWs (e.g., HIV prevention services). To evade persecution by law enforcement, underage FSWs often rely on third parties (e.g., pimps, bar managers) or work in isolated settings, increasing their risk of exploitation(101, 106). At the micro-level, younger, trafficked FSWs may also be less likely to access harm

reduction and HIV prevention programs, including syringe exchange programs (SEPs), HIV testing, and drug treatment(6, 35).

Physical influences: The presence and location of drug trafficking routes are a key macro-level feature of the risk environment along the Mexico-U.S. border(80, 91). Tijuana and Cd. Juarez are located along major drug trafficking corridors(60), contributing to high rates of methamphetamine, cocaine, and heroin use in these local communities(61). Micro-level settings for substance use and sex work and patterns of law enforcement in these spaces are also closely related to HIV risk(80). In many contexts, street-based FSWs working informally (i.e., survival sex workers) are more likely to use drugs and experience client violence, increasing the likelihood of unsafe sexual encounters and injection(93, 96, 97, 102, 107).

Although these features of the risk environment have been shown to shape HIV risk among FSWs generally, there is a dearth of empirical data regarding their influence among trafficked women and girls. Whereas prior research has investigated the prevalence and harms of underage sex work in North America(101, 108-114), data on trafficking are lacking in Mexico, where women and girls are highly vulnerable to sex work, addictions, and violence. Since data regarding underage FSWs' experiences are needed to inform interventions among vulnerable youth and FSWs(56), Chapter 3 assessed the relationship between these social, physical, economic, and policy factors, their impacts on HIV risk, and underage entry into sex work in Tijuana and Cd. Juarez, Mexico.

Structural violence

To conceptualize the impact of structural factors on women's vulnerability to HIV and sex trafficking, Chapter 4 is guided by the theory of *structural violence*, defined as a "broad rubric that includes a host of offenses against human dignity: extreme and

relative poverty, social inequalities ranging from racism to gender inequality, and [...] other forms of violence that are uncontested human rights abuses” (115). Originally developed by Johan Galtung(116), theories of structural violence have been employed by public health researchers to analyze the ways that health and exposure to risks are shaped by wider economic and social processes that determine who will suffer abuse and who will be shielded from harm(115-117). This theoretical lens lends itself well to the analysis of the circumstances that give rise to trafficking (e.g., gender and economic inequities) and their impacts on health by facilitating insight into the ways in which health is “‘structured’ by wider processes that limit individual choices(115-117) – including choices such as sex work, economic migration, or even consenting to trafficking due to a lack of other options. Structural violence thus represents symbolic violence that illustrates the systemic ways in which forces such as poverty, gender, and social class become embodied as individual experience, harming individuals by preventing them from meeting their basic needs(116, 118), and structuring the distribution of health inequities, such as HIV/AIDS(118, 119).

Undertaking analyses of structural violence also provides opportunities to identify the common factors (e.g., gender inequalities, relative poverty) which determine health outcomes *as well as* assaults on human rights. Thus, common targets for interventions to prevent both HIV and trafficking may be identified (e.g., income-generating opportunities for marginalized women). In Chapter 4, this study will use in-depth interviews and ethnographic fieldwork to “unpack” the ways in which the wider factors rendering females vulnerable to trafficking and HIV may more broadly represent a form of structural violence.

Aims and hypotheses

The objectives and hypotheses guiding this dissertation were:

1. **To critically review evidence linking mobility, trafficking, and HIV vulnerability in Mexico and Central America (Chapter 2).**
2. **To explore associations between features of the risk environment, sex work and drug use history, and underage sex work entry among female sex workers (FSWs) FSWs in Tijuana and Ciudad Juarez, Mexico (Chapter 3).**

Hypothesis: Women who began sex work as minors are more likely than those who began as adults to report exposure to HIV risk factors, including recent and past risks related to their social (e.g., fewer condom negotiation attempts; client-perpetrated violence), physical (e.g., street-based sex work), policy (e.g., police harassment; low access to harm reduction), and economic (e.g., higher average monthly earnings from sex work) environment, as well as to test HIV/STI positive.

3. **To describe the structural context of sex trafficking and its linkages with HIV/STI vulnerability from the perspectives of formerly trafficked FSWs in Tijuana (Chapter 4).**

Hypothesis: It was anticipated that formerly trafficked women's narratives will reveal strong linkages between structural factors associated with sex trafficking (e.g., poverty; gender inequalities; deportation) and HIV vulnerability.

Dissertation outline

The current dissertation includes three manuscripts, in addition to this introductory chapter (Chapter 1) and a concluding discussion chapter (Chapter 5). The first manuscript (Chapter 2), entitled "Mobility and HIV in Central America and Mexico: A

critical review”, provides a critical review of the literature linking mobility, trafficking, and HIV vulnerability in Mexico and neighboring Central America. The second paper (Chapter 3), entitled “Exploring the impact of underage sex work among female sex workers in two Mexico-U.S. border cities”, provides an analysis of the factors associated with underage entry into sex work in Tijuana and Cd. Juarez, Mexico. The third manuscript (Chapter 4), “Unpacking sex trafficking, structural violence and HIV risk among formerly trafficked female sex workers in Tijuana, Mexico”, uses ethnographic research to provide an in-depth analysis of the structural factors contributing to sex trafficking and HIV vulnerability in Tijuana. The final chapter includes a discussion of the relationship between these manuscripts and contextualizes these findings within the wider state of knowledge in the field, highlighting key implications and recommendations for public health service delivery and suggesting directions for future research.

Overview of research methods

The data presented in this dissertation originate from three distinct sources – peer-reviewed and grey literature on research studies conducted in Mexico and Central America (Chapter 2), survey and laboratory data collected among FSWs as part of a larger HIV prevention study in Tijuana and Cd. Juarez (Chapter 3), and interview transcripts and fieldnotes resulting from a qualitative study among formerly trafficked FSWs in Tijuana (Chapter 4). Goldenberg led and designed data collection for Chapters 2 and 4, and led an analysis of existing data for Chapter 3. A brief description of the research methods used in this dissertation are provided below; additional details are described in each chapter. Ethics approval was obtained from institutional review boards in the U.S. (UCSD) and Mexico (El Colegio de la Frontera Norte) prior to beginning the

studies described in Chapters 3 and 4 (see Appendix 1 for Human Subjects Considerations).

Chapter 2: Mobility and HIV in Central America and Mexico: A critical review

In Mexico and neighboring Central America, a search for improved economic opportunities often forces women and girls to assume the consequences of risky forms of mobility, including sex trafficking. Patterns of mobility in the region are relatively well documented (i.e., as highly irregular and predominantly northbound), yet much less is known regarding trafficking and its relationship to wider patterns of mobility and HIV risk. To assess the extent to which previous research has linked these issues in the regional context, a critical review of the literature on HIV, mobility, and sex trafficking in Mexico and Central America was conducted.

Data collection: Eligible articles were published in English or Spanish between January 1, 2000 and August 31, 2010; conducted in Central America or Mexico; specified the mobile population included; and described primary research. 2045 records were screened, 275 articles reviewed, and 22 studies included. No exclusions were made on the basis of study design or sample size. From July-September 2010, English and Spanish language literature describing (1) HIV/STI prevalence and risk factors; (2) the social and structural context of HIV/STI vulnerability; and (3) HIV/STI prevention interventions among mobile populations in Central America and Mexico was identified. International and regional databases were searched for content covering these 3 domains using combinations of search terms related to mobility/migration, HIV/STIs, and geographic limiters.

Data analysis: A Microsoft Excel database was developed to organize and chart study characteristics (authors, year, country, design, population, migrant sample size),

key findings, and the following data, where applicable: HIV/STI prevalence, migration-related variables, qualitative findings, or intervention description. We developed a second matrix to chart HIV/STI prevalence in transit stations. These data extracted formed the basis of our analysis. We began by grouping the findings of the epidemiologic studies according to common topics and mobile population, comparing them across studies. Next, we elicited common themes from the qualitative data and compared these across settings. Lastly, we analyzed the findings of HIV/STI prevention intervention studies among mobile populations, seeking to draw lessons and exemplars for future interventions.

Chapter 3: Exploring the impact of underage sex work among female sex workers in two Mexico-U.S. border cities

Although sex work and younger age increase HIV vulnerability, empirical data regarding the impacts of underage sex work are lacking. This chapter explored the prevalence and correlates of underage entry into sex work among a high-risk population of FSWs in Tijuana and Cd. Juarez, Mexico.

Data collection: Survey and laboratory data were collected as part of the larger *Mujer Mas Segura* (PI: Strathdee) intervention study, which was carried out from November 2008 to July 2010. Cross-sectional data were collected during baseline interviews and laboratory testing for an intervention study that aimed to reduce injection and sexual risks associated with HIV/STI acquisition among FSWs who inject drugs(104). Eligible women were female, ≥18 years old, lived in Tijuana or Cd. Juarez, spoke Spanish or English, did not plan to permanently move out of the city in the following 18 months, and reported selling/trading sex, injecting drugs, unprotected sex with clients, and syringe-sharing in the past month. 624 FSWs in Tijuana ($N=308$) and

Cd. Juarez ($N=316$) were recruited by outreach workers between October 2008-July 2010. Participants completed computer-assisted programmed interview (CAPI) surveys and biological testing for HIV, syphilis, Gonorrhea, Chlamydia, and other STIs at study offices(104). Surveys included questions on socio-demographics, sex work and drug use history, and risk environment factors(79, 80).

Data analysis: Our dichotomous dependent variable was underage sex work entry, defined as selling/trading sex before 18, the legal age of consent in Mexico. Logistic regression analyses compared women who entered sex work before the age of 18 and women who entered sex work at 18 years of age or older. Multivariate models were restricted to 534 women for whom complete data were available for variables of interest.

Chapter 4: Unpacking structural violence, sex trafficking and HIV risk among formerly trafficked female sex workers along the Mexico-U.S. border

Although evidence suggests that HIV vulnerability and sex trafficking ultimately result from wider structural factors, few studies have contextualized trafficked persons' lived experiences and their relationship to public health (e.g., HIV) within a wider geopolitical perspective. Therefore, this manuscript aimed to describe and “unpack” sex trafficking and its relationship to HIV vulnerability among formerly trafficked FSWs along the U.S.-Mexico border, where the proliferation of organized sex tourism has created a large market for trafficked women and girls.

Data collection: Informed by ethnographic techniques, qualitative data were collected during fieldwork in Tijuana and San Diego and interviews with formerly trafficked FSWs and their service providers. Fieldwork commenced in November 2010 and continued through July 2011, allowing adequate time to develop research

relationships and rapport. Fieldwork included in-depth interviews with formerly trafficked FSWs (n=31) in Tijuana, observations of environmental and social characteristics (e.g., the distribution of support services) and informal interactions and dialogues with FSWs and service providers involved in trafficking prevention and care(120). Formerly trafficked FSWs (n=31) were recruited from a larger study among FSWs (*Proyecto Parejas*; PI: Strathdee) for in-depth interviews. Since trafficking has many forms and trafficked persons come from diverse settings and cultures(47), women who represent a range in age, nationality, and trafficking experiences were purposively sampled(121). To identify participants with a trafficking history, screening questions asked if they were ever: (1) A minor the first time they sold/traded sex; (2) Forced, deceived, or coerced to begin or continue sex work; or (3) Transported from one city to another for the purposes of sex work against their will. During semi-structured interviews, women were invited to describe and reflect upon their trafficking experiences (e.g., recruitment tactics, work conditions) and their experiences with HIV/STI risk and prevention (see Appendix 2 for interview guides).

Data analysis: The data were coded using the software NVivo 9.0. Data analysis was led by Goldenberg in conjunction with the co-authors, who were consulted regarding the identification and interpretation of themes and relationships between them. The constant comparative method was used to develop codes to describe the structure and relationships between the data(122). Higher-level analyses drew upon theories of structural violence to describe the context of sex trafficking and its linkages to HIV vulnerability among formerly trafficked FSWs(80).

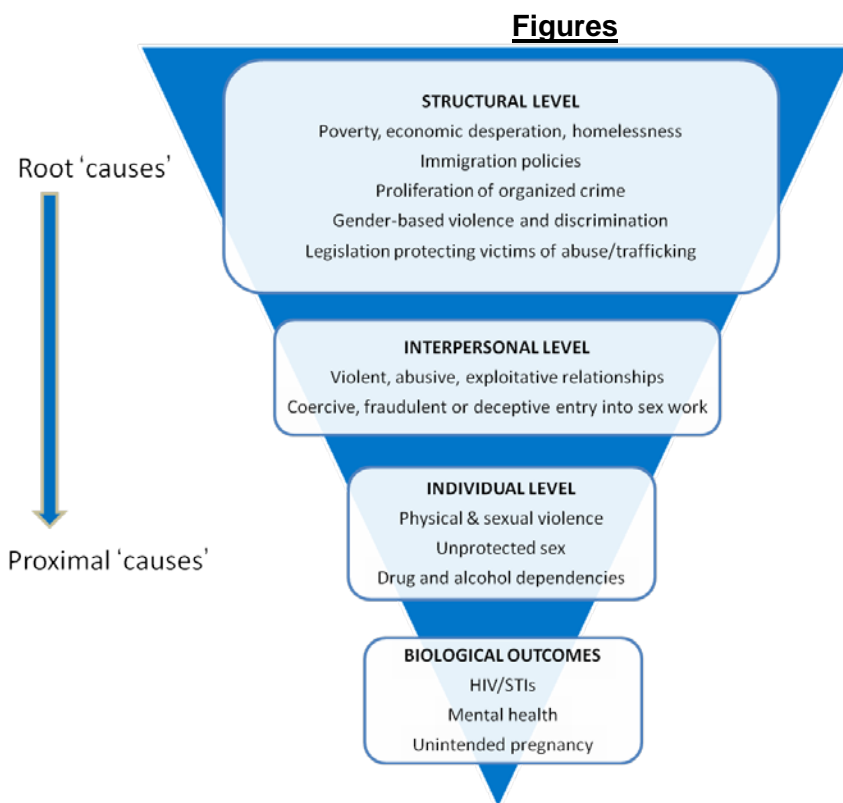


Figure 1.1: Conceptual model of impact of structural influences on HIV/STI vulnerability among trafficked women and girls. Adaptation of Rhodes (2009), Galtung (1969), and Farmer (2003).

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CHAPTER 2: Mobility and HIV in Central America and Mexico: A critical review

Title: Mobility and HIV in Central America and Mexico: A critical review

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Abstract: Mobility is a key determinant of HIV/sexually transmitted infection (STI) transmission in Asia and Africa. Scant data exist regarding its dynamic impacts on HIV/STI risk in Central America and Mexico. Our objective was to critically review the epidemiology and social and structural context of HIV/STI risk among mobile populations in Central America and Mexico. Eligible articles were published in English or Spanish between January 1, 2000 and August 31, 2010; conducted in Central America or Mexico; specified the mobile population included; and described primary research. 2045 records were screened, 275 articles reviewed, and 22 studies included. Migration is associated with increased HIV risk behaviors among Mexico-U.S. migrants; it also may increase preventive behaviors. Among mobile groups in Central America and Mexico, social isolation, socio-economic impacts of displacement, gender inequalities, and stigma/discrimination shape HIV risk. Epidemiologic research and multi-level interventions that target and engage vulnerable groups in transit stations are recommended.

Keywords: Mobility, migration, HIV, Mexico, Central America

Introduction

Population mobility has emerged as an important contributor to global infectious disease epidemiology, and has become a central theme in discussions of the human immunodeficiency virus (HIV) epidemic among researchers, policymakers, non-governmental organizations, and the private sector(1-13). We operationalize mobility as inclusive of migration, defined as movement from one country, place, or locality to another, as well as temporary or circular movement, such as for seasonal work(8). Mobility includes not only international migration, but also internal, bi-national, and regional movements.

Mobility has been linked to the epidemiology and context of HIV infection and risk in Africa(2-4, 6, 7, 14-25) and Asia(9, 26-31). Also known as Mesoamerica, Central America and Mexico form a migration corridor linking South and North America; yet, few studies have addressed mobility and HIV epidemiology in this setting(32-34). The objectives of this critical review were threefold: (1) to describe the epidemiology of HIV/STIs among diverse mobile populations in Central America and Mexico; (2) to analyze how mobility can contribute to social and structural conditions shaping HIV/STI risk; and (3) to describe and evaluate the results of interventions to prevent HIV/STI among mobile populations.

Mobility as a social and structural driver of HIV vulnerability

The social and structural situations encountered by mobile groups are key pathways through which mobility can influence HIV/STI risk(7, 35). Informed by Link's and Phelan's(36, 37) theories regarding the origins of health inequalities, we conceptualize these social and structural experiences as "fundamental causes" that put

migrants “at risk of risks.” According to this framework, HIV risk and its proximate determinants (e.g., unprotected sex; substance use; sexual violence) are the expression of wider social and structural inequities, such as the low SES and limited power migrants often experience(38). Thus, this framework facilitates a deeper understanding of migration contexts and their impacts(7), which are crucial to meeting migrants’ health needs(39).

Mobile groups differ in the social and structural experiences they encounter, and consequently, their exposure to risks. These include disruption of social networks and exposure to more liberal social norms, which have been linked to sex with casual partners, substance use, and increased HIV/STI risk among labor migrants and their long-term partners(17, 32, 33, 40-46). Among displaced persons, undocumented migrants, sex workers (SW), and trafficked persons, poverty and homelessness may result in survival sex (i.e., sex in exchange for shelter, money, or other resources), unsafe/coercive substance use, sexual violence, and physical violence and instability(47-52). Stigma, competing immigration-related stressors, and cultural, linguistic, and economic factors often pose barriers to health services, exacerbating risk(48, 50, 53-56).

Though most research suggests that mobility increases exposure to risks, this is not true of all forms of mobility(28). Travel to more liberal social climates can improve access to HIV prevention(57, 58). Mobility may improve access to resources; remittances and savings can enable migrant households to allocate additional resources to health services(57). Women may experience improved autonomy, wages, working conditions, and new skills(59, 60), potentially improving gender equity and women’s abilities to negotiate safe sex. Mobility may provide respite to abused youth and sexual minorities (e.g., gay, trans, or bisexual populations) from homophobia and violence.

Migration that is not accompanied by the rupturing of social networks can also be protective by reducing opportunities for causal/commercial sex(61).

Although mobility has been implicated as a critical determinant of HIV transmission, few studies consider how mobility can have dynamic roles in shaping HIV/STI epidemiology. The purpose of this review was to examine the linkages between HIV/STI epidemiology and its context among mobile populations in Mesoamerica.

Mobile Populations in Central America and Mexico

Important mobile populations in the region include undocumented migrants, deportees, victims of human trafficking, labor migrants, indigenous migrants, and sex workers (SW). Although not mutually exclusive (e.g., indigenous migrants are often also labor migrants), these categories provide a useful rubric for understanding the different experiences of mobile groups in Central America and Mexico.

Undocumented migrants: Of an estimated 11.9 million undocumented migrants in the United States in 2008, over 70% were from Mexico and Central America(62). Approximately 450,000 undocumented Mexicans enter the United States annually(63). Migrant smuggling, defined as, “the procurement, in order to obtain, directly or indirectly, a financial or other material benefit, of the illegal entry of a person into a State Party of which the person is not a national or a permanent resident” (64)(p.54-55), is ubiquitous along regional migration routes(65). Mexican territory is commonly used for these activities, where ‘*coyotes*’ (a Spanish euphemism for human smugglers) transport Northbound migrants(63, 66). While migrant smuggling is distinct from human trafficking, the lines between smuggling and trafficking are often blurred(67).

Deportees: In the last decade, repatriations of undocumented migrants from Mexico and the United States have dramatically increased. Mexico repatriated

approximately 215,000 Central American migrants in 2004(63). Deportations of Mexicans from the United States increased 63% from 2000–2008(68). In 2008, 693,592 undocumented Mexican nationals were apprehended(68). Removal of Central Americans from the United States increased over five-fold from 2000-2008 (from 15,213 to 79,823); most were from Honduras, Guatemala, and El Salvador. From 2000-2008, the proportion of Mexican removals decreased (from 80% to 68%), while the proportion of Central American removals increased from 8% to 25%(68).¹

Human trafficking victims: According to the U.N. Palermo Protocol, “trafficking in persons” is defined as,

“the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs;”(64)(p.42).

Trafficking for sexual exploitation (i.e., sex trafficking) is distinct from sex work. While both encompass selling or trading sex, the former hinges upon the use of coercion or force, while the latter does not necessarily involve such means(69). Human trafficking is a serious concern in Mesoamerica(66, 70). While accurate data estimating the number of trafficking victims are problematic(71), large numbers of women from southern and central Mexico are reportedly trafficked to the Mexico-U.S. border for sex annually(66, 67). The exploitation of Central American women and child migrants has also been

¹These data underestimate the number of repatriated migrants, as they include only *removals* (deportation based on an order of removal, which carries administrative and criminal consequences upon reentry), which represented less than one quarter of repatriations from 2000-2008. Most deportees are *returned* (deportation not based on an order of removal, which does not carry criminal consequences upon re-entry). *Returns* by country of origin are unpublished.

reported, especially in border areas, tourist destinations, ports, and areas hosting migrant workers(63, 66, 70).

Sex workers (SW), men who have sex with men (MSM), and injection drug users (IDU): Populations traditionally considered to be most at risk for HIV include SW, IDU, and MSM (i.e., gay, bisexual, transgendered, and heterosexual men who sometimes have sex with men). These populations are highly mobile in Central America and Mexico(72). While some women intentionally migrate for sex work, many practice survival sex to meet subsistence/remittance needs during migration, while others are trafficked. SW often migrate to access better wages and working conditions, such as offered by establishments catering to Americans in Mexico-U.S. border cities(73). Thriving sex industries in border cities draw women into sex work and attract local and international sex tourists, including heterosexual clients and MSM(73, 74). IDU, whose mobility is associated with homelessness, insecurity, and access to narcotics(5), are highly mobile in Northern Mexico(75), though IDU has not been detected in high levels nor been associated with HIV elsewhere in the region(11, 72).

Labor migrants: Predominantly male labor migrants in the transport, agricultural, construction, and resource-extraction sectors travel internally, regionally, and internationally(11, 45, 76, 77). An increasing proportion of migrants are now females(78-80); they often work in the manufacturing, domestic, tourism, and agricultural sectors(81-83).

Indigenous migrants: Indigenous groups migrate to neighboring countries and urban areas in search of improved opportunities. Indigenous migrants include the Garífuna (Belize, Guatemala, Nicaragua, and Honduras), Kuna (Panama), Miskito (Nicaragua), Maya (Guatemala, Mexico), and Mixtec (Mexico)(65, 84-87); the Garífuna,

an Afro-Caribbean ethnic minority group, engage in rural-urban, Central American-Caribbean, and international migration.

Dynamics of Population Mobility in Central America and Mexico

Drivers of mobility include economic inequalities, limited opportunities for women, natural disasters, political upheaval, deportation policies, urbanization, and transnational networks. Central America and Mexico form a key transit route for Northbound regional and international migrants(11); dehydration, robbery, extortion, and sexual violence are among the risks experienced. Depending on their point of origin, migrants may travel through Mexico and multiple Central American countries (e.g., Guatemala, Honduras, Panama)(63, 88). Other flows include south-north (e.g., Nicaragua-Costa Rica), Central American-Caribbean, and internal migration.

Most *bi-national mobility* occurs along the Mexico-U.S., Mexico-Guatemala, and Costa Rica-Nicaragua borders. Economic disparities and transnational networks have drawn Mexican migrants to the United States since the 1970s, when Mexico-U.S. migration began in earnest(85, 88, 89). Mexicans comprised 32% of U.S. immigrants in 2008 – a 17-fold increase since 1970(89, 90). The Tijuana-San Diego border forms the world’s busiest international land crossing(91). Belize, Costa Rica, Panama, and Mexico are important *regional destination countries*. Belize has received the largest foreign population since 1983(63), which constituted 14.8% of the population in 2000(63). Migrants from El Salvador, Guatemala, Honduras, and Nicaragua seek opportunities in neighboring countries(63). Nicaraguan emigration has been influenced by its poverty level, which ranks second only to Haiti in the region(63). Guatemala’s 36-year civil war caused the exodus of political refugees(63); today, undocumented migration into Mexico

is rife(92). Mexico, El Salvador and Honduras have large U.S. diasporas, from which remittances are substantial(63, 93).

While reviews of mobility and HIV infection have been conducted among Mexico-U.S. migrants, these have mostly encompassed U.S.-based research. Less is known regarding mobile groups within Central America, who may experience greater risks than those who reach the U.S., due to higher levels of poverty, mobility and HIV prevalence characterizing Central America. The objectives of this review were to (1) describe the epidemiology of HIV/STIs among mobile populations; (2) analyze how mobility can contribute to social and structural conditions shaping HIV/STI risk; and (3) describe and evaluate the results of HIV/STI prevention interventions among mobile populations in Central America and Mexico.

Methods

Inclusion criteria

Eligible articles were (1) written in English or Spanish, (2) published between January 1, 2000 and August 31, 2010, (3) conducted in Central America or Mexico, (4) specified the number and type of mobile population studied, and (5) described primary research. While our goal was to systematically appraise the highest standard of evidence available, a paucity of studies using experimental or quasi-experimental designs rendered the use of a traditional systematic review “problematic in areas of research dominated by non-trial quantitative evidence”(94)(p.263); thus, no exclusions were made on the basis of study design or sample size.

Search strategy

From July-September 2010, English and Spanish language literature describing (1) HIV/STI prevalence and risk factors; (2) the social and structural context of HIV/STI vulnerability; and (3) HIV/STI prevention interventions among mobile populations in Central America and Mexico was identified. Abstracts were screened for content covering these 3 domains. International (PubMed) and regional databases (LILACS; SciELO) were searched using combinations of mobility terms ('migration', 'migrant', 'mobility', 'mobile'), medical subject headings for HIV/STIs, and geographic limiters ('Central America', 'Mexico', 'Belize', 'Costa Rica', 'El Salvador', 'Guatemala', 'Honduras', 'Nicaragua', and 'Panama'). Relevant journals were hand-searched and key papers were cross-referenced. Due to the limited peer-reviewed studies available, grey literature (e.g., reports, conference proceedings) was searched using Google Scholar. Key organizations and experts were contacted for information; for example, brief surveys were circulated to country focal points of the Pan American Health Organization. HIV prevalence data reported by UNAIDS in *transit stations*, which are *locations characterized by high levels of mobility, such as borders, ports, and truck stops*, was collected. We included qualitative and quantitative research, in line with the increasing recognition of the need to incorporate both types of research in reviews(95).

Data management and analysis

Endnote was used to manage retrieved items. A Microsoft Excel database was developed to organize and chart study characteristics (authors, year, country, design, population, migrant sample size), key findings, and the following data, where applicable: HIV/STI prevalence, migration-related variables, qualitative findings, or intervention description. We developed a second matrix to chart HIV/STI prevalence in transit

stations. These data extracted formed the basis of our analysis. We began by grouping the findings of the epidemiologic studies according to common topics and mobile population, comparing them across studies. Next, we elicited common themes from the qualitative data and compared these across settings (objective 2). Lastly, we analyzed the findings of HIV/STI prevention intervention studies among mobile populations, seeking to draw lessons and exemplars for future interventions (objective 3).

Results

A total of 2045 article titles and abstracts (where available) were screened by the first author to determine eligibility. 275 full-text articles were reviewed and 22 studies were included, which were supplemented by grey literature (i.e., UNAIDS data, table 2.2). Of the 22 studies included, two (i.e., six papers) were published in Spanish; all others were in English. Eleven epidemiological studies reported associations between HIV and mobility (table 2.1), 8 qualitative studies described the social and structural context of HIV vulnerability (table 2.3), and 3 studies described HIV/STI prevention interventions (table 2.4). We describe our results according to three categories: HIV/STI epidemiology, its social and structural context, and prevention interventions.

Epidemiology of HIV/STIs and mobility

Available data indicate that HIV/AIDS is concentrated in mobility 'hot spots' (i.e., transit stations), and report associations of increased HIV/STIs and risk factors with mobility. A smaller number of studies also reported associations between protective behaviors, such as condom use, and mobility(96, 97).

Geographic distribution of HIV/AIDS

Central America is the sub-region of Latin America most affected by HIV/AIDS(98). Belize faces a generalized epidemic, with HIV prevalence consistently over 1% among pregnant women(99). In most other Central American countries and Mexico, epidemics are concentrated in vulnerable groups such as SW, MSM, prisoners, and indigenous populations.

Surveillance data implicate mobility in the spread of HIV outside capital cities, such as along transit routes and in ports(98, 99). In Honduras, the highest concentration of AIDS cases has been observed along the northern coast(100). In Nicaragua, the late detection and early containment of HIV has been attributed to its isolation during its civil war and economic blockade(65); from 1987-2004, the Northern and Central Pacific regions were the most affected, though prevalence in the Atlantic has also increased(65). Panama's location as a bridge connecting the Americas has been cited as one reason for the diffusion of HIV(86); high prevalence regions include urban centers and indigenous border areas(86). Mexico-U.S. border cities, where risks are shaped by mobility and drug and sex trades, are disproportionately affected; in Tijuana, adult prevalence is estimated to be as high as 0.8% among adults (vs. 0.3% nationally), and HIV prevalence among MSM, SW and IDU in Mexican states bordering the U.S. is 16.6%, 8%, and 6%(73, 101, 102).

HIV prevalence and epidemiology among mobile populations

Labor migrants: In Mexico, U.S. migrants are at higher risk of HIV than non-migrants(96)(table 2.1). Across five Mexican states, migrants reported more recent HIV risk behaviors than non-migrants (e.g., number of sex partners and use of non-injected drugs. However, migrants also reported increased protective behaviors (e.g., condom use; HIV testing)(96). Among recent male migrants (n=354), making 2 or more trips to

the U.S. was associated with a three-fold higher odds of consistent condom use. Among migrants, consistent condom use was positively associated with recent multiple, casual, and non-monogamous sex partners(103).

Sex Workers: Mexico, Belize, Costa Rica, Guatemala, and Panama attract migrant SW(104-107). Among SW across 5 countries, the foreign-born proportion in El Salvador, Nicaragua, and Honduras was negligible (< 2%), yet much higher in Guatemala (59%) and Panama (68.1%)(108). Mobility circuits in Central America and Mexico form in response to changing demands for transactional sex (e.g., during harvest season) and in search of better pay(107, 109). In La Cruz, a truck crossing along the Costa Rica-Nicaragua border, the majority of SW are Nicaraguan, have mobile clients, and cross into Costa Rica daily, where sex work is legal and more lucrative(109). Among 484 SW in Chiapas, Mexico, most were migrants from Guatemala (n=191), Honduras (n=85), and El Salvador (n=75)(106). In Panama, most SW are Colombian and Dominican(107); in Belize, most are from El Salvador, Guatemala and Honduras(107, 110). Studies reporting HIV prevalence and risk factors among mobile SW are sparse. Of 471 SW in Tijuana, 79% were born in another state. Among migrants, the prevalence of HIV, syphilis, and any STI were 6.6%, 12.3%, and 31.1%(111). While migrant status was protective against any STI in unadjusted models, there was no adjusted association. UNAIDS data among SW in transit stations indicate that prevalence is higher in transit stations than in the capital city in all but one country (table 2.2). For example, HIV prevalence among SW in Puerto San Jose, Guatemala (7.9%) more than doubled that of the capital (3.3%) in 2002. San Pedro Sula, a major transport and trading hub in Honduras, experiences the highest prevalence among SW in Mesoamerica (13.0%)(99).

MSM: No studies among mobile MSM were identified. According to data reported by UNAIDS, the highest prevalence among MSM (16.10%) in Honduras is also in San

Pedro Sula, doubling that of the capital(99). High prevalence in other transit stations has also been reported, though comparisons with the capital were not possible. HIV prevalence is 9.3% in Acapulco, Mexico, a major sex tourism destination, and 10.6% in Panama city, located along a key international transit route(99). Epidemiologic studies are needed to assess the intersections between mobility, sex tourism, and HIV among MSM.

IDU and deportees: Observational studies have documented associations between HIV and deportation along the Mexico-U.S. border(112, 113). Among 898 male IDU in Tijuana, 67% had been deported from the United States; of these, 5.8% were HIV-positive. The adjusted odds of HIV infection were four-fold higher among male IDU who were deported than non-deported males(113). Among 219 IDU in the same setting, deportation was inversely associated with drug treatment, recent medical care, and HIV testing, suggesting that deportation impedes access to HIV prevention(112). We did not identify any epidemiologic studies among deportees in Central America.

Indigenous migrants: Few epidemiologic data exist among indigenous migrants. Higher HIV prevalence in San Pedro Sula and other parts of Honduras is believed to be linked to the mobility of indigenous groups. The Garífuna represent 5% of new infections in the region, among whom prevalence is 4.5% (98, 114). The HIV epidemic among the Garífuna is reportedly "rooted squarely in the economic realities of labor migration"(115)(p.458) and linked to Central American-Caribbean mobility(116), though this has not been systematically evaluated.

While some quantitative evidence suggests a relationship between mobility and HIV infection and risk, most pertains to Mexico-U.S. migrants. Research with deportees, trafficked persons, indigenous migrants, truck drivers, agricultural workers, and drug-using populations, especially in Central America, is needed.

The social and structural context of HIV/STI vulnerability among mobile populations

The following social and structural factors were linked to HIV/STI risk among mobile groups: social isolation, socio-economic impacts of displacement, gender inequalities, and stigma and discrimination (table 2.3). These were primarily linked to increased HIV/STI risk, though some protective effects were described.

Social isolation

Migration often involves the rupturing of social networks and a lack of social, linguistic, and cultural integration. Male labor migrants and deportees seek new sex partners and binge on drugs and alcohol to cope(104, 117-119). In Oaxaca City, Mexico, HIV-positive migrants described family separation, language and cultural barriers, and efforts to conceal one's undocumented status as resulting in extreme social isolation during their time in the United States, which led them to seek new sexual partners(118). Deportees along the Mexico-U.S. border described the extreme isolation they experienced after being repatriated to a place where they had little social support or cultural familiarity. Many had lived in the United States their entire lives. Deportees described transactional sex, increased drug use, and casual sex as coping mechanisms for social isolation in Tijuana, where ample opportunities for these activities exist(117). Interestingly, the liberal sexual cultures in migration destinations may also promote risk reduction; in the United States and along the El Salvador-Guatemala border, migrants described engaging in protective behaviors to offset risk(96, 119).

Social isolation may also pose barriers to the development of support networks to mitigate risk among mobile populations. Among SW, the formation of peer networks – an

important pillar of HIV prevention in other contexts – was hindered by the constant mobility of SW, who “cannot establish trusting relationships with each other or with others [...] [and consequently] cannot demand protected and secure working conditions”(107)(p.250).

Mobility for other purposes (e.g., family reunification) may buffer social isolation; however, we did not identify research assessing this. Additional empirical studies assessing the psychosocial impacts of social isolation, such as on mental health, are also warranted.

Socio-economic effects of displacement

“I’ve met a few that got deported. They’re HIV positive now. I thank god I’m still clean. I’ve met them ‘cuz their family, they don’t care for them. They got deported and they lose hope.... They know the risk of using someone else’s syringe and the risks of catching AIDS and they still do it.”

[Deportee, Tijuana, Mexico, in (117), p.4]

Deportation from the United States (and Mexico) has emerged as a potential contributing factor to the regional HIV epidemic. Upon repatriation, deportees typically find themselves without shelter or economic resources(117). In a study of deported clients of SW in Tijuana, most were unable to find steady employment upon their deportation, and became economically reliant on Tijuana’s thriving sex and drug trades for survival. Many doubted their ability to engage in HIV prevention while remaining dependent on these activities(117). Deportees often responded to feeling socially and economically uprooted by engaging in known HIV risk behaviors (e.g., syringe sharing; unprotected sex with SW)(117). Nevertheless, some perceived their migration experience as protective; for instance, HIV prevention accessed in the U.S. helped some mitigate risk in Tijuana(117).

Although deportees in Central America also experience extreme marginalization(120), we did not identify any published studies solely dedicated to the analysis of HIV risk among deportees in Central America. Research on deportees' structural experiences before and after repatriation (e.g., poverty, homelessness, criminality) and their HIV risk is needed.

Gender inequalities

Gender-based power dynamics often limit women's sexual agency. Cultural norms which "grant sexual rights, knowledge, and decision-making to males, (e.g., *machismo*) and require 'decent' women to be passive and sexually submissive" (110)(p.31) tend to tacitly ignore or sanction infidelity among male migrants(110, 118). Among HIV-positive migrants in Oaxaca, Mexico, condom use was perceived as a sign of decreased masculinity, possibly explaining their infrequent use(118). Across countries, migrants' female partners acknowledged the risks posed by their partner's infidelity. Most cited barriers to condom use with long-term partners(110, 115, 121, 122), including male resistance against condom use or refusal of sexual contact(122). In indigenous migrant-sending Mexican villages, HIV among rural women has been linked to challenges negotiating safe sex with return migrants(121). In Central America, among Garífuna women "questions of power, sexuality and affective expectations about partners complicate the situation for women hoping to prevent infection"(115). Of married truck drivers with extramarital partners in Cd. Hidalgo, Mexico, 64% reported that they decided on condom use, 24% reported that they and their partner decided, and 10% reported that their partner decided(123).

Gender inequities and their consequences for HIV vulnerability appear to be exacerbated in transit stations, as in other migrant communities internationally (e.g.,

South African mining towns). Females are typically outnumbered by males during migration. Gender-based violence (e.g., sexual harassment) is normalized(124), and sex is often positioned as a necessary resource for female migration. To receive protection from violence and ensure safe passage, some females become sexual partners of “coyotes”(124); others report sexual favors as part of everyday interactions with authorities, smugglers, and truck drivers(109, 123). Approximately 60% of migrant females surveyed across the region reported sexual experiences during their journey, including rape, coerced sex, and intimate relationships(104, 124). Migrant females also engage in survival sex to obtain money, shelter, or food(104, 120, 124). Many began sex work in their migration destination, where many view this as a temporary strategy to meet subsistence/remittance needs(107, 110); among Central American SW along the Mexico-Guatemala border, 88.2% initiated sex work in Mexico(106). Survival SW often experience barriers to HIV prevention, as immediate needs often supersede safer sex considerations(125). High numbers of clients, poor access to care, client pressures for unprotected sex, and violence during condom negotiation shape HIV risk among SW(126, 127); mobile SW often work in isolated roadside motels, truck stops, and truck drivers' vehicles, which increase the potential for violence or coercive sex(107).

Trafficking for sexual exploitation also disproportionately affects females. Trafficking is a complex process, with experiences ranging from complete force (e.g., kidnapping) to nuanced cases of coercion. The decision to begin and continue sex work can be understood as a continuum, with trafficked females on one end and women who choose to engage in sex work on the other(69). However, women who begin sex work by means of trafficking often eventually view themselves as voluntary sex workers, blurring these boundaries(69). Across the region, sex work was generally perceived as necessary to facilitate migration or economic survival. SW in transit stations were

primarily motivated by poverty(109), though some were tricked, forced, or coerced(107, 124). Sex trafficking has been described in border areas, ports, areas hosting migrant workers, and tourist destinations. Along the Costa Rica-Nicaragua border, truck drivers reported sex with undocumented Nicaraguan SW as young as 13(109). SW from certain countries are also moved between cities or establishments in border areas to provide clients with a supply of “new” women, suggesting the existence of trafficking networks(106, 107).

Trafficked females in other contexts experience high levels of HIV/STIs and physical, sexual, and psychological abuse; however, we did not locate any studies reporting the circumstances shaping HIV risk among sex trafficked females. Research teasing out trafficking, mobility, sex work, and the reasons for sex work initiation is needed.

Stigma and discrimination

Stigmatization and discrimination by authorities (e.g., immigration officials), community members, and health care providers exacerbate HIV risk among mobile populations(120). In most transit stations, undocumented migrants, women, SW, indigenous populations, and MSM were highly stigmatized and often perceived to be vectors for HIV(107, 120, 128). Among migrant women, stigma can pose barriers to HIV prevention(104, 120, 124). Migrant SW were particularly stigmatized as whores, “husband stealers”, “loose women”, and transmitters of HIV(120, 124):

“Here in Guatemala, all the prostitutes come from other countries. Those from Honduras and El Salvador are the hottest, but they also have more AIDS. Honduras is an important country, a “number one” in AIDS cases. Lots of sidosos [pejorative term referring to people with HIV] live in Honduras.”

[Local resident, Mexico-Guatemala border, in (105), p.8]

Stigma and discrimination within the health care sector sometimes reinforces these perceptions. Sex work in many Mexican and Central American border cities is regulated, though regulations were described as punitive and as barriers to effective care(106, 109, 120, 125). These regulations are diverse, but generally include mandatory registration, STI/HIV screening, and confinement to specific sex work districts. Unregistered SW are subject to imprisonment or fines; extortion by authorities is common. In Guatemala, Belize, and Mexico, regulatory systems were described as discriminatory, leading SW to bypass them(110, 126); along Mexico's borders with Guatemala and Belize, SW outside the workplace are required to follow a dress code to "protect social order"(125). Regulations generally exclude undocumented migrants, minors, HIV-positive women, and those working outside of red light districts. Consequently, clandestine SW experience additional barriers to prevention and care, exacerbating risks(107, 125, 129).

Interventions and initiatives in Central America and Mexico

The only regional HIV/STI prevention intervention identified that has been evaluated was the Global Fund-supported *Mesoamerican Project* (table 2.4). Its components included *behavior change communication and condom distribution*. It was evaluated among 868 SW and 718 youth (ages 15-24) in transit stations in Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. A significant increase in condom use and in the proportion who were last tested for HIV, received information during the visit, and received a gynecological exam was reported among SW. Among youth, a significant increase in recent condom use and the proportion who were offered free condoms or an HIV test were reported; however, no significant effects on sexual behavior were found(127).

Two experimental or quasi-experimental evaluations were identified among country-level interventions.² The *biological, behavioral, and structural intervention* among SW in Guatemala (including 575 mobile SW) achieved a significant decrease in HIV incidence, from 1.85/100 to 0.42 person-years, with significant declines in most STIs and increased consistent condom use with clients. However, migrant SW were more likely to be lost to follow-up, among whom the intervention may be less effective(130). In an ethnographically-informed intervention for truck drivers in Mexico, *tailored information and condom promotion* reduced perceptions of HIV/AIDS risk(123).

Among interventions that have not been formally evaluated, *targeted social marketing* has been employed among truck drivers in El Salvador³ and the Garífuna in Honduras.⁴ *Increased access to care* has been implemented in El Salvador, including the establishment of border clinics,⁴ mobile outreach units,⁵ and training of medical providers in transit stations.⁴ Efforts to *engage authorities* have occurred in El Salvador, by providing condoms to police and immigration officials⁴ and in Costa Rica through trainings on human rights, HIV, and sex trafficking.⁶ *Peer education* has been undertaken among mobile indigenous groups in Mexico (131) and Panama.⁷

Discussion

Epidemiologic evidence linking HIV to Mexico-U.S. migration indicates harmful (e.g., increased sexual partners, drug use), and protective effects (e.g., condom use)(96, 97, 103). Research suggests that mobility has gendered health implications, which may

² While other successful HIV prevention interventions among the general population or most at risk groups have been published, those that did not specify the migrant population sampled were not eligible for inclusion.

³ UCJSC, 2005, unpublished data

⁴ HCP, unpublished data.

⁵ MOH, 2002, unpublished data.

⁶ FUNDESIDA, unpublished data.

⁷ ACNUR, unpublished data.

be partly attributable to the different reasons that men and women migrate(78, 113, 124). In Central America, HIV prevalence is high in transit stations, especially among SW. There is a paucity of published epidemiologic data in Central America, especially from Nicaragua, Panama, Belize, and Costa Rica. Given high levels of mobility in Panama and Belize, which also represent the highest regional HIV prevalence, data collection should be supported.

We identified social and structural forces, including social isolation, gender inequalities, human rights violations, and socio-economic effects of displacement as “fundamental causes” of HIV risk among mobile populations. In transit stations, the mixing of vulnerable groups, high levels of risk behaviors and HIV prevalence, and poor access to prevention create an HIV “*risk environment*”(132). This is understood by local residents, who regard border areas as inherently risky(120). Researchers have called for a shift in the way we conceptualize the relationship between mobility and HIV(7), since “efforts to reduce risk by changing behavior may be hopelessly ineffective if there is no clear understanding of the process that leads to exposure”(36)(p.85). Thus, interventions should be shifted away from “risky individuals” and instead prioritize “*risk environments*”. Efforts to create “enabling environments” for HIV prevention in transit stations, where targeted prevention may have a disproportionately large impact, should be prioritized.

Mobile populations are heterogeneous and possess diverse motivations (e.g., poverty, family reunification). The different reasons and conditions under which people migrate “must be considered to understand the effects of mobility on disease emergence and diffusion” (8)(p.947); for example, forced migrants generally experience greater HIV risks than voluntary migrants(39, 113, 117, 133). Although qualitative studies have provided insights into the experiences of SW and undocumented migrants in Central America, few studies include particularly vulnerable groups, including trafficking victims.

More traditional forms of migration (e.g., labor migration) have been comparatively well-researched in Mexico, though lacking in Central America. We did not identify any studies of HIV/STI vulnerability among resource-extraction workers, and few covering truck drivers, indigenous groups, and internal migrants. We recommend that future studies focus on the experiences of under-studied mobile populations (e.g., MSM, indigenous populations, deportees, and trafficking victims).

Mobility is a non-linear process; thus, challenges exist in linking where and how mobility is related to behavioral, social, and structural changes. While there remains little doubt that a relationship exists between mobility and HIV, this review was limited by a dearth of longitudinal or comparative epidemiologic data regarding HIV incidence and risk factors, especially in Central America. We identified a large need for the conduct and evaluation of HIV prevention interventions for mobile populations in the region. While qualitative research generally indicates that the circumstances related to mobility entail risks, the epidemiologic data available does not provide conclusive evidence of this; it is possible that mobile groups are predisposed to take greater risks. Culturally sensitive studies employing more sophisticated measures (e.g., time away from home; number and concurrency of sexual partners), and longitudinal, comparative studies (e.g., in sending and receiving communities) are needed. Empirical research on social and structural factors among migrants, such as examining the role of violence as a feature of the HIV “risk environment”, is also recommended; studies using multi-level methods (e.g., GIS; mixed methods) or comparing the impacts of structural factors across different risk environments (e.g., border posts with different sex work and immigration policies) are also needed. Finally, studies of sexual and drug-using networks of mobile populations (e.g., sex tourism in neighboring countries; bi-national sex partners) would be instrumental to future interventions.

Strengths and limitations

Since too few studies exist in this area to employ quality-based inclusion criteria or meta-analysis, we employed a systematic methodology that best met our objectives(134). As well, the categories we employed to organize our analysis of social and structural factors represent *artificial separations*; for example, although we categorized survival sex as a gender-based issue, it is also related to stigma and socio-economic dislocation. While other sources of social and structural vulnerability were also identified, our categories reflect the most common themes.

This bi-lingual review is, to the best of our knowledge, the first rigorous synthesis of evidence linking mobility and HIV across Central America *and* Mexico. While prior reviews have assessed Mexico-U.S. migrants(97, 135), the only review including Central America was conducted in 1998, did not use a systematic methodology and focused mostly on Mexico(136). In the decade and a half since, mobility has become the subject of greater attention(127), and immigration and border enforcement policies have dramatically changed. The current review examined and evaluated these trends among recently identified groups, such as deportees. While most studies have focused on individual-level behaviors, the inclusion of qualitative data and use of the “fundamental causes” to analyze them facilitated an in-depth understanding of how mobility-related social and structural disruptions shape HIV risk.

Public health implications

Evidence from other settings demonstrates the importance of addressing mobility-related risks early in an epidemic, such as in most Central American countries and Mexico. South African modeling scenarios indicate that early in an epidemic,

frequent migration between populations with different HIV prevalence rates and changes in migrants' sexual risk behaviors may accelerate HIV diffusion(15).

Priority interventions should target transit stations at multiple levels (*e.g., individual; interpersonal; environmental*) and be based on approaches with demonstrated success. Components of the *biomedical* (*e.g., setting up STI clinics*), *behavioral* (*e.g., peer-led condom negotiation workshops*), and *structural* intervention (*e.g., engaging establishment owners and police*) in Guatemala may be effective in neighboring countries(130). Large-scale mobility, different policies, and under-resourcing require regional integration of interventions. Lessons can be learned from the Avahan project in India, which provides integrated prevention to mobile populations in high-impact communities along trucking routes, including branded roadside clinics which offer a range of health services, including HIV/STI testing and risk reduction counseling(13). Although the *Mesoamerican Project* represents a key step in addressing the needs of mobile groups(127), multi-level, tailored approaches are needed.

Tailored interventions are necessary for vulnerable populations, who may be the least able to positively respond to population-based approaches(137). Culturally tailored interventions, paralleled by appropriate communication and public awareness, are recommended to avoid further stigmatization(7, 12). Since incongruities between the assumptions of public health practitioners, policymakers, and vulnerable groups may limit the potential effectiveness of interventions(138), participatory approaches and civil society partnerships are needed. Recommended intervention components for specific mobile groups include appropriate medical, psychological, legal and economic assistance to reduce harm among *trafficking victims*, who receive an “alarming” lack of support(70). Health services and related support (*e.g., shelter, HIV/STI testing, drug*

treatment) are also essential for enabling HIV prevention among *deportees*, who receive little or no government support(113, 120).

To address the health and social impacts of mobility, including HIV, substance abuse, mental health, and chronic diseases, and achieve substantial and lasting health improvements, policies addressing “fundamental causes” are needed(139). These may include economic and social development, and ensuring that immigration and public health policies are not at odds with one another. In the shorter-term, reducing stigma and providing accessible health and social services to migrants can create “the sense of security and the sense of community that is necessary for health”(7)(p.828).

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final publication is available at www.springerlink.com. Shira Goldenberg was the primary investigator and author of this paper.

Tables

Table 2.1: Studies describing epidemiologic associations between HIV and mobility in Central America and Mexico, 2000-2010

Author	Location	Design	Population	N	Associations reported
Brouwer et al (111)	Tijuana, Mexico	Cross-sectional (RDS)	Injection drug users (IDU)	Total: 219 Deportee: 35 (16%) Mobile: 64 (29%)	Deportation history was inversely associated with receiving drug treatment (OR: 0.41, 95%CI: 0.19-0.89), recent medical care (OR: 0.37, 95%CI: 0.13-1.00), or HIV testing (OR: 0.44, 95%CI: 0.19-1.02) compared to IDUs who were never deported
Fosados et al (103)	Cuauhtemoc Colima and Tonal, Jalisco, Mexico	Cross-sectional	Sexually active men who resided in the U.S. in the past 3 years	Total: 354 Mobile: 354 (100%)	2 or more trips to the U.S. significantly associated with consistent condom use (OR: 3.09). Having 2 or more sex partners in past year (OR: 2.76), a mistress (OR: 8.00), friend (OR: 3.34), or non-monogamous sex partner (OR: 4.93) associated with consistent condom use among migrants.
Magis-Rodriguez et al (96)	5 states, Mexico	Cross-sectional (RDS)	Adults in 5 Mexican states with high levels of U.S. migration	Total: 2775 Mobile: 1539 (55.5%)	Male migrants reported more sex partners (28.4% vs. 20.4%, p<0.05) than non-migrants, but also reported more protective behaviors than non-migrants, including condom use at last sex (40.9% vs. 30.8%, p<0.05) and ever having an HIV test (28.0% vs. 17.6%, p<0.05).
Ojeda et al (111)	Tijuana, Mexico	Cross-sectional	SW	Total: 471 Mobile: 370 (79%)	Migration was protective against any STI in unadjusted models (OR: 0.61, 95% CI: 0.39-0.97). There was no association between migration and STIs in adjusted models.
Paz-Bailey et al (114)	8 Garífuna communities Honduras	Sero-prevalence and behavior survey	Urban and rural Garífuna population	Total: 817 Mobile: N/A	Prevalence of HIV, syphilis, Chlamydia, and Gonorrhea were measured at 4.5%, 2.4%, 6.8%, and 1.1%, respectively. Urban, poor Garífuna had higher HIV prevalence (8%). Low consistent condom use was reported with casual (41.1%) and stable (10.6%) partners.
Rangel-Gomez et al (140)	Nuevo Laredo and Ciudad Hidalgo, Mexico	Cross-sectional (time-location)	SW with truck driver clientele	Total: 200 Mobile: 98 (49%)	SW in Chiapas had 5 times the odds of having lived for less than 5 years in Cd. Hidalgo. SW in Nuevo Laredo were more likely to report a recent STI symptom (25% vs. 6%). SW in Chiapas were more likely to report bad working conditions (19% vs. 9%, p=0.03).
Sirotin et al (129)	Tijuana, Mexico	Cross-sectional (non-probabilistic)	SW	Total: 410 Mobile: 89 (22%)	Being a non-migrant was inversely associated with SW registration (11.1% of registered vs. 30.4% of unregistered SW); unregistered SW more likely to work on the street, have an STI, or have syphilis. Non-migrant status independently inversely associated with registration (AOR: 0.35).
Soto et al (108)	El Salvador Guatemala Honduras Nicaragua Panama	Sero-prevalence)	SW in 5 countries, including largest cities and ports	Total: 2466 Mobile: 630 (25.6%)	In El Salvador, Nicaragua, and Honduras <2% of SW foreign-born; 59% in Guatemala and 68.1% in Panama (n=294) foreign-born. Most worked in brothels, appointment houses, bars or nightclubs. HIV prevalence ranged from 0.2% in Nicaragua and Panama to 9.6% in Honduras, where incidence was highest (3.2/100 person-years).
Strathdee et al (113)	Tijuana, Mexico	Cross-sectional (RDS)	IDU	Total: 1056 Mobile: 707 (67%)	Longer stays in Tijuana associated with HIV among females; shorter stays associated with HIV among males. Interaction between gender and length of time lived in Tijuana. Odds of HIV infection four-fold higher among males deportees.
Uribe-Salas et al (106)	Soconusco region, Mexico	Cross-sectional	SW	Total: 484 Mobile: 351 (75%)	Most SW initiated SW in Mexico (88.2%). HIV prevalence in Guatemala (1.0%) and Mexico (0.8%) account for all HIV cases. No significant differences by country of origin.
Viani et al (102)	Tijuana, Mexico	Sero-prevalence	Pregnant women	Total: 1496 Mobile: 479 (32%)	HIV prevalence did not significantly differ among migrants and Tijuana residents (1.46% vs. 0.69%). Tijuana residents significantly more likely to report HIV risk factors, including IDU or other drug use, or to have an IDU or drug-using partner.

^a NOTE: Where possible, the results discuss the situation of migrant and mobile groups, though not all studies provided data broken down by migration status.

Table 2.2: HIV prevalence among sex workers in transit stations in Central America and Mexico, 2002

Transit station	Station type	HIV prevalence^a
El Salvador		
Acajutla	Port	3.60%
San Salvador	Capital	4.00%
Guatemala		
Escuintla	Along highway	2.30%
Puerto Barrios	Port	4.20%
Puerto San Jose	Port	7.90%
Guatemala city	Capital	3.30%
Honduras		
Puerto Cortes	Port	8.60%
San Pedro Sula	Transportation hub	13.00%
Tegicugalpa	Capital	8.10%
Nicaragua		
Bluefields	Port	1.90%
Corinto	Port	1.10%
Managua	Capital	0.2%
Panama		
Colon	Port	2.20%
Panama City	Capital	1.80%

^aSource: UNAIDS/WHO/UNICEF Epidemiological Fact Sheets on HIV and AIDS, 2008

Table 2.3: Studies describing the social and structural context of HIV vulnerability among mobile populations in Central America and Mexico, 2000-2010

Author	Location	Design	Population	N	Contextual factors described
Bronfman et al (120, 104, 109, 119) Caballero et al (124) Dreser et al (107) Infante et al (128) Leyva-Flores (141) Cuadra et al (125)	11 transit stations in Central America & Mexico Cd. Hidalgo & Chetumal, Mexico	Household surveys, ethnography, qualitative interviews	Households, SW, migrants, MSM, NGOs, key informants	Total (interview): 833 Total (survey): 4720 Mobile (interview): 285 (34.2%)	Across the countries studied, public services, human rights violations, violence, poverty and corrupt authorities were reported across transit stations. Transactional sex and survival sex, rape, and other forms of sex trade happen in conditions that increase HIV risk.
Goldenberg et al (117)	Tijuana, Mexico	Qualitative	Deported male clients of SW	Total: 30; Mobile: 20 (66.7%)	Survival sex work is common in these Mexican border cities (i.e., due to a lack of work/travel permits; poverty), where sex work regulations are more punitive than protective. The stigmatizing effects of regulation result in clandestine sex work. Clients perceived deportation as resulting in social isolation and economic dislocation, which were linked to HIV through substance use and unprotected sex with SW.
Infante et al (105)	Tapachula & Cd. Hidalgo, Mexico; Tecun Uman, Guatemala	Qualitative	Key informants, migrants, sex workers	Total: 61; Mobile: 30 (49.2%)	Temporary workers and other mobile clients visit SW. SW reported poor access to prevention and care due to stigma and poor quality of public services.
Porras et al (126)	Escuintla, Guatemala	Qualitative	SW	Total: 35; Mobile: 28 (80%)	SW countries of origin included Guatemala (79%), El Salvador (15%), and Honduras (6%). Their clients include agricultural workers, factory workers, truckers, military, and tourists. 47% migrated for sex work and 53% initiated sex work when they couldn't meet subsistence/ remittance needs.
Ragsdale et al (110)	Orange Walk Town, Belize	Qualitative	SW	Total: 33; Mobile: 33 (100%)	Condom use is perceived as a sign of decreased masculinity, posing barriers to safer sex. Social isolation and loneliness in the U.S. provided the motivation to seek out new sexual partners during their time away from home.
Sowell et al (118)	Oaxaca city, Mexico	Qualitative study	HIV+ men and women infected in the U.S. or by a U.S. migrant	Total: 10; Mobile: 10 (100%)	The Garifuna are aware of HIV risks associated with migration, but negotiating risk is a process that pits knowledge against a structured risk environment conjugating the risks of male labor migration with affective expectations for partners.
Stansbury and Sierra (115)	Las Espinas, Honduras	Qualitative	Garifuna population in Las Espinas	Total: 72 Mobile: N/A	

^a NOTE: for studies that included both mobile and non-mobile populations, we represent the findings only as they pertain to mobile populations (e.g. SW) as much as possible; wherever possible, the results specifically discuss the situation of migrant and mobile groups, though not all studies provided data broken down by migration status.

Table 4: Studies describing HIV prevention interventions among mobile populations in Central America and Mexico, 2000-2010

Reference	Location	Description of intervention	Population	N	Key Findings
Bronfman et al (123)	Cd. Hidalgo, Mexico	HIV/AIDS information and condom promotion, informed by ethnography	Truck drivers	Total: 307; Mobile: 307 (100%)	Perceptions of risk for HIV/AIDS were lower for truck drivers in the intervention group compared with baseline, an effect associated with greater reported condom use by truck drivers in this group.
Leyva et al (127)	Costa Rica El Salvador Guatemala Honduras Nicaragua Panama	Performance audit of the <i>Mesoamerican Project</i> , detailing the results of an individual-level intervention (e.g., behavior change communication, condom distribution) conducted to provide comprehensive HIV-related care to mobile populations.	FSW and youth (between 15-24 years old)	Total: 1586; Mobile (SW): 460 (85%); Mobile (youth): (78.79%)	FSW: A significant increase in the proportion using condoms with intimate partners and clients; the proportion last tested for HIV in their community and who received information during the visit; and the proportion that received a gynecological exam in last 3 months. Youth: A significant increase in the proportion reporting condom use at last sex, free condom availability locally, and being offered an HIV test locally.
Sabido et al (130)	Escuintla, Guatemala	Multi-level <i>biomedical</i> (setting up STI clinics, public laboratory strengthening), <i>behavioral</i> (condom negotiation workshops with SW and bar owners), and <i>structural</i> intervention (advocacy with establishments, police, and policymakers to reform sex work regulations) for SW.	FSW	Total: 1554; Mobile: 575 (37%)	A significant increase in the proportion of FSW who reported consistent condom use with new & regular clients and who reported condoms as an effective preventive measure, but also a reduction in condom use with regular partners. STI incidence significantly declined except syphilis. Global HIV incidence significantly dropped from 1.85/100 person-years in 2005 to 0.42 in 2008.

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CHAPTER 3: Exploring the impact of underage sex work among female sex workers in two Mexico-U.S. border cities

Title: Exploring the impact of underage sex work among female sex workers in two Mexico-U.S. border cities

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Abstract: Although sex work and younger age increase HIV vulnerability, empirical data regarding the impacts of underage sex work are lacking. We explored associations between features of the risk environment, sex work and drug use history, and underage sex work entry among 624 female sex workers(FSWs) in Tijuana and Ciudad Juarez, Mexico. Forty-one percent (n=253) of women began sex work as minors, among whom HIV and any STI/HIV prevalence were 5.2% and 60.7%. Factors independently associated with increased odds of underage sex work were inhalants as the first drug used, forced first injection, number of drug treatment attempts, and recent receptive syringe-sharing. Number of recent condom negotiation attempts with steady partners and depression as a reason for first injecting were negatively associated with underage entry. These results underscore the importance of efforts to prevent underage sex work and the wider factors contributing to HIV risk among vulnerable youth and underage FSWs.

Resumen: Aunque el trabajo sexual y una edad más joven aumentan la vulnerabilidad al VIH, aun faltan datos empíricos sobre los impactos del trabajo sexual en la minoría de edad. Exploramos las asociaciones entre las características del entorno de riesgo, antecedentes de trabajo sexual y consumo de drogas y la entrada al trabajo sexual como menor de edad entre 624 trabajadoras sexuales (TS) en Tijuana y Ciudad Juárez, México. El cuarenta y un por ciento ($n = 253$) de las mujeres comenzaron el trabajo sexual como menores de edad, en las cuales el VIH y cualquier otra prevalencia de ITS/VIH fueron 5.2% y 60.7% respectivamente. Los factores asociados independientemente con un aumento de la probabilidad de trabajo sexual durante la minoría de edad fueron: los inhalantes como primera droga consumida, primera inyección forzada, el número de intentos de tratamiento de rehabilitación de drogas, y recibir jeringas recientemente compartidas. El número de intentos recientes para la negociación del condón con parejas estables y la depresión como una razón por la cual se inyectaron por la primera vez fueron negativamente asociadas con la entrada al trabajo sexual en la minoría de edad. Estos resultados subrayan la importancia de los esfuerzos para prevenir el trabajo sexual en la minoría de edad y factores más amplios que contribuyen al riesgo del VIH entre jóvenes vulnerables y TS que son menores de edad.

Keywords: HIV, youth, sex work, risk environment, sexual behavior, substance use

Introduction

Sex work, defined as selling or trading sex for money, drugs, or other goods, represents a serious health concern among vulnerable youth. The estimated prevalence of runaway and homeless youth who have been involved in sex work in North America ranges from 10-40 percent(1-7) . The health and social impacts of youth sex work include HIV infection and AIDS, sexually transmitted infections (STIs), sexual victimization, physical violence and insecurity, substance use, and mental health disorders(2-12).

Though empirical evidence regarding the experiences of youth engaged in sex work is lacking, available data suggest that younger sex workers experience a disproportionately high risk of HIV/STI infection. Trauma to an immature genital tract increases the risk of HIV/STI transmission(13), and younger age has been independently associated with elevated risk of HIV infection among female sex workers (FSWs) and sex trafficked females(13, 14). Among sex trafficked females in Nepal, those trafficked prior to age 15 years experienced over three and a half times higher odds of HIV infection than those trafficked as adults(13). Youth sex work has also been associated with substance use (especially 'hard' drugs such as heroin and methamphetamines) among street-involved, inner-city youth(11, 15-17). The dual risks posed by sex work and substance use during adolescence can have multiplier effects on HIV/STI risk among youths. Among young injection drug users (IDUs) in Vancouver, sex work strongly predicted incident HCV infection, and younger age was associated with sex work, HIV infection, and female gender(12, 18).

Research also suggests that early experiences play an important role in determining exposure to future risks. FSWs often report a history of childhood sexual and physical violence(19-24), which have been shown to increase future risk of HIV/STI infection(24-29). Between 50–100 percent of street-based FSWs report physical, sexual

and economic violence(15, 30-33), and consistent associations between past and current victimization indicate a continuing cycle of violence throughout FSWs' lives (29). However, data regarding the relationship between early experiences and future exposure to HIV risk among younger FSWs are scarce.

Tijuana (pop: 1,483,992) and Cd. Juarez (pop: 1,313,338), bordering San Diego, CA and El Paso, TX, are the largest Mexican cities along the Mexico-U.S. border. Mexico–U.S. border cities are hotspots for child sex tourism, earning Tijuana the nickname, “Bangkok of the Americas”(34-36). Approximately 9000 and 4000 FSWs work in Tijuana and Cd. Juarez, respectively, among whom HIV prevalence has increased from <1% to 6% in the past decade(37). Although Mexico’s 2000 Law for the Protection of the Rights of Children and Adolescents aims to protect minors from abuse, exploitation, and trafficking(38), in cities such as Tijuana and Cd. Juarez, underage sex work is visibly widespread and practiced with the collaboration or knowledge of police. Substance use – especially injection drug use – is also a widespread and serious concern in Tijuana and Cd. Juarez, where approximately 10,000 and 6000 IDUs live, respectively(39, 40). FSWs often use drugs to cope with the stressors of sex work, which can inhibit safer sex considerations, lead to desperation to obtain drugs, and increase the likelihood of acquiescing to unprotected sex(41). Prior research in Mexico-U.S. border cities has linked inhalant use to earlier initiation into sex work(42) and revealed associations between use of substances such as heroin, cocaine, and methamphetamine and HIV/STI infection among FSW and IDU populations(43, 44). FSWs in Tijuana and Cd. Juarez who inject drugs experience disproportionately high rates of HIV/STIs; in 2008, rates of HIV, syphilis, gonorrhea, and Chlamydia among FSWs who inject drugs were measured at 12.3%, 22.7%, 15.2%, and 21.2% in 2008(45). Based on the widespread nature of underage sex work and high rates of HIV

infection and substance use among FSWs in Mexico-U.S. border cities, we undertook this analysis to assess the relationship between underage entry into sex work and its impact on early and later HIV risk among FSWs in Tijuana and Cd. Juarez, Mexico.

The sex work “risk environment”

International research demonstrates that disease outcomes and their associated risk factors represent the product of interactions between individuals and environments(46-48). This study was guided by Rhodes’ “risk environment” framework, which conceptualizes environmental influences on HIV risk according to their level of operation (micro, macro) and sphere of influence - physical, social, economic, and policy(49). This heuristic draws together broader debates in social epidemiology, political economy, and sociology of health that conceptualize interactions between individuals and environments(49-52), and has been applied to understand the experiences of IDUs(46, 49, 53, 54), FSWs(55-60), and FSWs’ male clients(61). Although features of FSWs’ risk environment have been previously described(56, 62-67), less is known regarding the risk environment of underage FSWs, whose illicit status and younger age may predispose them to experience disproportionately higher risks than their adult counterparts.

Social influences: Micro-level influences related to the risk environment include social norms and practices related to HIV prevention and substance use, such as prevailing norms related to sex work and substance use (e.g., social acceptability of syringe sharing or unprotected sex with clients) and peer influences (e.g., number and type of clients and injecting partners; forced drug use)(49, 61, 68, 69). Among FSWs, gendered power dynamics also pose challenges to HIV prevention; this is especially true among girls, who are less likely to possess the experience or power to negotiate condom

use with male clients or access preventive services(70, 71). Furthermore, client beliefs that sex with younger females minimizes HIV/STI risk result in an increased demand for unprotected sex with girls(13). At the macro-level, stigma, discrimination, and gender-based violence often compromise women and girls' abilities to refuse unsafe sex, and are associated with HIV infection(9, 49, 32). Gender-based violence, which includes child sexual abuse, rape, domestic violence, sexual assault/harassment, and trafficking of women and girls, occurs in Mexico-U.S. border cities with impunity(72-74). FSWs in these cities frequently report rape, assault, threats, extortion, and police displacement(73, 75). Although underage FSWs are believed to experience higher risks related to their social environment than their adult counterparts, few empirical studies have assessed the relationship between these factors (e.g., gender-based violence) and HIV risk among this population.

Economic influences: Poverty and the need to sell/trade sex in order to meet subsistence needs or support children, as well as earnings from sex work and offers of increased pay for unprotected sex by clients, are examples of micro-level economic influences related to the sex work risk environment(41). At the macro-level, markets for commercial sex and drugs are wider economic influences on the risk environment. The role of Mexico-U.S. border cities as popular destinations for child (and adult) sex tourists from the U.S., Mexico, and international locations strongly shape the risk environment they pose(76, 77). Living costs, fees associated with sex work registration, and the cost of HIV prevention resources (e.g., syringes) also influence risk at the macro-level, such as through syringe sharing. FSWs in Tijuana often cite the costs of regular HIV/STI testing and female condoms as barriers to HIV prevention.

Policy influences: At the macro level, laws and law enforcement related to sex work and drug use often displace FSWs to isolated settings, increasing the potential for

exploitation, violence, and unsafe injection(53, 56). In settings where sex work is regulated or legalized, young FSWs are typically excluded from the protections offered to adults. Sex work is quasi-legal in *Zona Rojas* (red light districts) in Tijuana and Cd. Juarez. Registered FSWs in Tijuana's *Zona Roja* undergo routine HIV/STI testing to maintain a work permit; many operate without permits, which are costly and unavailable to minors. Cd. Juarez hosts two *Zona Rojas*, where FSWs do not require a permit. To evade persecution by law enforcement, underage FSWs often rely on third parties (e.g., pimps, bar managers) or work in isolated settings, increasing their risk of exploitation(9, 78). Access to harm reduction and HIV prevention programs, including syringe exchange programs (SEPs), condom demonstrations, HIV testing, and drug treatment are important micro-level policy influences on HIV risk(49). Youth FSWs are reportedly less likely than adults to access such programs due to fears of persecution or regulations excluding them from public services.

Physical influences: The presence and location of drug trafficking routes are a key macro-level feature of the risk environment along the Mexico-U.S. border(49, 61). Tijuana and Cd. Juarez are located along major drug trafficking corridors(79), contributing to high rates of methamphetamine, cocaine, and heroin use(80). Micro-level settings for substance use and sex work and patterns of law enforcement in these spaces are also closely related to HIV risk(49). In many contexts, street-based FSWs are more likely to use drugs and experience client violence, increasing the likelihood of unsafe sexual encounters and injection(62, 65, 66, 81). Street-based FSWs who use drugs are also frequent targets of police harassment, which poses barriers to carrying condoms or clean syringes, since these are often used as evidence of illegal activities(56, 82).

Although these features of the risk environment have been shown to shape HIV risk among FSWs generally, there is a dearth of empirical data regarding their influence among underage FSWs. Whereas prior research has investigated the prevalence and harms of underage sex work in North America, data are lacking in Mexico, where youth are highly vulnerable to sex work, addictions, and violence. Since data regarding underage FSWs' experiences are needed to inform interventions among vulnerable youth and FSWs(10), we undertook this study to assess the relationship between these social, physical, economic, and policy factors, their impacts on HIV risk, and underage entry into sex work in Tijuana and Cd. Juarez, Mexico.

Objective

Our objective was to explore the relationship between features of FSWs' risk environment, sex work and drug use history, and selling/trading sex before age 18 among FSWs in Tijuana and Cd. Juarez. Since evidence suggests that both early and future exposure to risks are important to consider, our analysis examined associations between underage entry into sex work and recent (e.g., in the prior month) as well as past (e.g., lifetime) risks. We hypothesized that women who began sex work as minors would be more likely than those who began as adults to report exposure to recent and past risks related to their social (e.g., receptive syringe sharing; client-perpetrated violence), physical (e.g., street-based sex work), policy (e.g., police harassment; low access to harm reduction), and economic (e.g., higher earnings from sex work) environment, as well as to test HIV/STI positive.

Methods

Data collection

Cross-sectional data were collected during baseline interviews and laboratory testing for an intervention study that aimed to reduce injection and sexual risks associated with HIV/STI acquisition among FSWs who inject drugs, as previously described(41). Eligible women were female, ≥ 18 years old, lived in Tijuana or Cd. Juarez, spoke Spanish or English, did not plan to permanently move out of the city in the following 18 months, and reported selling/trading sex, injecting drugs, unprotected sex with clients, and syringe-sharing in the past month. Overall, 624 FSWs in Tijuana ($N = 308$) and Cd. Juarez ($N = 316$) were recruited between October 2008-July 2010. The study was approved by U.S. and Mexican institutional review boards. All participants provided written informed consent.

Local outreach workers unobtrusively approached women at bars, street corners and motels to assess study interest and eligibility. At baseline and quarterly thereafter, participants completed surveys and biological testing for HIV, syphilis, Gonorrhea, Chlamydia, and other STIs at study offices(41). This analysis was restricted to baseline data. Women testing HIV/STI positive were treated by medical professionals on-site or referred to municipal clinics. Participants were compensated \$25 USD.

Trained outreach workers administered computer-assisted programmed interview (CAPI) surveys in private offices. Surveys included questions on socio-demographics, sex work and drug use history, and risk environment factors(47, 49). Socio-demographics included age, marital status, birthplace, migration, and income. Questions on sex work and drug use history included age at first sex work and injection drug use and lifetime use of inhalants and 'hard' drugs such as heroin, methamphetamines, and cocaine, as well as recent risks (e.g., number of unprotected sex acts in the last month).

Variables covering the risk environment covered social (e.g., syringe sharing; forced entry into injection drug use; number of condom negotiation attempts with clients in the past month), physical (e.g., locations where traded sex in the past month), policy (e.g., police harassment and access to SEPs in the past 6 months; lifetime access to drug treatment), and economic (e.g., income from sex work in the past month; reasons for beginning sex work) influences at the micro and macro levels.

Data analysis

Our dichotomous dependent variable was underage sex work entry, defined as selling/trading sex before 18, the legal age of consent in Mexico. Independent variables of interest included socio-demographic factors (e.g., age, education), sex work and drug use histories (e.g., first drug used), HIV/STI status, and risk environment variables. Risk environment variables of interest included lifetime/early risks (e.g., number of lifetime drug treatment attempts; reasons for beginning sex work and injection drug use, including forced entry into drug use; history of sexual abuse) and recent risks in the social (e.g., receptive syringe sharing and number of condom negotiation attempts in the past month), policy (e.g., police harassment in the past 6 months), physical (e.g., location of sex work in the past month), and economic (e.g., monthly income from sex work) environment.

Statistical analyses compared women who entered sex work before the age of 18 and women who entered sex work at 18 years of age or older. To evaluate differences in HIV/STIs, sexual and drug-related risks, and risk environment factors between the two groups, we used Wilcoxon rank sum tests for continuous outcomes and Pearson's Chi-squared or Fisher's exact test for binary outcomes. The Wilcoxon rank sum test was used for all continuous outcomes, instead of the usual t-test, because these outcomes

violated parametric assumptions (e.g., normality). Similarly, for binary outcomes that violated distributional assumptions, the Fisher's exact test was used instead of the usual Pearson's χ^2 test. To control for multiple testing, the raw P values associated with outcomes within each area of interest (e.g., socio-demographics; sex work and substance use history) were adjusted for false discovery rate (FDR) by using the Hochberg and Benjamini method(83). While both raw and FDR Adjusted P-values are listed in Tables 3.1 and 3.2, the corresponding statistical inferences are based on FDR Adjusted P-values ($P_{\text{FDR-Adj}}$). To identify factors associated with underage sex entry, we performed univariate and multivariate logistic regressions with robust variance estimation via Generalized Estimating Equations (GEE). We used GEE in order to correct for the presence of over-dispersion in our data(84, 85), since this procedure can be used to produce robust variance estimators for un-correlated data, in order to correct for over- or under-dispersion(86).

Multivariate models were restricted to 534 women for whom complete data were available for variables of interest and were developed using a manual procedure whereby variables with a significance level of less than 10% in univariate regressions and which were *a priori* hypothesized to be related to underage sex work (e.g., receptive syringe sharing) were considered for inclusion in multivariate models. In order to determine the most parsimonious model, nested models were compared using the likelihood ratio statistic. Even though we did not hypothesize any significant interactions, to make sure that the main effects were interpreted correctly, all third and second order interactions between the variables included in the model were checked and ruled out. Also, the presence of multicollinearity between the predictor variables in the final model was ruled out by appropriate values of the largest condition index and of the variance inflation factors.

Results

Overall, 41% (n=253) of women entered sex work as minors. They were more likely than those who began as adults to be younger (median: 30.0 vs. 35.0 years, $P_{\text{FDR-Adj}} < 0.001$, $Z=5.62$), married, have fewer years of education, and be non-migrants (table 3.1). The median age at which respondents who began sex work as minors began to sell/trade sex was 15 years, compared to 22 years among those who entered as adults. They were more likely than adult initiators to report inhalants as the first drug they used, and began drinking alcohol (median: 13.9 vs. 16.4 years, $P_{\text{FDR-Adj}} < 0.001$, $Z=7.42$) and injecting drugs (median: 17.0 vs. 22.0 years,

$P_{\text{FDR-Adj}} < 0.001$, $Z=11.47$) at a younger age than their adult counterparts. Women who began sex work as minors were also significantly more likely to report that their first experiences using any drugs, injecting drugs, or drinking alcohol occurred after beginning sex work.

Early and lifetime risk environment: Women who began sex work as adolescents were less likely than their adult counterparts to report economic factors such as children's needs or daily expenses as reasons for beginning sex work. Regarding social influences on HIV risk, nonconsensual injection was more frequently cited as a reason for beginning to inject drugs by women who entered sex work as minors; adult initiators were more likely to cite depression or stress. Women who began sex work as minors were also more likely to report early gender-based violence than their adult counterparts; however, they were less likely to report that such violence occurred before beginning sex work. Among victims of prior abuse, these women were younger when they were first physically abused or raped than adult initiators. Women who began sex work when they were underage also reported a higher prevalence of risks related to the policy environment, including lower access to HIV prevention (e.g., fewer gynecological

checkups or condom demonstrations), although they reported a higher number of attempts to access substance abuse treatment.

Recent risk environment: Women who began sex work as minors on average reported a higher prevalence of recent risks related to their risk environment (table 3.2). They were more likely to report economic influences on risk, such as earning higher incomes through sex work and having a greater number of clients (mean: 53.86 vs. 46.17, $P_{\text{FDR-Adj}}=0.022$, $Z=2.30$) in the past month. In terms of social influences, women who began sex work as youth were more likely to report fewer condom negotiation attempts with steady partners, a greater number of unprotected sex acts, receptive needle-sharing (i.e., injecting with a syringe someone else had already used), and injecting with more people in the past month. Although they reported greater use of SEPs than their adult counterparts, women who began sex work as minors were also more likely to report risks related to the policy environment, including police abuse and harassment (e.g., sexual abuse to avoid arrest; syringe confiscation by police) in the past six months.

HIV/STI status: Prevalence of HIV and any STI/HIV were 5.2% and 60.7% among women who began sex work as minors, compared to 6.1% and 63.1% among older initiators; these were not significantly different.

After controlling for socio-demographic factors, variables that were independently associated with increased odds of underage sex work included reporting inhalants as the first drug used, nonconsensual injection as the reason they began injecting drugs, number of lifetime drug treatment attempts, and receptive needle sharing in the past month (table 3.3). Factors negatively associated with underage sex work entry included depression as the reason they began injecting drugs, and number of safer sex negotiation attempts with their steady partner in the past month.

Discussion

In this study of FSWs who inject drugs in Tijuana and Cd. Juarez, 41% entered sex work as minors. An earlier study found this proportion to be 9.8%(42). The current study recruited higher-risk women to participate in an intervention, which provided an opportunity to understand these women's experiences; additional studies among lower-risk FSW populations are needed to assess the impacts of underage sex work more generally.

Women who entered sex work as minors experienced a higher prevalence of sexual and substance-use risks related to their early and recent risk environment than their adult counterparts, suggesting that underage entry confers additional risks than those posed by sex work generally. These data are consistent with qualitative research documenting that concerns regarding survival, poverty, exploitation, and socio-economic mobility often outweigh the perceived harms of sex work among vulnerable youths in Mexico(78).

Early and lifetime exposure to risks: Our findings are consistent with prior research illustrating that early abuse shapes future exposure to risks in the lives of adolescent sex workers(23, 87). They also illustrate how youth sex work may exacerbate risks during adulthood, including injection drug use. Females who entered sex work during adolescence began injecting drugs at an earlier age than adult initiators; this occurred a median of 5 years after beginning sex work. They also experienced nearly five-fold higher odds of reporting that they first injected drugs because they were forced, while adult initiators were more likely to cite depression, implicating social relationships as a potential source of harm; similarly, recent qualitative research has demonstrated that FSWs who begin sex work as minors are sometimes coerced or forced into early substance use by intimate partners, family members, and friends(88). Women who

began sex work as minors were also more likely to report inhalants as first drug they used, which are typically used by street-entrenched youth lacking kinship ties(89). This is consistent with prior Mexican research and suggests the need to investigate structural drivers of adolescent substance use and sex work (e.g., homelessness; running away)(42, 87). Underage sex work entry was also positively associated with the number of lifetime reported drug treatment attempts. High rates of mistreatment in drug treatment centers and the prohibitive costs of methadone have been reported by IDUs in Mexico(90). Access to effective treatment is imperative to provide realistic options to young females struggling to overcome addiction. Contrary to our hypothesis, women who began sex work as youth were particularly likely to seek drug treatment; therefore, interventions that provide support and opportunities for youth to exit sex work should be considered within treatment programs. These findings suggest that features of women's early risk environment, including social (e.g., forced initial injection drug use) and policy factors (e.g., access to HIV prevention) play an important role in shaping entry into sex work and its future health and social consequences.

Recent exposure to risks: Underage sex work was independently associated with 27% lower odds of condom negotiation with steady partners. This is consistent with studies reporting increased sexual risks among younger FSWs, which is believed to result from social factors such as younger women's limited control over condom use and client demand for unprotected sex with them(78). Prior research suggesting that the risks experienced as youth are often reproduced during adulthood may explain the persistence of these behaviors into adulthood; for example, it is reasonable to believe that in the absence of effective interventions, adult FSWs who began sex work as minors may be more predisposed to re-engage in the high-risk behavioral patterns established during their adolescence than those who began as adults(91).

Women who entered sex work as adolescents also reported higher substance-related risks than their adult counterparts; these data mirror the findings of recent qualitative research with FSWs who began sex work as minors in Tijuana, which indicate that they often turn to substance use and its associated risks to cope with the impacts of sex work and marginalization(78, 88). Underage sex work entry was associated with three-fold higher odds of receptive needle sharing, which is also shaped by social and policy-related influences in the risk environment, such as social relationships, norms for injecting, the availability of and access to syringes, and policing practices(92-95). Syringe sharing is one of the strongest predictors of HIV and HCV infection among IDUs(96). Interventions that alter social norms and practices related to injection, ensure legal access to sterile injection equipment, and address harmful policing practices related to syringe possession(97-99) are needed to reduce receptive syringe sharing.

Although our findings suggest that underage sex work entry may increase exposure to recent sexual and substance-related risks in the social environment, it was not independently associated with HIV/STI infection, physical features of the risk environment (e.g., sex work location), or gender-based violence. Since HIV prevalence was low in this population, and that many of the STIs we measured are transient, our cross-sectional analysis is limited in its ability to examine a causal association. Despite increased sexual and substance-related risk behaviors among FSWs who began sex work as minors, it is also possible that the lack of an association between underage sex work and HIV/STI infection could be due to an increase in preventive behaviors(100); for example, women who began sex work as minors reported higher access to drug treatment and syringe exchange programs than their adult counterparts. Since the larger study within which these findings are based was not designed specifically to investigate

underage sex work, additional studies are needed to gain deeper insights into underage FSWs' wider experiences and their health consequences.

Strengths and limitations

Research with youth sex workers is often limited by their vulnerability, including ethical and reporting considerations associated with research among minors. In Mexico, the absence of programs serving adolescent FSWs led us to conclude that their recruitment was unethical. We retrospectively analyzed FSWs' experiences, which represented the safest way to study underage sex work. Due to its cross-sectional nature, our data cannot indicate causality; longitudinal studies among vulnerable youth or underage FSWs would provide greater evidence of causality. This study aimed to study factors both in the past and present that were associated with underage sex work entry; as such, the variables included in our final model represent different constructs that are individually associated with underage entry into sex work. However, it is possible that early experiences not included in our model, such as childhood abuse, may mediate the relationship between later experiences and underage sex work. Although this was not the aim of the present study, future analyses that incorporate mediation models could provide an important opportunity to ascertain the nature of the relationship between early and later experiences and HIV infection among underage FSWs. Despite the higher-risk profile of FSWs who began sex work as minors in our sample, it is possible that our sample size was not large enough to capture corresponding differences in HIV/STI prevalence, suggesting the need for large future studies among youth populations engaged in sex work. Our data also may be affected by social desirability bias, which would have underestimated risks. To minimize such bias, interviewers were

trained to collect data in a non-judgmental manner, ensure confidentiality, and develop rapport with participants.

Recommended interventions

Frohlich and Potvin define *vulnerable population* as groups that are commonly exposed to social and structural conditions that increase exposure to risks across the lifecourse(101, 102). We argue that females who enter sex work as adolescents are a *vulnerable population* who experience multiple, accumulating risks as youth and adults, including violence, forced and unsafe substance use, and unprotected sex. Since vulnerable populations often experience fewer opportunities than groups with more resources to derive benefits from population-based interventions, targeted interventions for vulnerable youth and younger FSWs are needed(101, 102).

Due to their inter-related nature and tendency to cluster, substance use, violence, and HIV/AIDS risk often manifest as *syndemics*(103, 105). Syndemics are “*two or more afflictions, interacting synergistically, contributing to excess burden of disease in a population*”(105). Since wider social and structural conditions (e.g., homelessness; gender-based violence; poverty) typically generate syndemics of HIV/STIs, substance use, and violence(104, 105, 106), interventions with vulnerable populations must address structural as well as individual-level factors(9, 79, 107).

Mexico currently lacks an effective system to protect and assist exploited or trafficked youth(108). In border cities, services for vulnerable youth are under-resourced and are not designed for FSWs' use. Services that address the wider risk environment, including integrated, youth-focused HIV prevention and care, drug treatment, shelter, vocational training, and psychological support are needed to prevent sex work among vulnerable youth and protect the health of younger FSWs. Wider efforts to prevent

exploitation of vulnerable women and girls are also needed, including community-based interventions that engage police (e.g., trainings on HIV prevention, trafficking and FSWs' rights), intimate partners, managers/bar owners, and clients in HIV prevention(57, 109, 110).

Changes in the policy environment are also imperative to prevent youth sex work and reduce its health and social impacts. In Mexico (and often internationally), underage FSWs are made 'doubly vulnerable' by policies limiting their access to services available to adults(78), displacing them from care and increasing their risk of exploitation and HIV/STIs(56, 78). While current criminal justice interventions do not address the factors rendering youth vulnerable to sex work(78), programs that increase youths' abilities to meet their needs (e.g., shelter; counseling) could reduce their dependence on sex work and enhance their capacity to prevent abuse, substance use, and HIV.

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Tables

Table 3.1: Socio-demographic factors and early/lifetime risk environment among female sex workers (N=624) in Tijuana and Cd. Juarez, Mexico, 2010

Variable	Began sex work as a minor (n=253)	Began sex work as an adult (n=371)	Total	Test Statistic	P-value	FDR Adjusted P-value
Socio-demographic factors						
Age (median, IQR ^o , years)	30.0 (25.0-37.0)	35.0 (29.0-41.0)	33.0 (27.5-40.0)	Z=5.62	<0.001	<0.001
Education (median, IQR, years)	6.0 (4.0-8.0)	7.0 (6.0-9.0)	6.0 (5.0-9.0)	Z=4.85	<0.001	<0.001
# of children (mean, IQR)	2.71 (1.0-4.0)	2.98 (2.0-4.0)	2.87(2.0-4.0)	Z=1.84	0.066	0.083
Married	111 (43.9%)	126 (34.0%)	237 (38.0%)	$\chi^2=6.27$	0.012	0.020
Non-migrant	119 (47.0%)	151 (40.7%)	270 (43.3%)	$\chi^2=2.46$	0.117	0.117
Sex work and substance use history						
Age when first sold or traded sex (median, IQR, years)	15.0 (14.0-16.0)	22.0 (19.0-28.0)	19.0 (15.0-24.0)	Z=21.23	<0.001	<0.001
Age when began to work regularly as a sex worker (median, IQR, years)	16.0 (15.0-17.0)	23.0 (20.0-28.0)	19.0 (16.0-25.0)	Z=18.62	<0.001	<0.001
Age when first drank alcohol, among those who ever drank alcohol (median, IQR, years)	13.9 (12.0-15.0)	16.4 (14.0-18.0)	15.4 (13.0-17.0)	Z=7.42	<0.001	<0.001
Used alcohol before sex work	114 (45.1%)	289 (77.9%)	403 (64.6%)	$\chi^2=70.92$	<0.001	<0.001
Age when first injected drugs (median, IQR, years)	17.0 (15.0-20.0)	22.0 (19.0-29.0)	20.0 (17.0-26.0)	Z=11.47	<0.001	<0.001
Injected drugs before sex work	42 (16.6%)	136 (36.7%)	178 (28.5%)	$\chi^2=29.68$	<0.001	<0.001
Used any drugs before sex work	142 (56.1%)	271 (73.0%)	413 (66.2%)	$\chi^2=19.24$	<0.001	<0.001
First drug used						
Inhalants	38 (15.0%)	32 (8.7%)	70 (11.3%)	$\chi^2=6.00$	0.014	0.017
Cocaine	119 (47.0%)	183 (49.7%)	302 (48.6%)	$\chi^2=0.44$	0.510	0.510
Methamphetamine	37 (14.6%)	66 (17.9%)	103 (16.6%)	$\chi^2=1.19$	0.276	0.304
Ever used inhalants	94 (37.2%)	64(17.3%)	158 (25.3%)	$\chi^2=31.51$	<0.001	<0.001
Economic factors						
Reasons for trading sex the first time*						
Needed money for bills & food	88 (39.6%)	135 (42.2%)	223 (41.1%)	$\chi^2=0.35$	0.553	0.830
Needed money for drugs	159 (71.6%)	229 (71.6%)	388 (71.6%)	$\chi^2=0.0002$	0.988	0.988
Needed money for children	26 (11.7%)	58 (18.1%)	84 (15.5%)	$\chi^2=4.12$	0.043	0.129
Social factors						
Reasons for injecting drugs the first time*						
Depressed	42 (19.1%)	95 (29.8%)	137 (25.4%)	$\chi^2=7.85$	0.005	0.013
To deal with stress	5 (2.3%)	30 (9.4%)	35 (6.5%)	$\chi^2=10.91$	<0.001	<0.001
Someone injected me without my consent	10 (4.5%)	4 (1.3%)	14 (2.6%)	NA	0.026**	0.043
I was curious about the high	134 (60.9%)	175 (54.9%)	309 (57.3%)	$\chi^2=1.95$	0.163	0.204
Ever physically abused	131 (52.8%)	173 (47.0%)	304 (49.4%)	$\chi^2=2.00$	0.157	0.204
Physically abused before sex work [†]	31 (23.8%)	90 (52.0%)	121 (39.9%)	$\chi^2=24.57$	<0.001	<0.001
Ever raped	132 (53.2%)	181 (48.9%)	313 (50.6%)	$\chi^2=1.10$	0.294	0.327
Age at first rape ^{††} (median, IQR, years)	14.0 (10.0-18.0)	17.0 (12.0-25.0)	15.0 (11.0-22.0)	Z=3.31	<0.001	<0.001
Raped before sex work ^{††}	62 (48.1%)	114 (63.3%)	176 (57.0%)	$\chi^2=7.15$	0.008	0.016
The first time raped, physical force/violence was used ^{††}	114 (87.7%)	149 (83.7%)	263 (85.4%)	$\chi^2=0.96$	0.330	0.330
Policy factors						
Ever had condom demonstration	103 (40.7%)	176 (47.4%)	279 (44.7%)	$\chi^2=2.75$	0.097	0.129
Ever had gynecological checkup	24 (9.5%)	97 (26.4%)	121 (19.5%)	$\chi^2=27.37$	<0.001	<0.001
Ever had HIV test	126 (50.0%)	201 (54.2%)	327 (52.5%)	$\chi^2=1.05$	0.305	0.305
# times received drug treatment (mean, IQR)	2.31 (0.0-3.0)	1.40 (0.0-2.0)	1.77(0.0-2.0)	Z=2.28	0.022	0.044

Table 3.1 Continued:

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

°IQR: Inter-quartile range

*Among respondents to a supplementary survey (n=542)

†Among those physically abused (n=304); ††Among those raped (n=313)

**Fisher's exact test was used to evaluate differences between women who began sex work as minor versus adults. The Chi-Squared test was used for all other binary variables and the Wilcoxon Rank Sum test was used for continuous variables.

Table 3.2: Recent risk environment and HIV/STI status among female sex workers (N=624) in Tijuana and Cd. Juarez, Mexico, 2010

Variable	Began sex work as a minor (n=253)	Began sex work as an adult (n=371)	Total	Test Statistic	P-value	FDR Adjusted P-value
Economic factors						
Monthly income from sex work (mean, IQR, USD) [†]	\$1551.76 (480-2070)	\$1353.01 (334-1570)	\$1434.19 (390-1770)	Z=2.38	0.018	0.022
# of clients (mean, IQR) [†]	53.86 (10.0-86.0)	46.17 (10.0-68.0)	49.31 (10.0-80.0)	Z=2.30	0.022	0.022
Social factors						
# of times tried to talk spouse/steady partner into condom use (mean) [†]	0.17	0.86	0.57	Z=0.15	0.878	0.878
# of unprotected sex acts (mean, IQR) [†]	35.65 (0.0-56.0)	29.49 (0.0-41.0)	31.99 (0.0-45.0)	Z=2.16	0.031	0.083
# of people usually injects with (mean, IQR) [†]	5.08 (2.0-6.0)	4.72 (1.0-5.0)	4.87 (1.0, 5.0)	Z=2.84	0.005	0.020
Receptive needle sharing [†]	246 (97.2%)	348 (94.1%)	594(95.3%)	$\chi^2=3.42$	0.064	0.128
Often/always had more than 5 drinks when drinking [†]	183 (72.3%)	274 (74.1%)	457 (73.4%)	$\chi^2=0.23$	0.633	0.723
Client violence						
<i>Ever raped by a client</i>	65 (26.1%)	74 (20.4%)	139 (22.7%)	$\chi^2=2.75$	0.097	0.129
<i>Age when first raped by a client (median, IQR, years)^{†††}</i>	23.0 (18.0-26.0)	26.8 (22.0-30.0)	25.0 (19.0-30.0)	Z=3.58	<0.001	<0.001
<i>Ever physically abused by a client[†]</i>	58 (23.2%)	65 (17.6%)	123 (19.8%)	Z=2.98	0.085	0.129
Policy factors						
When injecting drugs, got syringe from a syringe exchange program ²	31 (12.3%)	37 (10.0%)	68(10.9%)	$\chi^2=0.78$	0.376	0.376
Policing experiences						
<i>A police officer asked you for sexual favors²</i>	100 (39.7%)	103 (27.8%)	203 (32.6%)	$\chi^2=9.57$	0.002	0.003
<i>A police officer sexually abused you in exchange for not arresting you²</i>	56 (22.2%)	43 (11.6%)	99 (15.9%)	NA	<0.001 [*]	<0.001
<i>A police officer confiscated your syringes²</i>	144 (57.1%)	156 (42.2%)	300 (48.2%)	$\chi^2=13.47$	<0.001	<0.001
<i>A police officer forcibly took your money²</i>	125 (49.6%)	141 (38.1%)	266 (42.8%)	$\chi^2=8.09$	0.004	0.005
Physical factors						
Sex work venue ¹						
<i>Worked on the street</i>	203(80.6%)	297(80.3%)	500 (80.4%)	$\chi^2=0.008$	0.930	0.930
<i>Worked in a brothel</i>	11 (4.4%)	7 (1.9%)	18 (2.9%)	NA	0.088 ^{**}	0.264
<i>Worked in a bar/cantina</i>	54(21.4%)	77(20.8%)	131 (21.1%)	$\chi^2=0.03$	0.853	0.930
HIV/STI Test results						
Positive HIV test	13 (5.2%)	22 (6.1%)	35 (5.7%)	NA	0.725 ^{**}	0.725
Positive for any STI/HIV	145 (60.7%)	221 (63.1%)	366 (62.1%)	$\chi^2=0.37$	0.543	0.725

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

[†]Refers to past month; ²Refers to past 6 months

[°]IQR: Inter-quartile range

[†]Among those physically abused (n=304); ^{†††}Among those raped by a client (n=139)

^{**}Fisher's exact test was used to evaluate differences between women who began sex work as minor versus adults. The Chi-Squared test was used for all other binary variables and the Wilcoxon Rank Sum test was used for continuous variables.

Table 3.3: Variables independently associated with underage sex work entry among female sex workers (N=534) in Tijuana and Cd. Juarez, Mexico, 2010

Variable	Adjusted [†] OR	Adjusted 95% CI	Adjusted Z-Test Statistic	Adjusted P-value
Age	0.94	0.91, 0.96	4.96	<0.001
Years of education	0.89	0.84, 0.94	3.89	0.014
Married	1.66	1.13, 2.44	2.60	0.009
Early/lifetime exposure to risks				
First drug used				
<i>Inhalants</i>	1.99	1.09, 3.62	2.24	0.025
Reasons for injecting drugs for the first time				
<i>Depressed</i>	0.59	0.37, 0.95	2.16	0.031
<i>Someone injected me without my consent</i>	4.73	1.28, 17.42	2.34	0.020
# of times received drug treatment	1.07	1.01, 1.13	2.38	0.017
Recent exposure to risks				
# times tried to talk steady partner into condom use ¹	0.73	0.60, 0.89	3.04	0.002
Receptive needle sharing ¹	3.02	1.25, 7.32	2.45	0.014

¹Refers to past month

[†] Adjusted odds ratios reflect associations after controlling for all other variables that were included in the model

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CHAPTER 4: Unpacking structural violence, sex trafficking and HIV risk among formerly trafficked female sex workers in Tijuana, Mexico

Title: Unpacking structural violence, sex trafficking and HIV risk among formerly trafficked female sex workers in Tijuana, Mexico

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Abstract: Objective: Sex trafficking is a human rights abuse that carries many negative health and social consequences, including HIV and sexually transmitted infections (STIs). Evidence suggests that HIV vulnerability and sex trafficking ultimately result from wider structural factors. Our objective was to describe and “unpack” the structural context of sex trafficking and HIV vulnerability among formerly trafficked female sex workers (FSWs) along the U.S.-Mexico border, where the proliferation of organized sex tourism has created a large market for trafficked women and girls. Methods: From November 2010-March 2011, we conducted modified ethnographic fieldwork in Tijuana, Mexico, and San Diego, USA. In-depth interviews were conducted with formerly trafficked FSWs (n=30) aged ≥18, who sold/traded sex in Tijuana in the past month and reported being: <18 years old at sex work entry, forced/coerced into sex work, or transported against their will for sexual exploitation. Results: Our study suggests that trafficking along the Mexico-U.S. border is highly heterogeneous, ranging from cases of severe commercial sexual exploitation to subtle forms of deception or coercion. Eighty-three percent of FSWs reported being forced, coerced, or deceived into sex work; 37% began sex work as minors; and 7% reported forced movement for sexual exploitation. Sex trafficking was linked to elevated HIV vulnerability through the following themes: gender-based violence, economic vulnerability, migration, and stigma. Conclusions:

Factors rendering young females vulnerable to sex trafficking, and subsequently, HIV, represent a form of structural violence. Early experiences of young, abused women may have a direct influence on their future vulnerability to trafficking, sex work, and their associated health impacts. This underscores the importance of efforts to prevent gender-based violence, increase opportunities for at-risk youth to meet their basic needs (e.g., vocational training, job placements), and provide HIV prevention and addictions treatment for vulnerable youth and FSWs in Mexico-U.S. border cities.

Keywords: human trafficking, sex trafficking, violence, Mexico, sex work, HIV

Introduction

Defining sex trafficking

Sex trafficking is a human rights violation with enormous health and social consequences, including HIV and sexually transmitted infections (STIs)(1-6). In 2001, the U.N. Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children (Palermo Protocol) constituted the first international effort to criminalize trafficking(7). Sex trafficking is the most prevalent form of human trafficking, accounting for 70% of victims(8). While men and women are affected, 80% of victims are female(9). “Trafficking in persons” is defined by the Palermo Protocol as any act of recruitment, transportation, transfer, harboring or receipt of persons, using threat, force, coercion, abduction, fraud, or deception, for the purpose of prostitution or other forms of sexual exploitation, including all cases of sexual exploitation of minors(10).

Although *trafficking* hinges upon the use of coercion or force to sexually exploit an individual, whereas the term *sex work* refers to selling or trading sex not necessarily involving coercion or force, distinctions between trafficking and sex work are often blurred(11, 12). Whereas abolitionist researchers and advocates typically conflate the two(13), sex work researchers argue that women possess the *agency* to consent to sex work, which may constitute a rational option in light of limited economic opportunities(14). In light of this debate, reframing sex trafficking from *trafficked persons’* experiences is critical to inform the development of appropriate interventions(7, 15, 16). Stemming from fears of reprisal and stigmatization, trafficked persons have rarely participated in research, which has resulted in a field that has been “sensationalized, misrepresented, and politicized”(7, 15). Thus, this study aimed to gather the narratives of formerly trafficked women to inform evidence-based interventions.

Trafficking along the Mexico-U.S. border

Globally and across Latin America, women seeking a better livelihood often migrate to improve their economic situation. Though some women intentionally migrate for sex work (e.g., to earn better wages in higher-income countries) or voluntarily engage in sex work to meet subsistence or remittance needs during their journey or in their destination, others are trafficked(14). While accurate data on the magnitude of trafficking are lacking(17), Latin America is believed to be one of the largest sources of persons trafficked across international borders annually, yet is one of the most under-researched and under-funded regions of the world on human trafficking(18, 19). Mexico is a major source, transit, and destination country for trafficked persons; most individuals trafficked to the U.S. are trafficked from or through Mexico(7, 20). Sex trafficking is believed to be rife in sex tourism locations such as the Mexico-U.S. border, where large numbers of women and children from Central America and southern and central Mexico are reportedly trafficked for sex annually(21, 22). Mexico-U.S. border cities are characterized by mobility and thriving sex and drug trades; FSWs who work there experience high prevalence of violence, HIV, and STIs(23). Although many FSWs in Mexico-U.S. border cities are migrants(24, 25), the relationship between mobility, trafficking, and HIV risk has not been systematically investigated.

Sex trafficking, structural violence, and HIV vulnerability

HIV/STIs are among the most serious health and social consequences of sex trafficking(3-6, 26). Although HIV prevalence among sex trafficked women and girls in Latin America is unreported, high prevalence has been documented in Asia (i.e., 22-45.8% among trafficked women and girls in India and Nepal)(3, 6, 27). Despite extremely high HIV prevalence among trafficking survivors in some settings, studies that

assess trafficking-related exposures and HIV risk among survivors internationally are extremely scarce(6, 28).

Evidence suggests that vulnerability to HIV infection *and* trafficking ultimately result from wider structural factors, including poverty, inequality, gender inequities, and policies and laws surrounding immigration and sex work(29-32). In Latin America, “combinations of political, legal, cultural, and socio-economic factors, which create a deep level of desperation in vulnerable communities, provide ground for traffickers”(19)(p.130). For instance, gender norms (e.g., *machismo*) and discrimination in Mexico grant sexual decision-making power to males, limit economic opportunities for females, and foster social acceptance of gender-based violence (GBV), perpetuating women and girls’ vulnerability to trafficking, violence, and HIV(19, 33, 34).

Whereas HIV/STIs and sex trafficking have been linked in Asia, trafficking in the Americas is poorly understood. To improve and clarify our understanding of sex trafficking and its health impacts, researchers are “not only tasked with telling ex-captives’ stories...but also with laying bare and analyzing the structures through which modern-day slavery...thrive” (p.37)(15). To conceptualize the influence of structural factors on susceptibility to trafficking and HIV, we draw upon the concept of *structural violence*, which refers to a “broad rubric that includes a host of offenses against human dignity: extreme and relative poverty, social inequalities ranging from racism to gender inequality, and [...] other forms of violence that are uncontested human rights abuses”(35). This analytic lens facilitates insight into how patterns of exposure to risks are shaped wider economic and social processes that determine who will suffer abuse and who will be shielded from harm(35). It also draws attention to structural factors influencing health outcomes (e.g., HIV infection) *and* human rights violations (e.g.,

trafficking), offering opportunities to identify common targets for HIV and trafficking prevention.

To develop evidence-based interventions to improve the health and human rights of trafficked women, data gathered from trafficked persons' perspectives is needed(15). Since research on the lived experiences of sex trafficked women is lacking(7, 28), our objective was to describe and unpack formerly trafficked women's sex trafficking experiences and their relationship to HIV vulnerability. Drawing upon in-depth interviews and ethnographic fieldwork, we gathered and analyzed the narratives of formerly trafficked FSWs in Tijuana, Mexico.

Methods

Study setting

Tijuana, Mexico is believed to be an important trafficking *destination* (i.e., into sex tourism), *corridor* (i.e., into the U.S.), and *repatriation* location (i.e., where victims are deported). Approximately half of Tijuana's population is migrants(36). In 2008, the U.S. deported over 1 million (mostly Mexican) individuals; deportations have increased by 48% in San Diego since 2002(37). Tijuana is a popular destination for U.S. and other sex tourists, where an estimated 9000 FSW sell or trade sex to clients from the U.S., Mexico, and international locations(38, 39). Underage and adult FSWs are highly visible in the *Zona Norte* [North Zone], a red light district located blocks away from the U.S. border, in which the city's quasi-legal sex industry and injection drug use scenes are concentrated. The city is also experiencing an emerging HIV epidemic; as many as one in 116 persons aged 15–49 were estimated to be infected in 2006(40). HIV prevalence

has increased six-fold from <1% to 6% among FSWs in Tijuana and Ciudad Juarez in the past decade(41).

Data collection

From November 2010 to July 2011, we conducted ethnographic fieldwork in Tijuana, Mexico and San Diego, USA. Fieldwork included *field observations* (e.g., tours of service provision agencies; informal conversations and observations) and *in-depth interviews* with formerly trafficked FSWs (n=31) and their service providers (n=7) (39, 42, 43). Data collected during fieldwork (e.g., fieldnotes) contextualized information gathered during in-depth interviews and provided opportunities to recruit service providers for interviews. Since the current analysis aimed to understand formerly trafficked FSWs' lived experiences, this analysis was restricted to FSWs' interviews.

Eligibility criteria: FSWs (n=31) were sampled from a larger study among 420 FSWs and their non-commercial male partners in Tijuana and Cd. Juarez (*Proyecto Parejas*; PI: Strathdee). Eligibility criteria for FSWs participating in the larger study included being at least 18 years old; reporting lifetime use of heroin, cocaine, crack, or methamphetamine; having a stable partner for at least 6 months; reporting sex with that partner in the 30 days prior to the interview; and having traded sex in the past 30 days. From this sampling frame, FSWs who lived in Tijuana and reported having been <18 years old the first time they sold/traded sex; forced, coerced, or deceived into beginning or continuing sex work; or moved against their will for sexual exploitation were eligible to participate in in-depth interviews regarding their trafficking experiences. Women who represented a range in age, nationality, and trafficking experiences (e.g., underage sex work vs. forced movement) were purposively selected(44). Participants completed written informed consent prior to participating. Ethical approval was obtained from

institutional review boards at the University of California, San Diego in the U.S. and El Colegio de la Frontera Norte in Mexico. Twenty USD was provided to compensate women for their time and travel costs.

Interviews: Semi-structured interviews were conducted in private offices in Tijuana's *Zona Norte* by trained female interviewers from a local community-based organization and the University of California, San Diego. Interviews were conducted in the language of participants' choice (Spanish or English), audio-taped, and lasted approximately 1.5 hours. They consisted of open-ended questions, which were pilot tested and revised as data collection and analysis progressed. Due to the sensitive nature of trafficking research, interviewers were trained to prioritize listening and attending to participants' perspectives and needs, rather than pressing for distressing details(45). Women were invited to describe and reflect upon the circumstances surrounding their entry into sex work, the reasons they currently sell/trade sex, and their migration history. Interviews covered women's experiences with structural (e.g., gender inequities; deportation history; access to health and social services) as well as individual-level factors (e.g., HIV/STI prevention, substance use, violence). *Member-checking* interviews were conducted with a purposively sampled sub-group of women (n=6) who provided diverse accounts of trafficking; member-checking interviews built upon concepts described during initial interviews and gathered feedback on preliminary findings.

Data analysis

The data were coded using the software NVivo 9.0. Data analysis was led by Goldenberg in conjunction with the co-authors, who were consulted regarding the identification and interpretation of themes and relationships between them. Data analysis

was restricted to 30 FSWs who began sex work 15 years ago on average (range 4 to 33); an additional FSW was excluded from the analysis, whose trafficking experience had occurred over 40 years ago. We employed the constant comparative method to describe the content and structure of our data(46). The analysis began with open coding to generate an initial coding scheme informed by participants' language and experiences. We subsequently regrouped codes into higher-level conceptual categories that emphasized the identification of structural factors and patterns of structural violence and their relationship to sex trafficking and HIV vulnerability(35).

Results

Participant characteristics

On average, participants were 32 years old and completed 7 years of education. Most (n=17) were migrants from other parts of Mexico. By design, substance use was highly prevalent; sixty percent of women had injected drugs in the past 6 months. Five women tested positive for any STI/HIV (Table 4.1).

Twenty-five women began sex work as minors (SW<18); 11 were forced, coerced, or deceived into sex work (ForcedSW); and two reported forced movement for sexual exploitation (TransportSW). The average age at which participants first sold or traded sex was 17 (range: 12-28). Thirty-seven percent of women reported a history of rape, which on average occurred at age 11; under one quarter of participants reported prior physical abuse, which typically after they had already begun sex work (mean age: 18.3) (Table 4.2).

Findings

Vulnerability to trafficking and HIV were linked through the cross-cutting themes of gender-based violence (GBV), economic vulnerability and independence, migration, and stigma. These themes were shown to increase the likelihood of sex trafficking and exploitation, increase marginalization and reliance on sex work, and limit opportunities for HIV prevention.

Gender-based Violence

Most women experienced sexual violence during their childhood, early years in sex work, and daily lives as adult FSWs; such experiences were commonly described as perpetuating or reinforcing women's vulnerability to exploitation, trafficking, and HIV infection.

Early sexual abuse as an entrée into trafficking

Participants generally experienced a neglectful, unstable, and abusive childhood, which resulted in them dropping out of school and being exposed to sex work and substance use at a young age. For example, many participants' mothers had also been sex workers, some of whom had trafficked them into sex work as girls. Most women linked early sexual abuse by male relatives, neighbors, and strangers to their subsequent experiences of trauma, marginalization, and homelessness:

Well, how did I start? Well, I didn't start, I was put into it... See, it was very hard for me because I was raped at 11 years old and I had that trauma. I started working at 13 years old, they took me like any other chick that they would take to a place like that[...] they made me take my clothes off, I felt attacked, they gave me 500 pesos [approximately 50 USD][SW<18].

I started that stage [sex work] when my dad raped me when I was 14 [...] I left my house, [I went] to the streets with the drug addicts[...] [I met] my pimp when I was about 16 years old [SW<18, ForcedSW, TransportSW].

I left my house when I was 13 years old because of the hitting[...] I was the one that was beat up. There was a certain point where I got tired of it[...] I left the house, I was on the streets...I stayed at an abandoned house by myself [...] Sometimes the gangsters would go there to *chemear* [use inhalants][...] One time I was sleeping, I was tired because I hadn't slept in days. That's when I lost it [my virginity]. You know. It was about 15 guys in the group and they all did it. The good thing is that I was left alive, right? I started walking along that neighborhood [doing sex work] [SW<18].

At this highly vulnerable point in their lives, some women reported being trafficked into sex work by individuals who had used force, coercion, or deceit to exploit them. As runaway youth lacking resources or social support, friends, strangers, or clients that participants relied on were often those who exploited them in sex work for the first time:

Q: How was it that you first started or how did you decide to exchange sex the first time?

A: Well, that was when I left my home, and, um, I went to live with a friend, and she was doing the same thing [sex work]...everything was fine for a while, but later on I had to start having sex in exchange for getting to live there[...] One day we were drinking at her house and that was when everything started. I didn't want to and I guess she took advantage of me because I was drunk at the time, and that was when[...] for me to be here and to be able to eat, I guess...I had to do that [SW<18, ForcedSW].

Everything happened because I was desperate...I was hungry, I didn't know what to do[...] So, this chick told me, "Oh well, let's go meet a friend, he has a lot of money and he's American..." But she went with the intention of selling me[...] She didn't tell me that she was going to take me to a client or anything[...] Obviously, if she had told me what I had to do, I wouldn't have gone, but she tricked me [SW<18].

The combination of being young, inexperienced, and alone often rendered young women vulnerable to sex trafficking and its impacts. Many described their early years in sex work as a time of naiveté in which they had trusted strangers, friends, and intimate partners who concealed their intentions of exploiting them. Some discussed how their young age made them increasingly profitable and easy to exploit:

He brainwashed me and started telling me things, well...he was about 30 years old and well, I was 15 or 16[...] I was very young, you know how people can be ignorant[...] My eyes looked like money signs to him (laughs)...especially because I was young...I was doing prostitution before I was 16 years old, because I would get [more] money as a young lady, right? Why didn't he find someone older? Because she'd already know what's up, and we don't since we're young - we believe everything we're told or promised....later on you'll realize what problem you're getting yourself into [SW<18, ForcedSW].

However, not all women framed themselves as naïve, vulnerable, or exploited as youth. Given the dire circumstances they faced after running away, they described having done what was necessary to survive, including sex work. Although these women had begun sex work as minors and often perceived their entry as forced by their circumstances, many did not describe force or coercion by third parties as playing a role in their entry into sex work:

I did it for money, not because I wanted to. Once I didn't have a place to stay, I didn't have money and it was nighttime. I was hungry and I was using crystal [meth] a little[...] I ran into this man. I didn't know how much to charge or anything... I told him, "I'm really sleepy and hungry" and [that] I wasn't from here... He told me "I can give you [money] to rent a room for 100 pesos [approximately 10 USD]." It was the first time that I did it [...] and then I started getting the hang of it until I learned more and more with time, [I began] by myself...I've never had a pimp or anything like that [SW<18].

I came to the *Centro* [downtown][...] I was on the streets, I started doing prostitution at a bar when I was 16 years old. I started using heroin and doing prostitution when I got here, to get money for drugs [SW<18].

Contextualizing ongoing GBV

Despite their efforts to escape their past experiences of abuse, after leaving home, women experienced violence from clients, intimate partners, and traffickers, including rape, beatings, physical confinement, and threats. This was generally most severe among survivors of extreme trafficking. Some participants had been raped by their traffickers immediately preceding or during forced sex work:

He [her friend's "uncle"] did force me to do it[...] he used force to make me do it and he left bruises on my hands. Honestly, I couldn't take it ...I'm never going to forget about it, because he assaulted me [SW<18, ForcedSW].

Sexual violence during trafficking was described as limiting opportunities for condom negotiation, especially during participants' early years in sex work:

They [her traffickers] would get us in the room at night, the first time I said "no, that that's not how the business went," that's not how we did it...Pretty much the only ones we didn't use protection with were with him[her trafficker] or his friends; he hit me too [ForcedSW].

In addition to issues of power and violence, women who began sex work as adolescents described lacking the awareness or resources they needed to understand the consequences of sex work or engage in HIV prevention:

Q: That first time that you had [forced] sex with a client, when you were with your friend, did she tell you to use a condom? Did you know you had to use a condom?

A: Well honestly, I don't remember, I think probably...not, because I remember when he pulled out...I got scared, I started to cry, I was all wet down there, and so I don't think he used one[...] Later on, the other girls explained, "listen, you have to take these precautions, don't even think about doing it without a condom"...And so then that was when I started to know about using condoms [SW<18, ForcedSW].

In addition to HIV/STI risk, women described ongoing exposure to violence as a consequence of earlier abuse, including trafficking. Most had never received any psychological support related to their past and perceived that they were still suffering from past abuses. For example, women often downplayed their experiences of intimate partner violence, since they considered these relationships to be an improvement over their past. For some, willingness to maintain abusive relationships was linked to a sense of fatalism attributed to all of the abuse they had already experienced. As one woman put it,

What more could happen to me that hadn't already? I wasn't scared of dying, many times what I wanted was to die [ForcedSW].

Contributing to participants' frustration and sense of fear was impunity among their perpetrators of violence. Due to well-founded fears of further violence, retribution against their family, or stigmatization, most women had never reported prior abuse to law enforcement:

They'll almost kill you and you'll have to leave with a black eye or with a bruised arm...and what can you say? "I fell down the stairs, I bumped into the rail, I tripped." Those are rules that have existed for years, in *La Zona [Norte]*. You're worthless if you complain to the public ministry [SW<18].

My mom didn't want to do anything because they threatened her, the guys told her that if we said anything, they would make trouble for our family [SW<18, ForcedSW].

Economic Vulnerability

Sources of economic vulnerability

Women often cited economic needs, including shelter, food, and money to support young children, parents, and intimate partners, as factors that influenced their vulnerability to exploitation and sex work. Most participants had young children as adolescents, whose needs were among the most common reasons described for beginning sex work:

Q: How was the first time that you sold or exchanged sex?

A: [It was] because I needed something to eat. I came here at a young age from Sinaloa...I liked the money, honestly, because during that time my parents weren't in a 100% good [financial] situation. I've always worried about my mom and my siblings[...] I saw that they struggled and I started thinking about ways I could help [SW<18].

I had to find ways of getting some money, because my kids had to eat [ForcedSW].

My daughter has asthmatic bronchitis...To pay for all the medications, rent, and everything, I had to start[prostitution]. I needed money to pay for my daughter's medication, I wasn't going to let her die...and I didn't have any support here, no family, no uncles or anything [SW<18].

Some women explained that these economic needs had rendered them vulnerable to traffickers' pursuits:

I started [sex work] before I was 15 years old...it was out of necessity and the ignorance of not knowing what all of those things brought you. It was the need for money, right? I became a mom at a very, very young age; I was already pregnant at 15 years old. I started prostitution after I had my daughter[...] because of a person that I met on the streets, he initiated me. He wanted to trick me. He started talking to me, he asked me out...I started going out with him, then he started taking me to the bars [SW<18, ForcedSW].

The need to support unemployed and economically dependent male partners was also stated as important, although a minority of women acknowledged their partners' efforts to provide for them. Although the Spanish term '*padrote*' is typically translated as a pimp, women often used this term to describe intimate partners. Having an exploitative male partner or *padrote* was said to be common among FSWs in Tijuana, which some women attributed to local beliefs that it is 'easier' for a female to sell her body than it is for a male (especially a drug user) to find employment. Women were often highly critical of these norms:

I have friends that have their partners and the men don't work. I met a friend, she had a husband, and she went out to work every day[...] You could say that he did exploit her, he didn't use violence or force, she paid his rent, everything. The man was just at the house, but I call that a '*padrote*' [SW<18].

She [a friend] supposedly had her husband, but that idiot was good for nothing. He would just send her to work [prostitution] and everything. He would get into heroin, a lot of drugs...he was a good for nothing. He didn't work [SW<18].

Many women cast male partners who had previously forced/coerced them into sex work in this light:

My former partner basically sent me to do prostitution. One time I didn't earn the amount he wanted, he was like what they refer to as '*padrotes*' here. Since I didn't bring back the amount that he wanted... he told me that I had to go out because we owed rent, and we started to argue, that's why he grabbed a piece of glass, and he got [cut] me [SW<18].

When he sees that I have money and asks to borrow some, he doesn't say anything... But, if I come late and I don't have any money, what does he do? He hits me[...] He wanted to be my pimp. Well, I expected that he'd get me out of here...But that hasn't happened...he bosses me around and tells me to go sell myself [SW<18].

Gaining control: independence, resilience, and HIV prevention

Participants characterized themselves during their early years in sex work as lacking experience and control over their well-being. As one participant commented, "there was a time when I lived with that fear [...] I didn't have a way to protect myself. I simply put myself at risk" [PTJ227, SW<18]. However, most had left the exploitative circumstances they associated with their entry into sex work. For example, many participants described finally gathering the courage to leave '*padrotes*':

He [her intimate partner] was the one that initiated me, he wanted to deceive me, to be my pimp[...] But I didn't let him and I left - I started doing it on my own. I said, "Instead of giving someone else money, I'd rather keep it. If I'm doing something bad, it should at least be worth it." At least I opened my eyes, I didn't want to keep giving money to people who just wanted to take advantage of me [SW<18, ForcedSW].

After leaving the exploitative conditions characterizing their early years in sex work, many women continued sex work independently. Participants generally expressed a strong desire to find alternate employment. As one woman stated, "I don't want to continue being a prostitute, I want to have a career" [SW<18, ForcedSW, TransportSW]. However, most felt that they had few other options to support themselves or family members:

I have kids, I had never abandoned them[...], [but] they have to eat. It seems easier to find money here [in sex work], but I don't want that [ForcedSW].

It's not a good thing to be a prostitute, but it's nice when your children have clothes to wear, and something to eat[...] I was able to give a *Quinciañera* [sweet 15] to my two daughters, they're both going to school.[...] I've experienced bad things, but prostitution has given me

great things by seeing my daughters grow up and going to school [SW<18].

Q: What would you like for there to be at the service providers...for example, for your needs?

A: There are jobs...but well, no, one doesn't have the means to study, and many don't, not just me[...] Many would take a computer or beauty course, to look for a better job. There are a lot that are happy with what they do, but there are a lot who aren't, who do it because we don't have another way of getting a job.

Q: If you had that opportunity, would you take it to give yourself another chance?

A: Of course I would [ForcedSW].

Despite their ongoing reliance on sex work, most women distinguished between their past and present working conditions through a sense of control over their own lives, including keeping their earnings, setting their schedule, and deciding upon clients. As formerly trafficked women described their experiences as independent FSWs in Tijuana:

My life was calmer because I was earning my own money; the money I earned belonged to me. I rented a hotel room and lived there on my own, nobody told me what to do [SW<18, ForcedSW].

There wasn't anyone that would take your money, the money was yours. I could buy myself things or I could get a more luxurious hotel...[when] I had a pimp, I had less money, so it was different, it was a big novelty, a new experience[...] well, I started buying clothes...I wanted to look good, even though I was so damaged on the inside [SW<18, ForcedSW, TransportSW].

These distinctions between sex work and trafficking were shown to have implications for HIV risk and prevention. Although many women acknowledged that they had unfairly suffered past instances of trafficking, rape, and exploitation, with increased time, experience, and autonomy in sex work, they developed 'street smarts' to mitigate exploitation and HIV risk. Risk mitigation strategies included keeping work and intimate relationships separate, maintaining control over their earnings, avoiding getting into clients' vehicles, and only choosing known clients. Rather than portraying themselves as

victims, most women's post-trafficking narratives included accounts of adaptation and resilience:

I suffered a lot in the beginning...When I used heroin, I got into cars, I went to other places...one time a drunk man, umm... he raped me and didn't want to pay.[...] Later, I started being more careful by not getting into cars or leaving with strangers [SW<18, ForcedSW].

You learn to sense when someone is going to cross the line. With time you learn to detect it[...] you don't do it because you feel like something is going to happen [SW<18].

I don't go in cars anymore, I don't go with strangers. If I have a preferred client I'll go in my hotel, I go out, I stand outside of the hotel[...] you're never safe, but you can always take precautions [SW<18].

Migration as a pathway into sex trafficking

Sixty-three percent of women were migrants; most were from other states in Mexico. While some migrated with their families when they were very young, most came to Tijuana with friends or intimate partners as adolescents or adults. 'Push' factors influencing participants' migration to Tijuana included poverty, abuse, limited opportunities in home communities, a desire for socio-economic mobility, and deportation. Some women had migrated to Tijuana with the intention of crossing into to the U.S., but had changed their plans, been unable to secure safe passage, or had been deported to Mexico after spending time in the U.S.

Forced movement

Although few participants reported forced migration for the purposes of sexual exploitation, many had been encouraged to migrate by intimate partners, friends, and parents. Some were trafficked into sex work by these individuals upon their arrival; as a Central American woman explained,

Once we got here, he took me to the *Callejon* [the main sex work strip]

where there were a lot of women[...]. He said, “Look, this is where you are going to work...” From the time I got here, the next day he wanted to send me off to work...he first charged and then he sent them here. He wasn’t embarrassed to do it[...] He said he was going to call immigration services so they would take me away, because I wasn’t from here [SW<18, ForcedSW, TransportSW].

Some women also experienced sex trafficking during migration. As a participant who had been exploited in multiple U.S. locations before arriving in Tijuana explained:

A: We’d go from town to town from California...all the way to Oregon, but to totally Mexican towns, where they worked the fields. And we’d get there and he charged... during that time, he only gave us food, clothes and a place to live[...] he would take us to the Mexican dances or to the field...

Q: How was it that you met him?

A: I didn’t have a place to go, I didn’t have any idea what I was going to do and they told me, “We’re going from here to Oregon...since we’re Mexican and don’t have papers, we’ll pay your way there for driving.” And then it started, the first place they got to, [they said]: “You’re going to make more money if you help us get two, three guys to pay us. You’re not going to have to sleep with them.” But that didn’t even last two or three days. I didn’t have money, no way to come back, I didn’t even know where I was [ForcedSW].

A few participants knowingly migrated to Tijuana for sex work, though they did not anticipate the risks they experienced upon their arrival. These women had typically begun sex work in other Mexican (e.g., Acapulco) or U.S. (e.g., Los Angeles) cities, and explained how the realities that awaited them did not correspond to their expectations:

I came blind. Well, because of what I heard about Tijuana[...] what does Tijuana have that makes the whole world want to go over there? [SW<18].

Women who had been deported to Tijuana from the U.S. often considered their migration involuntary. Deportees who typically arrived in Mexico with no plans, money, or family to assist them quickly became aware of the opportunities posed by exchanging sex in Tijuana’s *Zona Norte*. Most deportees had not engaged in sex work prior to their deportation – rather, some began to sell/trade sex as a temporary survival strategy, while others were trafficked by individuals who had offered them support:

Right here when I got deported, the first night I was here I didn't have a penny, a dollar, a peso. I had nothing here...and someone was telling me, "you should do this and that"[...] It was supposedly a friend of mine, but he was telling me, "I know this guy and he'll give you \$20[USD] to be with him, it's just 'gonna be real quick. Just go with him real quick and you'll have money."[...] I had no other way. It was either stay on the streets and be moneyless or...go with his friends and get money to be well [ForcedSW].

I rented a room and I started to work here at the bars, doing what I could, but I started getting into the habit of doing drugs...[I felt] a lot of desperation, stress, but you can't do anything; you do what you need to do to survive[...] There were guys who would help me, but it wasn't enough. I started working like that [sex work] [SW<18].

Deported women often explained that their economic needs were so dire that they sometimes acquiesced to unprotected sex with clients, despite their awareness of the risks posed. Many described feeling fatalistic or destitute after their deportation, thus framing HIV as an inevitable risk perceived as outside of their control:

I knew about diseases and stuff, and I knew that I should use condoms[...] Most of the customers...they wouldn't use condoms. I needed the money and I had nowhere else to get it from[...] I would worry about it, but I had, like, submitted myself to that risk [ForcedSW].

Migration to a 'risk environment'

In addition to deportees, countless other migrants described having experienced sex trafficking by individuals who had offered them support upon their arrival in Tijuana. Social isolation and economic desperation positioned migrant females as targets for men who looked to take advantage of them – a practice said to be common in Tijuana's *Zona Norte*, due to its large concentration of marginalized and economically destitute populations, including male deportees.

In the United States...when you think of Tijuana, it's to come and have fun or drink. They don't realize that there are people who live here, off catching the people who come, to steal from them, to convince them, to put them to work, more for the underage girls. There are people who live just by waiting at the line [border], in the bars, listening to people to see where they come from [ForcedSW].

My daughter's father used to make me work, he was my pimp[...] He came to Tijuana in 2008 because he was deported[...] He didn't want to work and he wanted me to keep supporting him financially. He wanted money for drugs...he beat me up on the streets once...I left to work at a "casa de citas" [escort service] after that [SW<18].

Widespread sex work, injection drug use, and unemployment in the *Zona Norte* were described as constituting a 'risk environment' in which these activities were *normalized*:

You work or prostitute yourself, that's the everyday way of living [...] Here in *La Zona [Norte]*... prostitution, drug addiction, and alcoholism [SW<18].

Women typically linked their migration to this 'risk environment' to their first exposure to and use of injection drugs. Heroin was described as unavailable in most other parts of Mexico. Most women situated their first injection experience in Tijuana's *Zona Norte*:

Right there by the arch [a landmark welcoming tourists to Tijuana]...It was like a hidden world...in my mind I said, this is a secret world of the drug dealers.[...] I made a lot of friends, they smoked heroin, and I started to get hooked.[...] By the arch, that's where they started teaching me how to prostitute myself [ForcedSW].

In addition to the availability of drugs and social tolerance of sex work characterizing Tijuana's *Zona Norte*, migrants often cited the stress and loneliness they experienced during their early years in Tijuana as drivers of addictions and sex work:

I was very young[...] The fact that I didn't have anyone here in Tijuana was a big influence.[...] I didn't have brothers, parents, uncles, nothing.[...] And well, all of that brought me closer to people who weren't good. Not having family or whatever can push towards the easier route [addictions] [SW<18, ForcedSW].

You're gonna end up with drugs. It's hard not to, because you want something to numb all that crap out [ForcedSW].

Substance use was described as inhibiting safer sex considerations and perpetuating ongoing dependence on sex work; most women described addictions and

sex work as co-dependent, mutually reinforcing activities, which together represented an endless cycle of marginalization.

I would have liked for someone to tell me about this vicious cycle that you could fall into when I first got here. After some time went by, I got used to being here[...] I'm inside this circle, sex, prostitution, drugs, money [SW<18].

Stigma and shame

Stigma and shame also contribute to vulnerability to trafficking and reliance on sex work. Many women were highly stigmatized as young girls, which had deep-rooted impacts throughout their lives. Survivors of childhood sexual abuse often recounted being blamed by family members (and themselves) for the violence committed against them. For example, one participant dropped out of school to because of the shame an unintended pregnancy would have caused her family, while another had been labeled by her family as a 'whore' and further stigmatized after being raped at age 9.

After beginning sex work, participants who began sex work as adolescents painfully recounted their disillusionment with the treatment they received from their families, who often blamed them for their poor 'choices' or ignored their daughters' involvement in sex work. Women often internalized and reproduced these reactions; some perceived them as 'normal' response to their decisions, while others were highly critical of their parents' failure to intervene, which they attributed to their reliance on the income sex work brought in:

I was waiting for my mom to tell me, "come back home". I stayed and kept teaching myself [sex work], going out [SW<18, ForcedSW].

It did bother her [her mother], but I was bringing in money, and she didn't say anything.[...] They only told me to be careful and that I should take care of myself, that once something happens to me, it will be my fault...She had a right over me, because I was minor. She came to my work at the bar because she wanted money[...] She never came to take

me out of that place because I shouldn't be working there [SW<18, ForcedSW].

In response to stigmatization, many women distanced themselves from family members, friends, or services (e.g., police; health care providers) – a decision that reinforced their social isolation, marginalization, and dependence on sex work. Although many had previously been trafficked into sex work, stigma and social ostracism were among the main reasons that participants continued to sell/trade sex, rather than force or obligation:

A lot of people don't know that I'm still alive and over here. It's tough...I've always feared that they'll see how I am, or maybe that they're embarrassed, [so] I distance myself [SW<18].

Gaining employment in another sector was seen by most women as a distal reality. Although countless women recounted efforts to do so, stigma was a serious barrier to obtaining alternate employment:

Q: What are the challenges you've had when looking for a job?

A: Well for example, right now there's a sign that says, "cashier needed" [...] I go and ask and they tell me, "oh no, you're from from the *Zona [Norte]*" [SW<18].

Although women unanimously described their desires to seek health and social assistance to recover from their past, women's narratives illustrated how stigma is institutionalized within such public assistance programs, thereby limiting opportunities for women to recover:

The government marginalizes you because of your past[...] you're marked for the rest of your life...as they say here in Tijuana we're "*la lacra de la sociedad*" [a mark on society] because we work in prostitution [SW<18].

Participants frequently described being stigmatized and mistreated in drug treatment; one woman who had been raped by a treatment center's director suggested that this was tied to her referral there by a manager of a sex work establishment. At a

local hospital widely acknowledged to be the main source of care for marginalized populations in the *Zona Norte*, participants routinely described receiving a very poor standard of care due to discrimination. As one woman put it,

They don't listen to me at the general hospital, they'd prefer for an addict to die [SW<18].

Many women described stigma as a barrier to receiving assistance from law enforcement. Women consistently described failed efforts to press charges against perpetrators of violence, citing stigma as a reason for such impunity:

I pressed charges against him but they didn't follow up[...] They must have said, "She's from *La Zona [Norte]*, those must be hickies" when they saw all of the marks from when he was choking me[...] they didn't do anything and the papers got lost [SW<18].

The police here won't believe you, they don't take you seriously, they tell you that you're a prostitute, a drug addict and they ignore you [SW<18, ForcedSW, TransportSW].

Discussion

The experiences of formerly trafficked FSWs along the Mexico-U.S. border are nuanced, complex, and highly heterogeneous. Rather than reflecting popular discourse on trafficking (e.g., being recruited or kidnapped from one's hometown by traffickers), the most common pathway into sex work for women who met criteria for being trafficked was through underage sex work. However, less than a third of these women (n=7) described having been exploited by a pimp/trafficker.

GBV, economic vulnerability, migration, and stigma emerged as central features of participants' trafficking and sex work histories, which appeared to increase risk of HIV/STIs. These findings support prior research suggesting that trafficked women experience higher risks related to HIV/STI infection and violence(1, 6). Taken together, these influences represent a form of structural violence, drawing attention to how social

and economic processes related to gender, power, immigration, and socio-economic status shape the distribution of health and social risks. Our findings situate sex trafficking and HIV risk as inextricably linked to wider geopolitical conditions such as undocumented migration and deportation, drug trafficking routes and local patterns of illicit drug use, gender-based inequities and social tolerance of GBV, and social mores related to gender roles, sexual behavior, and substance use. Since trafficking appears to be deeply embedded in local context, future research that aims to understand trafficking within its social and cultural context, rather than attempting to generalize it across diverse international contexts, is needed.

Whereas prior studies have linked sex trafficking to vulnerability factors such as poverty and low education levels(47-49), early GBV emerged as a powerful influence over future vulnerability to trafficking, sex work, addictions, and violence. This is supported by prior research linking childhood sexual abuse to future risk behaviors(50-53). These findings resonate with data indicating that trafficked persons who do not receive appropriate support are highly vulnerable to revictimization(6, 19). Medical, legal, and economic assistance for trafficked persons are in development in many nations, including Mexico(7), which is characterized by an “alarming” lack of support(19). These inadequate victim protections and support are believed to contribute to “double vulnerability” among trafficked persons, who experience the harms associated with trafficking as well as fear of retribution, prosecution, or deportation(19, 20). Additionally, high levels of substance use among trafficked FSWs in Tijuana’s *Zona Norte* were shown to represent yet another source of harm in these women’s lives, suggesting that the risks associated with trafficking may even more pronounced in settings characterized by high levels of substance use, such as Mexican border cities.

Our study noted the powerful influence of economic factors in perpetuating vulnerability to trafficking and sex work. Although economic inequalities and limited opportunities for women have been previously described as drivers of trafficking(19, 54), our study uniquely illustrates how economic factors may mediate the relationship between prior GBV and sex trafficking. For example, the consequences of early abuse (e.g., homelessness; unintended pregnancy) were shown to give rise to economic needs (e.g., shelter; children's needs) that subsequently resulted in underage sex work. Our findings related to GBV and the impacts of gender inequities across other study themes (e.g., economic vulnerability) depict how prevailing gender and cultural norms in Mexico (i.e., *machismo*) may perpetuate, normalize, or at a minimum, result in a failure to adequately respond to young women's susceptibility to exploitation, abuse, and HIV risk. The finding that stigma increases marginalization and poses barriers to care and exiting sex work is consistent with earlier studies suggesting that stigma and ostracism compound suffering, pose barriers to care, and increase susceptibility to abuse and the likelihood of re-engaging in risk behaviors(1, 15, 55).

Contrary to popular notions of trafficking as a linear, well-organized process, sex trafficking was a chaotic and recurring experience in participants' lives. Women often described multiple, ongoing sources of exploitation and violence throughout their lives (e.g., *padrotes*), making it difficult to tease out trafficking from sex work in this context. Our findings regarding the influence of deportation as a driver of trafficking and the role of male deportees are supported by prior research suggesting that large scale deportations of Mexican and Central American nationals from the U.S. have resulted in a proliferation of trafficking and smuggling in the region, which "has become the stage for increased criminal activity of this sort"(19, 20). However, to the best of our knowledge,

this is the first empirical study that has examined the relationship between deportation and trafficking from trafficked women's perspectives.

Strengths and limitations

Efforts to quantify the magnitude of trafficking have been critiqued as flawed due to the 'hidden' nature of trafficked persons(15). This study interviewed formerly trafficked FSWs from a larger study among FSWs who reported having a non-commercial intimate partner and lifetime use of heroin, cocaine, crack, or methamphetamine. Although our sample may not be representative of the general population of trafficked FSWs, interviews with formerly trafficked adult women represented the safest and most feasible way to study this topic in the Mexican context. Future studies among other populations of trafficked women are needed to elucidate its wider impacts.

Our analysis is based on interpretations of data. To ensure analytic rigor, we conducted *member-checking* to ensure that the results resonated with participants; maintained an *audit trail*; sought analytic consensus among the research team; and guarded against analytic selectivity by including data refuting our conclusions. Our role as researchers also may have affected the data. Recruiting FSWs from an ongoing, community-based study enabled us to develop rapport with participants over the 9-month course of the study. Interviewers were trained to create an open, reciprocal interview environment by posing questions in a non-judgmental manner and offering participants the opportunity to ask questions. Participants frequently cited the trust and comfort they felt with study staff as the reasons they felt comfortable disclosing highly personal information, suggesting that these techniques were effective; women also explained that sharing their narratives represented a key part of their healing process for

them, reflecting Frank's (56) observation that narratives are often perceived as a way of repairing the damages of past trauma.

Public health implications

By drawing upon the theory of *structural violence* to analyze the wider causes of HIV risk and trafficking among this population, our analysis highlights how risk is inextricably linked to features of local context. Our data support theories considering individual and structural influences on health as reciprocal forces(57, 58); for instance, women's narratives included accounts of individual agency *and* victimization. Although nearly all participants described adverse consequences of forced sex work, most did not perceive themselves as victims – instead, they exercised their agency through the development of strategies to improve their economic independence, safety, and HIV prevention capacities. Although similar accounts of resilience have been published among FSWs(29), trafficked women have typically been portrayed as passive and without agency(13, 48).

The narratives of women classified as 'trafficked' based on their entry into sex work as minors often did not include evidence of coercion or force by third parties. This is consistent with prior research suggesting that underage or trafficked sex workers do not uniformly fit the profile of naïve, young, victims portrayed in media accounts(59). This highlights the need to improve distinctions and definitions related to trafficking and sex work. Their conflation has resulted in a disproportionate allocation of resources to anti-prostitution measures such as police raids targeting prostitution, which often result in the excessive use of force, interrogation techniques, and other human rights violations(14). Unfortunately, these measures perpetuate fear and mistrust among FSWs and migrants, with the unintended consequence of driving trafficked persons outside the reach of

prevention and assistance(14, 60). Moreover, few of those arrested are screened or identified as trafficked(14). Whereas criminal justice interventions have done little to strengthen the rights of trafficked women, “victim-oriented” interventions can support the health and human rights of trafficked women *and* reduce harm among FSWs(60, 61). Dialogue between trafficking and sex work advocates, policymakers, and researchers are needed to better align public health, human rights, and criminal justice priorities and ensure that trafficking interventions appropriately distinguish between sex work and trafficking.

Structural interventions are needed to address the social and economic processes contributing to trafficking and HIV, such as limited employment opportunities and GBV. Sex workers have advocated for wider preventative approaches which address the circumstances that facilitate trafficking as anti-trafficking measures(60, 62). Most women in this study reported that during their youth, they were unable to obtain the support they needed to reduce/prevent their reliance on sex work, such as *shelter, food, psychological support, and drug treatment*; at a minimum, such services should be provided to vulnerable young women and migrants in communities affected by trafficking. Earning money for children’s needs, housing, food, and drugs were key reasons for continuing sex work, suggesting that *vocational training/placements and effective drug treatment* are needed to offer women meaningful alternatives. As these interventions fall outside the traditional reach of public health, the response to trafficking must engage multiple sectors (e.g., criminal justice; social work). Although women noted that with greater independence and experience they were able to improve their HIV prevention capacities, past trauma, addictions, and access to HIV prevention resources represent ongoing sources of HIV risk. Therefore, early as well as ongoing HIV prevention interventions such as *condom and syringe distribution, addictions treatment,*

and counseling for survivors of abuse are necessary to promote health and reduce harm among trafficked FSWs and adolescents. Given the extensive early sexual and physical abuse reported by women in this study and its relationship to their entry into sex work, prevention and support are especially needed during adolescence. Ultimately, engaging trafficked women in intervention development and strengthening their practical access to health, social, and related public services are needed. *Peer-delivered interventions* represent a promising model for interventions to prevent trafficking and HIV infection. Peer-delivered prevention and rehabilitation services that acknowledge and build upon *survivors' resilience* may be an effective intervention strategy, especially among formerly trafficked FSWs who do not perceive themselves as victims.

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Tables

Table 4.1: Socio-demographic characteristics of formerly trafficked female sex workers (n=30) in Tijuana, Mexico, 2011

Variable	(n = 30)
Age, years*	32.4 (19-54)
How many years of education completed, years*	7.1 (1-15)
Race: Latino/Hispanic	29 (96.7%)
Living arrangement	
<i>Your own house/apartment</i>	12 (40.0%)
<i>Rented room</i>	11 (36.7%)
<i>Relative's or friend's house/apartment</i>	2 (6.7%)
<i>More than one place</i>	3 (10.0%)
Country of Birth	
<i>Mexico</i>	28 (93.3%)
<i>United States</i>	1 (3.3%)
<i>Central American country</i>	1 (3.3%)
Internal mexican migrant	17 (57.0%)
HIV/STI status	
<i>HIV</i>	2 (7.1%)
<i>Any STI/HIV</i>	5 (16.7%)
Drugs used in the past 6 months	
<i>Heroin</i>	19 (63.3%)
<i>Crack</i>	2 (6.9%)
<i>Cocaine</i>	6 (20.7%)
<i>Methamphetamine</i>	22 (75.9%)
Ever injected drugs	21 (70.0%)
<i>Injected drugs in the past 6 months</i>	18 (60.0%)
% of vaginal sex acts with clients that were unprotected in the last month*	50.5 (0-100)

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

* Mean (range)

Table 4.2: Sex trafficking experiences of formerly trafficked female sex workers in Tijuana, Mexico, 2011

Variable	(n = 30)
Began sex work <18 years old (SW<18)	25 (85.3%)
Forced, deceived, or coerced into sex work entry or continuation (ForcedSW)	11 (36.7%)
Transported for sexual exploitation against their will (TransportSW)	2 (6.67%)
Age when female participant first traded sex, in years*	17.2 (12-28)
Age when female participant began to work regularly in sex work, in years*	18.2 (12-30)
Participant was ever:	
<i>Promised a job that turned out to be selling or trading sex</i>	6 (20.0%)
<i>Sold or traded for sexual purposes</i>	5 (16.7%)
<i>Forced to exchange sex for money, drugs, or other goods at the orders of another person</i>	5 (16.7%)
<i>Held captive/kidnapped for sexual purposes</i>	5 (16.7%)
<i>Denied your earnings or what was owed you from selling/trading sex</i>	6 (20.0%)
Ever experienced a traumatic event	9 (30.0%)
Ever been forced/coerced to have non-consensual sex	11 (36.7%)
<i>Age at first rape, in years*</i>	11.6 (3-18)
Ever physically abused	7 (23.3%)
<i>Age at first abuse, in years*</i>	18.3 (9-27)

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

* Mean (range)

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CHAPTER 5: Discussion

Summary of Results

This dissertation found that trafficking and mobility are pervasive and linked to HIV vulnerability in Mexico-U.S. border cities, where structural forces such as gender inequities, gender-based violence (GBV), stigmatization of female sex workers (FSWs), and economic vulnerabilities pose a 'risk environment' for sex trafficking and HIV infection.

In the critical review of mobility and HIV risk presented in Chapter 2, the epidemiologic studies linking mobility and HIV vulnerability indicated that mobility may have both harmful (e.g., increased sexual partners, drug use), and protective effects (e.g., condom use) on HIV risk(1-3); they also suggest that mobility has gendered health implications, which may be partly attributable to the different reasons that men and women migrate(4-6). Qualitative literature contextualized these findings by highlighting how structural factors including social isolation, socio-economic impacts of displacement, gender inequalities, and stigma/discrimination strongly shape HIV risk among mobile groups in Mexico and neighboring Central America. This review highlighted the implications of the heterogeneity that exists among mobile groups for HIV risk and prevention(7); for instance, the motivations and risks experienced by persons trafficked across borders for sex are vastly different than those of migrants seeking family reunification. Consequently, this review concluded that future studies should consider these mobile groups separately, focusing on the experiences of under-studied mobile populations who are likely to experience the greatest risks, such as trafficked persons and deportees. Due to the paucity of rigorous epidemiologic studies or systematically evaluated interventions among vulnerable migrant groups (e.g., trafficked women), epidemiologic research and multi-level interventions that target and engage

vulnerable groups such as trafficked persons, deportees, and migrant FSWs in 'risk environments' (e.g., border cities) are recommended.

Chapter 3 of this dissertation drew upon Rhodes' risk environment framework and provided evidence linking sex trafficking to features of FSWs' early and recent risk environment. Over 40% of high-risk FSWs in Tijuana and Cd. Juarez begin sex work as minors. These women reported a higher prevalence of sexual, drug and violence-related risks than their adult counterparts, underscoring the importance of efforts to prevent underage sex work and its impacts. Factors independently associated with increased odds of underage sex work were inhalants as the first drug used, forced first injection, number of drug treatment attempts, and receptive syringe-sharing. Number of recent condom negotiation attempts with steady partners and depression as a reason for first injecting were negatively associated with underage entry. This paper illustrated that features of women's early risk environment, including social (e.g., forced initial injection drug use) and policy factors (e.g., access to HIV prevention) play an important role in shaping entry into sex work and its future health and social consequences. These findings are consistent with prior international research illustrating that early abuse shapes future exposure to risks, including the likelihood of adolescent sex work(8-10). They also illustrate how youth sex work may exacerbate risks during adulthood, including injection drug use. These data are supported by prior Mexican research documenting that concerns regarding survival, poverty, and exploitation may be perceived to outweigh the harms of sex work among vulnerable youth, suggesting the need to investigate structural drivers of adolescent substance use and sex work (e.g., homelessness; running away)(11).

In Chapter 4, ethnographic research with formerly trafficked FSWs in Tijuana found that women's trafficking experiences are heterogeneous and characterized by an

interplay between structural forces (e.g., the harmful impacts of GBV and deportation) and individual agency (e.g., the development of strategies to mitigate HIV risk and increase their economic independence)(12, 13). Although nearly all women described adverse consequences of forced sex work, most did not perceive themselves as victims – instead, they exercised their agency to adapt to their circumstances to the best of their abilities. Although other accounts of resilience have been published among FSWs(14), trafficked women have typically been portrayed as passive and without agency(15, 16).

Sex trafficking was linked to elevated HIV vulnerability through the themes of gender-based violence, economic vulnerability, migration, and stigma. Whereas prior studies have linked sex trafficking to vulnerability factors such as poverty and low education levels(15, 17, 18), this study uniquely demonstrated that early GBV exerts a powerful influence over women’s future vulnerability to trafficking, sex work, addictions, and violence. These themes situate sex trafficking and HIV risk as inextricably linked to wider geopolitical conditions such as undocumented migration and deportation, drug trafficking routes and local patterns of illicit drug use, social tolerance of GBV, and socio-cultural mores related to gender, sexual behavior, and substance use. Since trafficking is deeply embedded in local context, future research that aims to understand trafficking within its social and cultural context is needed. Recommended interventions include prevention of GBV, increasing opportunities for at-risk youth and migrant women to meet their basic needs (e.g., vocational training, job placements), and provision of HIV prevention and addictions treatment for vulnerable youth, migrants, and FSWs in Mexico-U.S. border cities.

Across the three studies, gender-based inequities and violence, poverty and socio-economic marginalization, and immigration policies were identified as structural influences shaping vulnerable youth and migrant women’s vulnerability to sex trafficking,

substance use, and HIV risk. According to theories regarding *structural violence*(19-21) and the wider influence of structural factors on health(22-24), these factors represent fundamental causes of women's vulnerability to trafficking, addictions and HIV. This is because they illustrate how the wider political and social forces that create vulnerable social groups (e.g., social class; gender inequities; economic inequities between places) and policies that further marginalize them (e.g., deportation; limited protections for victims of GBV) are inextricably linked to women's vulnerability to trafficking, violence, substance use, and HIV(13, 21, 25).

These relationships represent a symbolic form of violence (i.e., *structural violence*) that illustrates the systemic ways in which social and political structures such as poverty, gender, and social class become embodied as individual experience, harming individuals by preventing them from meeting their basic needs(20, 26). Such violence, in turn, leads to more visible and direct forms of violence(27) – in this case rape, forced substance use, and HIV/STI risk(26). For example, gender-based violence and gender inequities in power and economic opportunities were shown to represent 'distal' structural forces that may give rise to more 'proximal' HIV risk factors, such as forced substance use, low capacity to negotiate condom use, and forced or coerced unprotected sex under the influence of drugs. Consequently, for HIV prevention interventions to achieve long-term success, these 'fundamental' or 'distal' causes of vulnerability to trafficking, violence, and HIV must be carefully and adequately addressed.

Recommended interventions

This dissertation found that structural factors strongly shape women's individual-level vulnerability to trafficking, sex work, and HIV infection. The structural violence and

risk environment analytic frameworks informing this study draw attention to the need for inter-sectoral interventions that alter the distribution of inequities and their resulting risk factors and health outcomes(24, 28).

Since trafficking is a problem that originates outside of public health, public health responses must engage other sectors (e.g., child protection services, immigration; social services, such as housing, employment and domestic violence support systems). For example, since trafficked FSWs described suffering the long-term impacts of childhood abuse without adequate intervention, public health interventions to address their needs must engage existing programs designed to prevent child abuse and provide psychological support for survivors of abuse. Typically, such programs are often not designed for use by sex workers, suggesting the need for partnership with NGOs and public health services for FSWs. More 'distal' drivers of trafficking, such as gender inequities and limited migration opportunity also require a collaborative, multi-sectoral response encompassing policymakers, social service providers, and public health actors; sex workers have advocated for more preventative approaches to trafficking that address the circumstances that facilitate trafficking, such as increasing opportunities for legal migration to the U.S. and reducing gender-based violence(29).

Figure 5.1 maps out recommended interventions that target the structural (i.e., macro) and individual (i.e., micro) level factors that were linked to sex trafficking and HIV risk within the three manuscripts presented in this dissertation. It also illustrates how these interventions correspond to the larger conceptual framework guiding the study. These recommended interventions to prevent sex trafficking and HIV infection are informed by the perspectives and experiences of trafficked women. Reframing sex trafficking and its potential solutions from formerly trafficked women's perspectives is necessary to support the development of culturally and locally appropriate services(30-

32). The use of women's suggestions as the basis for the development of recommended interventions was also intended to respond to sex workers' and researchers' calls for a "rights-based and victim-centered" response to trafficking that addresses its root causes and is based in the experiences of trafficked persons and FSWs(29).

During initial and member-checking interviews, formerly trafficked FSWs provided many of their own suggestions for interventions that they perceived could have either prevented their vulnerability to trafficking or entry into sex work. Although HIV was not the primary health concern faced by many women in this study (e.g., violence and economic needs were often described as the most pressing needs they faced), women nonetheless perceived it as a serious concern and provided their suggestions for HIV prevention interventions that would address their needs.

The recommended actions suggested by formerly trafficked women included structural (vocational training; improving access to effective drug treatment options; comprehensive migrant services; strengthening the response to GBV) and individual-level interventions (provision of psychological support and counseling; peer-delivered prevention messages regarding trafficking and violence; improve access to HIV prevention and care).

Structural interventions

Increase employment opportunities

To mitigate the influence of poverty, economic desperation, and homelessness as drivers of trafficking, sex work, and related HIV risk, vocational training and placements for at-risk youth, migrant women, and FSWs are needed. Many participants in this study described their interest in securing other forms of employment as

alternatives to sex work, and cited job placements, trainings, and furthering their education as opportunities that would increase their capacity to do so.

Q: How would you like some institutions or agencies to help sex workers? What would you like these organizations to do for you?

A: Well, the first thing that I would like is for them to find me a good and stable job so I could leave this [...] I would like a job where I could clean houses or at a restaurant, anything that would help me leave these things...I would dedicate myself to my new job and I would leave all this, so I could stop having to deal with people that I don't even know [SW<18, ForcedSW, TransportSW].

I want to start going to school, I don't know how to read very well, I know how to read but I don't know how to write. [...] It's because I don't want to continue being a prostitute, I want to have a career [SW<18, ForcedSW, TransportSW].

Improve access to and quality of drug treatment opportunities

Effective and accessible drug treatment opportunities are also required to provide the chance for formerly trafficked women to find alternate employment and increase their capacity to engage in HIV prevention. Since drug addiction was cited as a powerful barrier to securing employment in another sector, most women linked the need for drug treatment to their goals of leaving sex work:

I think you have to get away from this lifestyle, for one who is a drug addict, there's never going to be a way out. I think that you have to get away from this so that you can change [SW<18].

I'm worth a lot and if I set my mind to something I can do it, no matter what it is. But first, I have to be clean, I have to be okay in order to do what I have to do [SW<18].

Despite their best efforts to access drug treatment programs in Tijuana, many women described failed efforts to abstain from drug use. Most recounted prior experiences at drug treatment centers, which were widely characterized by mistreatment, including forced physical labor and abuse, stigmatization (e.g., women often stated that they had been treated like 'whores' or 'animals'), and sexual violence, including rape. They also expressed their concerns regarding the lack of counseling to

address their prior experiences of abuse in such centers; they explained that drug treatment unaccompanied by appropriate psychological support had rendered their course of treatment insufficient to treat their deep-rooted addiction:

We have [drug] rehabilitation centers...and they talk about drugs and everything, but they never talk about the problems that we have. Those same problems make us want to take drugs or get drunk, so we don't feel anything. Knowing that, 'oh I have to go to my house and my husband is like this and I'm going to have to put up with him? Well, I'll drink and then I'll be able to put up with more.' [We need] a place where they offer those services...where they understand you [SW<18, ForcedSW].

I went there [the treatment center] by myself. I wanted to change. I was clean for almost three years, but then I went back [to using], I became depressed[...] While I was in the rehabilitation center I was beat up, they treat you very badly...we're not animals, and I know that it's not right [SW<18].

At a [treatment] center, they call you a whore here and they say the same thing over there, so I think, why the hell would I go then? For them to call me a whore? [SW<18]

In addition to the need for treatment centers to respect their human rights and provide appropriate counseling, methadone therapy was also cited as a desired substance use intervention; however, opioid substitution therapy (OST) (e.g., methadone) was described as costly and difficult to maintain while remaining in Tijuana's *Zona Norte*, where heroin is widely available. Treatment facilities were described as typically relying on abstinence-based treatment approaches (as opposed to OST), limiting their potential effectiveness among women caught in the grips of addiction:

Q: So, what's motivating you to keep doing sex work?

A: Heroin [...] I have to use it as soon as the discomfort comes in... if not I can't walk, I can't do anything...Honestly, I want to go into a rehabilitation center[...] I was there a while back, but I didn't last long...

Q: How's the program? Does it use Methadone?

A: No, you just have to withstand the withdrawal symptoms. The time that I was there I wasn't given any medication [SW<18].

Provide migrant services

Providing shelter and related social, economic, and legal support to migrants and vulnerable women – including FSWs – were also recommended to address the isolation and vulnerability migrant women and girls experience in Mexico-U.S. border cities.

Migrant women, especially deportees, often discussed the need for reintegration services for deported and unaccompanied female migrants (e.g., runaway adolescents), such as shelter and vocational placements. These were perceived as critical, especially among women who began sex work as a result of the limited options and economic desperation they experienced as recent migrants to the city:

Q: Did anyone ever talk to you or ask you what you were going to do when you got here [after being deported]?

A: No, no.

Q: Did they ever offer you any services like how to find a job, temporary shelter?

A: No... It would be nice if they handed out pamphlets to people that were about to get deported and have a free number they could call[...] The best thing I would just say is really to link or provide them with a place to stay or somewhere they know they can go. You know what would really help? Something for women only, as soon as they came across [the border], like a program that could help them with a place to stay, even in exchange for work [ForcedSW].

Well sometimes they [migrants] risk their lives when they come... I think there should be something that would give you a chance to show up and know exactly what you're getting into...so they wouldn't have to come and be dealing with all kinds of stuff. They're hungry, cold, you know - some sort of service to help us take it easy [SW<18, ForcedSW].

Whereas migrant services in border cities represent a much-needed intervention to reduce the vulnerabilities experienced by migrants, such services must be supported by immigration reforms and increased economic opportunities for women, which are ultimately necessary to address structural drivers of undocumented migration and women's vulnerability to trafficking. Policy efforts to revisit immigration and public health policies to ensure that they are not at odds with one another are critical. For example,

immigration policies should consider the public health and social impacts of the large increase in deportations of Central American and Mexican citizens from the U.S. in recent years.

Promote awareness and strengthen the response to gender-based violence

Lastly, efforts to promote awareness of GBV and strengthen the public response to GBV, especially sex trafficking, are needed. These factors were linked to FSWs' risk of trafficking, future violence, and HIV/STI infection across the three papers presented in this dissertation. As women often explained, they felt 'powerless' in terms of their limited capacity to seek justice and prosecute those who had committed violence against them. Primary barriers to reporting violence included corruption, stigmatization and criminalization of FSWs (i.e., victim-blaming), and fear of retribution:

If the guy has a lot of money, well he can give a different version and they'll put me in jail. I'd rather stay quiet [SW<18].

A lot of girls, the mistake they make is that they go with the judge...they shouldn't talk.[...] I know that it'll be worse for me, so I leave it alone.[...] This lady one time, she pressed charges; she didn't even last three days. They found her...well they killed her, they beat her to death, that's why it's better if you stay quiet [SW<18].

I was scared because they said that they would do things to me and there were a lot of men [involved]. I thought that they might do something to me if I told anyone, right? I was scared.[...] I have suffered a lot. You suffer a lot in life, well, in a life of prostitution, that is [SW<18, ForcedSW].

Since women often explained that the perpetrators of violence and trafficking experience impunity, institutional efforts to protect victims of abuse and trafficking are needed to encourage the reporting of GBV and trafficking. As women suggested:

It would be better to implement other political laws [...] so that they could establish a center that can give you protection as soon as you press charges against someone [SW<18].

Individual-level interventions

Provide psychological support and counseling

Support and counseling for victims of childhood abuse and trafficking are urgently needed. Many women in this study experienced severe abuse as children (e.g., rape by an immediate family member) from which they had never recovered; the subsequent trauma they experienced was directly linked to their future exposure to violence, trafficking, and substance abuse. Therefore, psychological support for victims of abuse may provide an important avenue for trafficking prevention.

Q: In your opinion, what do you think would be the ideal thing to do for other people that could be in similar situations?

A: Those that are trying to escape from something should go somewhere they could help them and could give them psychological therapy. There aren't any places like that here, at least none that I know of [SW<18, ForcedSW].

Psychological support is also needed to reduce trafficked FSWs' reliance on sex work and substance abuse; FSWs often explained that in order to forget the traumatic memories of their past, developed drug addictions and subsequently became entrapped in sex work to support their costly addiction. Women frequently expressed the need for opportunities to discuss and reflect upon their past experiences. Many spoke of their interviews themselves as therapeutic, since they had provided a rare opportunity for them to discuss the abuses they had survived in the past with a trusted listener:

We need someone to talk to so we can figure out what is going on, someone to listen to us [...] because like what happened with me, I cried, I felt bad, and I had to go out [to do sex work] [...] when it first happened, I felt horrible, nothing could make me feel better...So that's why I'm saying that we need someone to talk to [SW<18, ForcedSW].

The only thing that always got me to keep moving forward has been through these interviews [...] to share one's experience...only then can other people know what they're going into [ForcedSW].

Provide peer-delivered services

Since trafficked people themselves are often the best informed about the problems they face and their potential solutions(33), more participatory approaches that involve trafficked persons in developing strategies to reduce sex trafficking and its negative health and social consequences are recommended. Peer-delivered interventions that build upon survivors' resilience were often recommended by study participants(34). Many women expressed their interest in delivering or receiving prevention messages that are grounded in the experiences of former trafficking survivors and other FSWs who have experienced violence:

If you just hand them things like that [brochures] most girls won't use them because they're afraid...I think having actual girls going out there, like geez, I'd love to go out there and speak to girls, to help prevent other girls to have to go through all the things that I had to go through. It would take away a lot of my pain.[...] Because its messed up out here. It's really messed up and it's real scary [ForcedSW].

Who knows, maybe I could, if there's a girl like me, [advise] for her to not...end up like I did [SW<18, ForcedSW].

In particular, women often described the need for counseling and HIV prevention messages to be provided by peers with whom they could best identify. Peers were often described as the most experienced and trusted group with whom women would be able to openly discuss their past.

You would need someone that has the same background as us so that they can better understand the situation that we're in. That way they'd be able to help us, not make things worse for us. Because a lot of times instead of helping you, they [local service providers] turn you in [to the police] - that's why we don't talk...you keep quiet. Tell me, where can I go to get help? I feel like I'm responsible for all that's happening to me because I don't talk. I'm basically covering for them [SW<18].

If the people on the street try to take advantage of me...especially in a new city and all that, I'd be scared, especially with all the stuff you hear in the papers about Tijuana. I mean I'd think it was all organized crime, I'd be scared to tell anyone. But someone like me for example, I've got the tattoos and they are going to see that I am real and that I've really been

through what I'm telling you, so they are going to feel more closeness. You know, like, 'I could talk to this girl because she does understand me, she has been through it and she does know what she is talking about, and maybe I could learn something from her.' And hopefully if they allow themselves to be helped, it would prevent them from having to go through a lot of the crap that you never imagine would be this painful when you're about to take your first step into it [sex work] [ForcedSW].

Some participants explained that they already had drawn upon their past experiences to share health and safety tips with their peers; for instance, such strategies included not trusting strangers, avoiding using drugs with clients, and reporting violence to local authorities. Indeed, women often described the benefits of learning from the experiences of other FSWs:

I always tell them [other FSWs] to go to the police... you have to do it because if not, he'll beat you up until he kills you[...] If someone that I don't know asks me for help, I'll help them [SW<18].

It is good for me to hear other peoples' experiences [...] because it opens up my eyes to the dangers there are that I hadn't thought of. Maybe it could help me out if I'm smart enough to take those experiences, and learn from it and try to prevent it, instead of having myself go through that [ForcedSW].

Based on these findings, interventions that harness the potential of peer educators who already exist in the community are recommended. For instance, women who are trusted by other FSWs for their insights and experience or who possess strong skills related to HIV and violence prevention may be able to deliver HIV and trafficking prevention messages to their peers.

Improve access to HIV prevention and care

Finally, it is essential to increase HIV prevention and care coverage among vulnerable populations in Mexico, especially underage and trafficked FSWs. Individual-level HIV prevention among these highly vulnerable sub-populations is necessary to ensure that the information and resources required to engage in HIV prevention are

available to them. Free or low-cost male and female condoms, HIV prevention information, and HIV/STI testing were cited as pillars of HIV promotion that formerly trafficked FSWs would like improved access to.

There are a lot who don't know all the risks there are...and they get with whoever, for a little bit of money sometimes, with guys who come from the other side [the U.S.]. Or there are a lot who don't know that they need to be careful to not use the same needle, or that they need to change the cooker [SW<18].

What really helped me is the female condom, it makes me feel so empowered and so in control[...] I swear I have gone to every pharmacy and they don't have them. A lot of them don't even know what it is [ForcedSW].

I would like there to be more places that you could go for [HIV] testing. For people that live far away, so that people could just stop by and get tested. Or they could give out condoms or a presentation [ForcedSW].

Policy changes are especially needed to ensure that underage FSWs are able to access much-needed HIV prevention services; currently, underage FSWs are unable to access public health services available to adults (e.g., HIV/STI testing available to registered adult FSWs) (11), displacing them from care and potentially increasing their risk of exploitation and HIV/STIs(11, 35). Since the current criminal justice priorities informing these policies do not address the factors rendering youth vulnerable to sex work(11) or trafficking, programs that increase youths' abilities to meet their basic needs (e.g., shelter; counseling) and access HIV prevention resources could ultimately reduce their dependence on sex work and improve their HIV prevention capacities.

Significance

Despite high HIV prevalence documented among trafficking survivors, studies that assess trafficking-related exposures and HIV prevalence among survivors are lacking(36, 37). Most studies have focused on legislation, criminology, and migration,

with few studies of the public health impacts of trafficking(31, 37). The epidemiological analysis presented on the prevalence and correlates of underage sex work entry among FSWs in Tijuana and Cd. Juarez in Chapter 3 represents a novel contribution to the literature on underage sex work and the broader relationship between trafficking and public health in settings characterized by high levels of mobility, substance use, and sex work.

This study gathered formerly trafficked women's perspectives on and experiences of sex trafficking and HIV risk. These findings provide a unique contribution by documenting trafficked persons' experiences (especially post-trafficking) in a field in which such accounts are unacceptably scarce(30). The paucity of studies involving trafficked persons has resulted in misrepresentation of this issue(30, 31); in particular, many of the nuances associated with trafficking and sex work (e.g., trafficked women's agency) have been overlooked in prior research.

The ethnographically-informed findings presented in Chapter 4 challenge prevailing notions of trafficking by indicating that sex trafficking along the Mexico-U.S. border is highly heterogeneous, ranging from cases of severe commercial sexual exploitation to subtle forms of deception or coercion. Moreover, the narratives of women who began sex work as minors often did not include evidence of coercion or force by third parties, calling typical portrayals of underage FSWs as trafficked, naïve victims into question(38).

Finally, Chapter 4 depicts the interplay between agency and victimization within trafficked women's narratives regarding the circumstances surrounding their entry into and continuation of sex work; these data are unique within a field that has traditionally dichotomized trafficked women and girls as either 'victims' who lack agency (e.g., by predominant voices in the anti-trafficking movement) or as 'criminals' deserving of

punishment (e.g., by traditional law enforcement responses to domestic adult trafficking). This dissertation suggests that this dichotomization does not capture the lived experiences of formerly trafficked FSWs in the Mexican (and likely international) context, who represent neither such category in its entirety. By misrepresenting the experiences and needs of this highly vulnerable population, applying such false dichotomies may do more harm than good; for example, the intervention approaches that follow from them may have the unintended consequence of further jeopardizing trafficked females' well-being, such as by re-traumatizing survivors through the use of victim-blaming language. To move away from these false dichotomies between 'victimhood' and 'criminality,' future research that examines the lived experiences of trafficked women and girls in diverse contexts, as well as efforts and dialogue to improve distinctions and definitions related to trafficking and sex work are needed(39).

Strengths and limitations

Quantitative arm

Recruitment: In working with vulnerable and hidden populations, recruitment of a random sample is often not a feasible research tactic. Since this is especially true of trafficked persons, who are both hard-to-reach and hard to define, a recent review concluded that the best potential for high quality trafficking research lies in small-scale, thematically focused empirical studies among formerly trafficked persons(20). Moreover, research with underage sex workers is limited by their vulnerability, including ethical and reporting considerations associated with research among minors.

In Mexico, the absence of programs serving adolescent FSWs led us to conclude that their recruitment was unethical. In light of these limitations in access to trafficked persons, the retrospective data analysis among adult FSWs presented in Chapter 3

represented the safest way to empirically study underage sex work in the Mexican context. Future studies among underage FSWs themselves, however, are ultimately necessary to understand their experiences and their impacts on HIV risk and infection.

Causality: Due to its cross-sectional nature, our data cannot indicate causality; longitudinal studies among vulnerable youth or underage FSWs would provide greater evidence of causality. This study aimed to study factors both in the past and present that were associated with underage sex work entry; as such, the variables included in our final model represent different constructs that are individually associated with underage entry into sex work. However, it is possible that early experiences not included in the final multivariate model presented in Chapter 3, such as childhood abuse, may *mediate* the relationship between later experiences and underage sex work. Although this was not the aim of the present study, future analyses that incorporate *mediation models* could be used to ascertain the nature of the relationship between early and later experiences and HIV risk among underage FSWs. Despite the higher-risk profile of FSWs who began sex work as minors in our sample, it is possible that the sample size used in Chapter 3 was not large enough to capture corresponding differences in HIV/STI prevalence, suggesting the need for large future studies among youth populations engaged in sex work.

Social desirability bias: Our data also may be affected by social desirability bias, which would have led us to underestimate risks. To minimize such bias, interviewers were trained to collect data in a non-judgmental manner, ensure confidentiality, and develop rapport with participants. The high prevalence and wide diversity of risks reported by this population (e.g., high levels of unprotected sex, violence, and substance use) suggest that these techniques were successful in minimizing the potential for social desirability bias to impact the results of this analysis.

Qualitative arm

Establishing rapport: This study recruited and gathered the perspectives of FSWs with a history of trafficking. Trafficked persons have been traditionally under-represented in research due to lack of trust and fears of reprisal or further stigmatization(30). To gather more reliable trafficking data, qualitative studies that build longer-term relationships with research participants and include repeated visits are necessary to develop the trust necessary to increase survivors' participation in research(20).

In Chapter 4, extensive efforts were undertaken to build rapport with participants, including staggering fieldwork and interviews over the course of one year; recruiting participants from a trusted community-based organization serving these women; and prioritizing listening rather than pressing for distressing information during interviews(40). Participants' feedback on the interview process during follow-up interviews and fieldwork suggested that these techniques were very effective. For example, many women explained that the information they shared had never been disclosed to anyone else due to their fears of being stigmatized or judged; these participants often commented that the trust they developed with the research team and our reassurances of confidentiality had enabled them to share this highly personal information for the first time.

Representativeness: By design, participants were classified as 'trafficked' according to our best efforts to apply the Palermo Protocol definition to identify formerly trafficked women within a larger study among FSWs. Some of the measures adopted to protect the safety of participants and study staff may have led us to recruit a lower-risk sample of trafficked women that may not represent the general population. We interviewed formerly trafficked women in Chapter 4, which has been deemed as the safest and most ethical way to gather data on trafficking(40). We also asked a number of

questions to ensure safety before beginning interviews (e.g., “*Do you think that talking to me could pose any problems for you, for example, with people who may have abused you, your family, or anyone who is assisting you?*”) Although these safety precautions may have led us to interview a lower-risk population, the purpose of Chapter 4 was not to generalize the findings to a larger universe of trafficked persons, but to elicit insights to develop action that is sensitive to local circumstances. Since these are not easily uncovered by traditional epidemiological methods, Chapter 4 was informed by ethnographic techniques, which represent one of the most effective ways to link individual experiences to broader analyses of local conditions (i.e., features of *place*), as well as to wider economic, social, and human rights considerations(19). The rich and detailed stories collected suggest that the ethnographic fieldwork and in-depth interviews conducted were effective at tapping into deeper insights regarding women’s lived experiences of trafficking and their health impacts than would have been documented using traditional epidemiologic methods only.

Reflexivity: In qualitative research, the researcher’s role and its impact on the data must be considered. Interviews were conducted by Goldenberg (a female of Israeli-Canadian heritage) and a team of three female Mexican outreach workers, who were trained according to the WHO ethical and safety recommendations for interviewing trafficked women, and University institutional review board policies(40). Especially in the aftermath of violence, a “respondent’s perception of the researcher influences, at times determines what is said”(30). To address the potential influence of the research team on the data collected, interviewers were trained to create an open and reciprocal interview environment. The tactics employed included focusing on listening, rather than asking a multitude of detailed questions, while survivors describe their experiences and choose what to tell and what to withhold(30); reading body language to determine a participants’

comfort level(40); providing opportunities to ask questions before and after the interview; and carefully explaining research procedures and measures undertaken to protect participants' confidentiality and privacy(30). As well, the research process itself may have affected participants. For example, during the member-checking process, one participant suggested that her initial interview had played a role in encouraging herself and her partner to enter drug treatment.

Limitations of ethnographic approach: This study did not aim to produce a classical ethnography, which typically involves extended fieldwork periods of months to years(41). The *modified* ethnographic approach proposed enabled me to engage with a vulnerable population to research a relatively under-explored topic, within the limitations of available time and resources. Whereas academic studies and media reports have often relied on indirect sources to gather data on trafficked persons' experiences (e.g., service provider records, key informants)(42), this ethnographic study gathered data directly from formerly trafficked women. By attending to the perspectives of participating women, the ethnographic approach adopted led this study to prioritize the health and social needs that were perceived as most pressing by trafficked FSWs; these data can inform evidence-based interventions that incorporate the input of their intended target populations, increasing their potential effectiveness. Moreover, our study was not designed to assess the temporality of exposures described by formerly trafficked FSWs; future studies incorporating a life-course perspective within in-depth interviews (e.g., using a timeline to situate the temporality and sequence of each participant's trafficking-related exposures) are strongly recommended for research with this population.

Knowledge translation implications

This study contributes to a foundation of knowledge to advocate for global, regional, and local strategies to reduce the related epidemics of sex trafficking and HIV. By interviewing FSWs with a history of trafficking, this project generated data to inform the development of a larger, mixed-methods study of HIV and sex trafficking in the border region.

The knowledge translation potential of this study is strong. Our research team has directly partnered with a local NGO in Tijuana (PrevenCasa) that provides services to FSWs and other vulnerable populations (e.g., injection drug users), increasing its potential to be applicable to local service provision efforts. The study findings were also made available to local NGOs and other agencies providing victim assistance or who interact with victims in other ways, such as public health and immigration officials. After completing data collection and analysis, high-quality, lay language reports in Spanish and English were produced and disseminated in the community and to local and regional health, education, and social services, and other authorities (Appendix 3). The findings were also widely disseminated through peer-reviewed manuscripts and local, national and international conferences. All published products, including manuscripts and conference presentations, reflected the bi-national collaborations that facilitated this research and acknowledged the community-based partners who contributed to the success of the project.

Directions for future research

Improve definitions of sex trafficking and their application: The findings of this dissertation suggest the need for future studies that develop and apply clearer definitions of sex trafficking. To date, the different ideologies informing definitions of trafficking

among the anti-trafficking movement and sex work researchers has led to a polarization of research, in which the anti-trafficking movement often overlooks FSWs' agency, whereas research informed by harm reduction principles may risk failure to identify or acknowledge trafficking when it does occur. Meaningful scholarship and debate between these two camps, including studies that marry these two approaches by gathering the histories and perspectives of trafficking survivors, are necessary to contribute to a small but growing body of public health research on trafficking and its health and social impacts.

Efforts to operationalize definitions of trafficking that can be applied outside of the criminal justice context (e.g., for the purposes of research with trafficked women) are also needed. Owing to its criminal justice underpinnings, the essence of the Palermo Protocol definition hinges upon acts undertaken by traffickers, rather than the experiences of victims. Also problematic for public health research is the *lack of clarity* of this definition and its applicability to the experiences of underage sex workers. For instance, questions arise regarding how to define coercion or the abuse of power, as well as the relevance of this definition to underage FSWs who do not appear to have a trafficker. Many countries, including the U.S. and Mexico, have laws that appear to consider such women as 'trafficked,' regardless of their consent to sex work; yet, this study found evidence that underage FSWs' experiences are often different than those of women who experienced forced/coerced sex work or forced movement for sex work, whose narratives more clearly indicate sex trafficking that fits with the Palermo Protocol definition. Future scholarship and debate aimed at clarifying and suggesting new ways of identifying and assisting trafficked persons are necessary to develop definitions that can be more easily operationalized in public health research. Development of a more *victim-*

centered definition of trafficking could have the potential to identify trafficked persons in a more sensitive and appropriate manner.

Assess the role of FSWs' clients, intimate partners, and drug traffickers: Future research to assess the roles played by FSWs' clients, intimate partners, and drug traffickers is also needed. FSWs' intimate partners were often described as *padrotes* (i.e., pimps or male partners who are economically supported by FSWs), who were said to commonly exploit local FSWs. In-depth investigation of the dynamics between trafficked FSWs and their intimate partners in the Mexican context is needed to better understand the potential role of *padrotes* in forcing or coercing vulnerable women into sex work. Prior research with FSWs' male clients in Tijuana has also found that these men often act as *jaladores* – that is, 'middlemen' who broker commercial sex between FSWs and clients(25). However, it is unknown if and to what extent *jaladores* may represent clients *as well as traffickers* through their dual roles as clients and as touts who connect FSWs with potential clients. Future qualitative and quantitative research with the clients and intimate partners of FSWs is needed to better ascertain the nature of these relationships, including clients' and intimate partners' interactions with women whom they perceived to be trafficked and whether or not some clients or intimate partners have participated (knowingly or not) in the trafficking of women.

More research is also needed to investigate the *overlap between trafficking in persons and drug trafficking*. Formerly trafficked FSWs in this study frequently described themselves, partners, and family members as having involvement in drug dealing and trafficking in Tijuana, other parts of Mexico, and/or the United States. Surprisingly, some women associated their greatest exposure to violence not with their sex trafficking experiences, but rather with their interactions with drug traffickers; for example, through their experiences as local drug dealers themselves or as the intimate partners of drug

dealers, some women had been kidnapped or threatened by drug trafficking organizations. Often deportees themselves, FSWs' clients have also cited involvement with drug traffickers (e.g., through street-level drug dealing) as an important means of survival in Tijuana(25). Media reports have increasingly implicated drug traffickers in human trafficking in Mexico(43), though empirical data on these linkages are lacking. In light of the rising costs and lower risks associated with drug trafficking compared to human trafficking, cartels have been accused of started their own prostitution ventures in recent years, kidnapping migrants for forced sex work in bars, hotels, and brothels(43). Based on women's discussions of the relationship between drug and human trafficking, future qualitative and quantitative studies that explore these relationships in greater detail are recommended, especially in Mexico, where trafficking is exacerbated (and sometimes directly facilitated) by competing anti-crime priorities such as drug trafficking (44-46).

Research on policy environment and impacts of policing: New opportunities to address trafficking are opening up in Mexico, where the political landscape surrounding this issue is rapidly evolving. During fieldwork, we learned that recent trafficking laws have been passed in the state of Baja California, where until recently the existence of trafficking was typically denied by law enforcement and other government officials. These new laws and their accompanying social media campaigns (see Figure 5.2 for an example) are raising public awareness of trafficking in Mexico in unprecedented ways. However, the implementation of these new laws and their impacts remain unclear. In many settings (especially across South and South-East Asia) the implementation and enforcement of new anti-trafficking laws and campaigns have had detrimental effects on the human rights of FSWs and migrants. Anti-trafficking laws in Asia and Europe, for example, have been shown to result in interventions that restrict women's mobility and

ultimately undermine women's human rights; in the UK, such laws have been critiqued as facilitating an anti-immigrant agenda, in which raids on sex work venues resulted in deporting FSWs, rather than undertaking efforts to protect their well-being(47). In Bangladesh, a law preventing single women from traveling across its borders was enacted, restricting women's mobility and exacerbating their vulnerability to traffickers(48). Anti-trafficking interventions in Nepal (including border surveillance) have also been shown to have the unintended consequence of restricting women's mobility across the Nepal-India border(49). In India, anti-trafficking raids on red light districts where HIV prevention and outreach to sex workers had been well-established displaced sex workers to areas where such programs could no longer reach them, jeopardizing their health and well-being; and in Mexico and internationally, laws prohibiting adult and underage sex workers from engaging in various facets of sex work (e.g., soliciting clients) have been linked to increased risk of violence and exploitation(11, 35). Therefore, studies evaluating and monitoring trends in violence, HIV risk, and the trafficking experiences of FSWs in settings affected by these new laws and their enforcement (e.g., Tijuana) are recommended to document their potential impacts.

A very concerning finding that emerged during this study was related to women's interactions with law enforcement. Sadly, rather than being considered or assisted as victims of trafficking or violence, FSWs who began sex work as minors in Chapter 3 *and* formerly trafficked FSWs in Chapter 4 reported extensive, ongoing experiences of police violence (e.g., rape), extortion, and harassment. Most explained that their continued treatment as criminals, rather than as survivors of abuse, has led them to avoid interactions with law enforcement as much as possible. Without the protections offered by law enforcement or public health programs for registered adult FSWs, trafficked FSWs in Tijuana are placed at increased risk of exploitation, while the perpetrators of

violence experience impunity (34). Investigations of trafficked women's policing experiences in Mexico and internationally (including comparative studies) and their relationship to health outcomes (e.g., HIV, STIs, injuries) and structural factors such as sex work regulations, stigma, and social tolerance of GBV are needed to document and assess the health and social justice impacts of these serious human rights violations. To improve the law enforcement response to sex trafficking and ensure that public health and criminal justice interventions are not at odds with one another, police education and sensitivity training regarding the health and human rights issues experienced by trafficked FSWs is urgently needed. The findings of this dissertation will contribute to ongoing efforts by a USAID-funded binational training program (TIES-2; PI: Strathdee) that aims to reduce the health and social harms associated with drug abuse and promote a culture of mutual respect for human rights among law enforcement officials and NGOs serving drug dependent persons in the Mexico-U.S. border region. These data will inform into the development and implementation of ongoing police education programs in the Tijuana/San Diego and Cd. Juarez/El Paso border regions.

Larger, mixed methods studies: Finally, larger quantitative and mixed methods studies of sex trafficking and HIV/STI infection that include trafficking measures informed by the current study are necessary to gather stronger evidence for the linkages between trafficking and HIV risk in Mexico-U.S. border cities. Due to the complex nature of trafficking and its impacts, more refined measures and methods related to temporality should be implemented in future studies with trafficked women (e.g., measuring HIV risk behaviors that occurred within the first 30 days in trafficking; using a timeline during qualitative interviews to situate different trafficking experiences and their location). Additional studies should apply qualitative and quantitative methods to develop and test hypotheses related to trafficking and its health impacts, including HIV. In-depth

interviews with formerly trafficked FSWs identified unintended pregnancy, violence, homelessness, trauma, and drug addiction as additional consequences of trafficking that were perceived to be of equal or greater importance than HIV. Since the findings in this study do not adequately portray the wider experiences of more vulnerable groups of trafficked women and girls (i.e., currently underage or trafficked FSWs), inclusion of underage FSWs in future research should be explored. More detailed information on the health and social circumstances experienced by a broader spectrum of trafficked women and girls in Mexico and internationally would provide a stronger basis for public health interventions that address their specific needs.

Conclusions

This dissertation found that trafficking for sexual exploitation and mobility are pervasive and linked to HIV vulnerability in Mexico-U.S. border cities, where structural forces such as gender inequities and resulting GBV, stigmatization of FSWs, and economic vulnerabilities among migrants pose a risk environment for sex trafficking and HIV infection.

In Chapter 2, mobile groups in Central America and Mexico were found to experience an elevated risk of HIV infection; social isolation, socio-economic impacts of displacement, gender inequalities, and stigma/discrimination were found to strongly shape HIV risk. In Chapter 3, a large proportion of FSWs in Mexico-U.S. border cities begin sex work as minors; these women reported a higher prevalence of risks related to their early and recent risk environment than their adult counterparts, underscoring the importance of efforts to prevent underage sex work and its impacts. In Chapter 4, sex trafficking was linked to elevated HIV vulnerability among formerly trafficked FSWs through gender-based violence, economic vulnerabilities, migration, and stigma. These

data suggest that the early experiences of young, abused women may have a direct impact on their future vulnerability to trafficking, sex work, and their associated health impacts.

The findings suggest that sex trafficking is more complex and nuanced than suggested by popular discourse. They provide evidence for a reciprocal relationship between individual and structural forces in the histories of trafficked women; although most women reported early experiences of abuse and running away from home, their stories reflect diverse pathways into sex work and accounts of both agency and victimization regarding their experiences with trafficking, sex work, and HIV prevention, challenging popular portrayals of trafficked women as naïve, young victims without agency.

Across the three studies, gender-based inequities and violence, economic desperation and poverty, and migration and immigration policies were identified as structural influences shaping young women's vulnerability to sex trafficking, substance use, and HIV risk. Multi-level, inter-sectoral interventions to prevent sex trafficking and HIV infection are needed in Mexico-U.S. border cities. Recommended structural components include strengthening the response to GBV and the provision of comprehensive migrant services in Mexico-U.S border cities. At the individual level, peer-delivered prevention messages and psychological support are recommended.

Figures

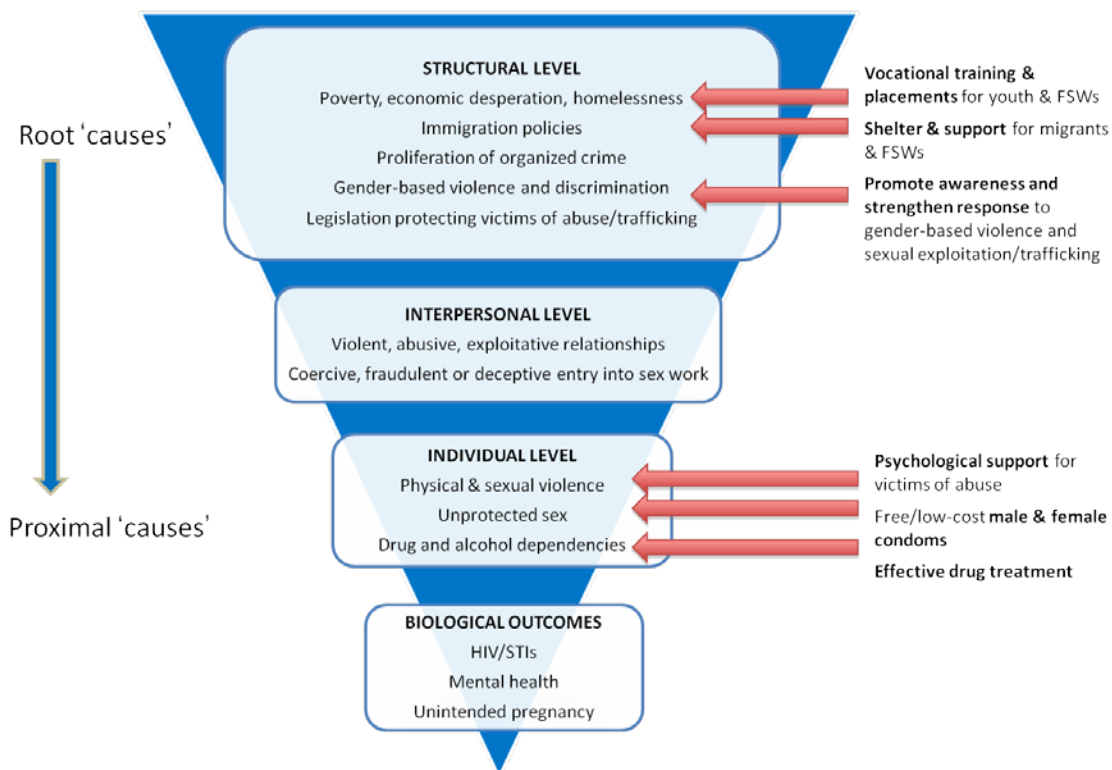


Figure 5.1: Recommended interventions to prevent trafficking and HIV infection



Figure 5.2: Photo of a trafficking prevention campaign in Tijuana, Baja California [Translation: You are not merchandise. Trafficking in persons exists...] Photo credit to Maria Luisa Rolon, 2011.

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APPENDICES

Appendix 1: Protection of Human Subjects

Human subjects research protocols were submitted and approved by institutional review boards in San Diego (UCSD) and Tijuana (El Colegio de La Frontera Norte (COLEF)) for this dissertation study. Key sections of the protocol are included below.

Risk to Subjects

Psychological risks: The risks associated with this study are primarily psychological. Psychological risks to subjects include distress and re-traumatization that may be experienced as a result of recalling difficult and traumatic experiences associated with sex trafficking. For example, “secondary trauma” may occur from recounting painful memories(1). To reduce the potential for psychological risks to subjects, a small number of sensitive and experienced interviewers with strong listening and interpreting skills will be selected for the study. Interviewers will be carefully trained to avoid re-traumatizing trafficked FSWs, using tactics such as carefully monitoring body language to ensure that a participant feels comfortable and safe, not pressing for answers, and avoiding questions that have the potential to elicit significant psychological distress. Interview techniques will be highly adaptable to the specific interview context (i.e., loosely structured to facilitate adaptation, depending on a participant’s level of comfort, openness, and experiences), and interviewers will be trained to mainly listen to participants tell what they choose to disclose, rather than press for distressing information(2). The interview techniques to be employed are based on recommendations of other trafficking researchers, who have advocated for a “golden middle” when interviewing trafficking survivors, which represents a middle ground in research where survivors’ stories can be told, yet their safety and privacy are assured(1, 3). Interviewers

will undergo sensitivity training to increase their awareness of preconceptions (i.e., trafficked FSWs are traumatized, victims, or desire assistance), to ensure that these are not communicated during an interview. Since evidence suggests that many women have contradictory and ambivalent feelings about their situation – such that some may not wish to seek help – interviewers will be trained to create a non-judgmental and open interview atmosphere through techniques such as friendly and open body language, understanding and concerned (not pitying) responses, strong listening skills, and the avoidance of strong language, stereotypes, or assumptions(2).

Physical risks: Physical risks such as violence, sexual assault, and other forms of physical abuse or threats are likely to be reported during our study. Participants in need of assistance will be offered the opportunity to consult an on-site psychologist, and direct referrals (i.e., outreach workers can call for an appointment, and/or escort them) to organizations providing free, local support services such as women's shelters, NGOs providing victim assistance, legal advocates who work with trafficked women, human rights advocates, and other NGOs that provide specialized support (e.g., the Binational Safety Coalition; Centro para la Protección Social de la Mujer; Procuraduría de los Derechos Humanos y Protección Ciudadana). In the case that a woman is not ready or interested in such services, written information will be available. Referral information will be provided discreetly on wallet-sized cards that do not indicate what the services are for, in case the discovery of participation in our study or seeking such resources could put a woman at risk of violence. Violence and abuse is reportable under local law in Mexico if participants choose to do so; reports of violence that are not related to study activities are not reportable as adverse research events, unless they result as a consequence of participation. In such cases, an adverse event report would be immediately filed at both UCSD and COLEF IRBs. Staff will be trained to immediately

report instances of current abuse, violence, or intent to hurt oneself or others during the course of the study to the Mexican PI, Dr. Rangel, who will immediately provide the appropriate referral as required by Mexican law. Such an incident will also be immediately reported to Dr. Strathdee and to respective IRBs at UCSD and COLEF. Our certificate of confidentiality will protect victims from sharing such information and disclose their identities to law enforcement or immigration authorities, unless they choose to do so.

Treatments available: Free medical care and treatment for HIV, syphilis, gonorrhea, and Chlamydia is locally available through municipal clinics in Tijuana and specialized care is provided at CAPASITS.

Protection against risks

Informed consent: All participants will be asked to provide written informed consent prior to participating. Interviewers will be trained to carefully go over and explain the consent form to participants, which will be developed in accordance with UCSD and COLEF IRB guidelines. Study procedures will be thoroughly and clearly explained in simple language (i.e., at a fifth-grade reading level), and participants will have the opportunity to ask questions and demonstrate their comprehension of study procedures prior to participating. If it is apparent that a participant does not understand study procedures, the interviewer will be trained to go over the information again in a different way with the participant to ensure comprehension prior to continuing. Participants will be provided a copy of the consent form, which will include contact information for Dr. Rangel in Mexico and Dr. Strathdee in the U.S., as well as institutional review boards, in case they have any questions regarding their participation in the study.

In addition to explaining study procedures, equally important is the need to explain what our team cannot do (e.g., directly offer victim assistance), to ensure that participants fully comprehend the nature of the interview and our role as researchers. Since trafficking victims may have already interacted with service providers and authorities regarding their experiences (e.g., they may have already told their story to authorities who offer benefits to speaking up, such as visas and shelter), our interviewers will make clear the fact that access to services or treatment is in no way contingent upon participation. As well, we will explain how our work will (or could) be used, its intended audiences and the formats in which it will be presented.

Protection against risks: In the development of our study protocol, we have taken numerous measures to protect study participants, staff, investigators, and students. First, the research coordinator, PIs and Co-Investigators, who possess extensive research experience with vulnerable populations, will supervise fieldwork to ensure that it is conducted safely. As well, we will consult with institutional IRBs regarding our study protocol and will obtain IRB approvals from UCSD and COLEF prior to undertaking the study. All investigators and staff will complete IRB training in human subjects research, and will be trained in accordance with the WHO ethical and safety guidelines for interviewing trafficked women(2).

To minimize risks to participants, prior to undertaking an interview, staff will assess the potential for harm that could result from conducting such an interview. For example, to assess security interviewers will be trained to ask questions such as, "Do you have any concerns about carrying out this interview with me?", "Do you think that talking to me could pose any problems for you, your family, friends, or anyone who is assisting you?", or "Do you feel this is a good time and place to discuss your experience? If not, is there a better time and place?"(2) Each interviewer will undergo

extensive training to ensure that they are well-versed in the issues that may arise prior to conducting the interviews and is familiar with a participants' individual circumstance to ensure that the interview can be safely conducted. Interviews will be conducted in highly private, one-on-one settings where confidentiality can be assured.

This study will interview FSWs who report a previous trafficking history, and will not seek to recruit FSWs who are currently in a trafficking situation, to avoid posing risks to study staff and participants. This has been deemed the safest way to conduct trafficking research according to the WHO(2). In the interest of protecting safety, we also modified the language and content of our trafficking module questionnaire items based on pilot testing feedback from participants and interviewers; for example, we decided not to use the term 'trafficking', and instead to ask FSWs about trafficking-related exposures, such as abuse or sex work initiation as a minor. Prior to interviewing FSWs, service providers will also be consulted to better understand the local context of sex trafficking, as well as the potential issues and circumstances that may arise during our interactions with trafficked FSWs. Additional safeguards to ensure study personnel safety will be to conduct fieldwork in teams (a minimum of 2 persons at all times) and to ensure that each team carries a Nextel when in the field to facilitate communication with the research coordinator regarding their location and safety. This study will minimize risk to study staff and participants by focusing on the health-related aspects of trafficking and staying clear of asking about issues that may compromise safety, such as detailed trafficking routes and the identities of traffickers.

Potential benefits

An on-site psychologist as well as direct referrals to appropriate local health, social, and other services will be available to all participants, as will be small cards

containing contact information for local agencies. Free condoms and HIV/STI prevention information will also be provided. Prior to making referrals, all service providers will be contacted to assess the services offered, assure their interest and ability to assist victims, and inform them that their contact information will be provided to this population.

After discussing difficult issues that are normally not discussed in everyday life, participants in similar types of studies often report that they feel relieved to have talked about their experience with a non-judgmental listener. However, others may feel worse about themselves and their future. To avoid leaving participants feeling hopeless or ashamed, we will ensure that the interview ends on a positive note. For example, interviewers may remind a participant of how well she has coped in her difficult circumstances, and that the stories they have told will be used to help others who have had similar experiences. As well, the provision of direct referrals can be offered at this time as a means of moving on, if the participant is ready to do so; if she is not, the interviewer can remind her that they are available for whenever she is ready.

Data safety and monitoring

Transcripts and fieldnotes will be double-checked against original notebooks and tapes at UCSD and will be identified only by code numbers to safeguard confidentiality. All unique identifiers (e.g., names, friend's names, names of employers) will be removed during transcription and participants' identities will remain confidential. Electronic files containing the raw qualitative and quantitative data stripped of personal identifiers will be made available to Co-Investigators, who will work closely with the PI and research coordinator to examine findings as they emerge. Paper copies of consent forms, interview recordings & transcripts, and all related paper documents will be stored in a locked cabinet in a locked private office at UCSD. Blood and urine specimens will be

stored at the San Diego County Health Department. Computer files will be password protected, backed up, and stored in a locked office. No data that could identify participants will be stored on computer. The PI, Co-investigators, and Research Coordinator will have data access stripped of identifying information. The only individuals with access to participants' identifying information are the research coordinator and PI. All of the investigators are experienced researchers who have received training in data collection and analysis, including privacy and confidentiality protocols in accordance with NIH policy, and have completed the UCSD human subjects' research tutorial. Upon completion of the study, transcripts, field notes, and field materials will be archived in a locked filing cabinet in a locked office. Audiotapes and digital recordings of interviews will be destroyed 5 years from study completion. If a participant withdraws from the study, data from their interview will be destroyed immediately. Electronic files containing the raw data stripped of personal identifiers will be made available to Co-Investigators, who will work closely with the PI and Goldenberg to examine findings as they emerge.

References

1. Brennan D. Methodological challenges in research with trafficked persons: tales from the field. *International Migration*. 2005;43:35-54.
2. Zimmerman C, Watts C. WHO ethical and safety recommendations for interviewing trafficked women. Geneva: World Health Organization, 2003.
3. Gozdzik EM, Collett EA. Research on Human Trafficking in North America: A Review of Literature. *International Migration*. 2005;43(1-2):99-128.

Appendix 2: Qualitative Interview Guides

Initial In-depth Interview Guide for FSWs

- Review the informed consent and interview structure: This session will be audio taped and will last about 1 hour. Today's interview will be about the reasons that you began to sell or trade sex, and the reasons you continue to do so. During the interview, I'll be taking a few notes about the events and experiences you describe to me. Do you have any questions about how we're going to spend our time today?
 - Ensure that the participant feels comfortable and safe conducting the interview. For example:
 - *"Do you have any concerns about carrying out this interview with me?"*
 - *"Do you think that talking to me could pose any problems for you, for example, with people who may have abused you, your family, or anyone who is assisting you?"*
1. To start, could you please tell me a bit about your background?
Sample probes:
- What city and country were you born in?

If participant is not born in Tijuana, ask questions 2-5 for migrants. Otherwise, skip to general questions for FSWs (question 6).

Questions for migrants

I'm interested in hearing more about your migration history. Let's start with what brought you here to Tijuana in the first place.

2. What made you decide to come to Tijuana?
 - What was life like before you came here? Did you have access to financial resources? Did you have a job? If so, what kind of work did you do?
 - Did someone else encourage you to come here?
 - What did you think you would be doing when you arrived? Did things go according to your plan?
3. How long have you lived in Tijuana for?
4. How did you get to Tijuana?
 - Did you travel alone? If with someone, who?
 - How did you pay for your travel?
 - Did you have papers?
5. When you arrived, was it what you expected?
 - In retrospect, is there anything you wished you had known before coming to Tijuana?

General questions for all FSWs

Now I'd like to hear about the first time you sold or traded sex.

6. Could you tell me a little bit about the first time you sold or traded sex?
 - How old were you? Did you have a sex work permit?
 - What city was it in?
 - What was your economic and personal life like?
 - Were you able to make a living without this income?
7. What were the reasons you decided to sell or trade sex for the first time?
 - Whose idea was it for you to sell or trade sex for the first time?
 - Were you recruited by someone? Did someone else encourage you? (e.g., Friend, Partner, Family member, Stranger, Advertisement)
 - What were your expectations or understanding of what you would be doing? What do you think of these expectations now?
8. Could you please tell me a little bit more about where you worked, your clients and how much you were earning when you first started to sell/trade sex?
 - Where did you work? What was it like there?
 - How did you meet your clients? How did they treat you?
 - Were you able to keep all of your earnings? If no, who kept them? Were you able to survive off what you were given? Were you ever in debt to anybody?
 - Did you feel safe at this time?
9. When you began to sell or trade sex, were you free to leave or communicate with others? For example, phone or visit family/friends, leave to run errands, or go to the doctor?
 - Were you able to come and go as you liked?
 - Were you ever moved from work location to work at another?
 - Did you meet other women in a similar situation at this time?
 - Did you feel that you were free to return home or find another job?
10. When you began to sell/trade sex, what kinds of risks of HIV or sexually transmitted diseases did you experience?
 - Were you able to negotiate condom use with clients and other men? If not, what might have been some barriers to condom use?
 - Do you think you had all of the knowledge you needed to protect yourself?
 - Did you access medical care (e.g., for HIV/STI testing)?
 - Do you think women of all ages are equally able to negotiate safe sex with clients and other men?
11. When you began to sell/trade sex, were you ever forced to do something you didn't want to do?
 - What was it?
 - Who forced you?
 - Have you been able to avoid this experience in the future?

12. Can you tell me a bit more about your use of drugs and alcohol when you first began to sell/trade sex?
 - At what age did you begin using drugs? Can you describe the reasons you began?
 - Did anyone ever force you to use drugs or alcohol?
 - Did you find that these substances helped you deal with your situation, or did they make it worse?

13. When you began to sell/trade sex, did you ever experience sexual, physical, or psychological abuse?
 - If so, who abused you?
 - What types of violence did you experience?
 - Physical beatings or other abuse? Use of weapons?
 - Sexual abuse such as rape?
 - Psychological abuse or threats? Threats to your family?
 - Did you ever see or hear of other women being beaten or harmed?

14. Could you describe your interactions with authorities such as police, immigration authorities, or others around the time that you began to sell/trade sex?
 - Were you ever arrested?
 - Did the police or immigration authorities ever ask you about your situation?

15. Could you please describe some of the reasons you continue to sell/trade sex?
 - Do you have any other access to financial resources?
 - Are you currently supporting any family members?
 - Is there someone in your life who encourages you to stay in this work?
 - Do you need to continue this work to access drugs?
 - Are you aware of any women who tried to escape/leave the sex industry?
 - Were they able to leave? How? Police raids? Social services referral? Help from friends or family?

16. Now I'd like to discuss your health and well-being. Since the time that you started to sell/trade sex, what are the health issues or risks that concern you the most?
 - Injuries?
 - HIV/STIs?
 - Mental health?
 - What are some of the challenges you face in terms of protecting your health?

17. When you began to sell/trade sex, did you access any services, for example, medical care (e.g., for HIV/STI testing)?
 - What other services would have been helpful to you at the time?

- Were you aware of any other services that you needed but did not use them? If so, why not?

18. How can service providers and other agencies in Tijuana better assist women like yourself?

- Recommendations for HIV prevention?
- Mental health services?
- Violence prevention?
- Education/informational campaigns?
- Service coordination/collaboration?
- Law enforcement training?
- Legal changes?

Closing Remarks

- Are there further insights you would like to share (e.g. any opinions, feelings)?
- Ensure that the interview ends on a positive note. For example:
- *“Thank you very much for taking the time and having the strength to tell me about your experiences. Nobody deserves to be treated the way that you have been treated and you are clearly a strong and courageous woman to have survived these abuses.”*

Follow-up In-depth Interview Guide for FSWs

- Review the informed consent and interview structure: This session will be audio taped and will last about 1 hour. The purpose of today's interview is primarily to hear more about the reasons that you began and continue to sell or trade sex. I would also like to share some of our study findings with you. I'll also explain some of the recommendations we're considering to improve HIV prevention and support services for female sex workers in Tijuana, and would like to hear your ideas on what might work, and what we might be getting wrong. During the interview, I'll be taking a few notes about the events and experiences you describe to me. Do you have any questions about how we're going to spend our time today?
- Ensure that the participant feels comfortable and safe conducting the interview. For example:
 - *“Do you have any concerns about carrying out this interview with me?”*
 - *“Do you think that talking to me could pose any problems for you, for example, with people who may have abused you, your family, or anyone who is assisting you?”*

Follow-up Questions:

1. Since your last interview here with me [or name of prior interviewer] regarding the reasons you began to sell/trade sex and your experiences with HIV risk and prevention, how did that interview and the information we provided affect you?

Examples of Probes:

- What does this information mean to you?
 - Have you thought about the reasons you began or continue to sell/trade sex differently since our last interview?
 - Have you thought about HIV and HIV prevention differently since our last interview?
 - What have you thought about with regards to HIV or sex work since our last interview?
- How has it been helpful or unhelpful?
 - Have you had any experiences since the last interview that made you think about anything we discussed?
 - Did the interview affect your likelihood to access any services? For example, did you access HIV testing, female condoms, counseling, shelter, or legal services?
 - If so, can you tell me the story of how you decided to access these services? Can you describe your experience accessing these services?
- Did you talk about the interview or any issues related to sexual health, sex work, or drug use with anyone after the interview?

- Have you had any experiences since the last interview that pertain to the issues we discussed in any other ways?
2. Here's a summary of what we've heard so far from other female sex workers in Tijuana. I'm going to run our findings by you and ask you to comment on our findings.
- *Reasons for beginning sex work:* Many women in our study experienced abuse (e.g., rape; incest) as young girls, and ran away from home at an early age. Among migrants, during migration and upon arriving in Tijuana, women experienced exploitation by friends, family, and strangers, who often took advantage of their isolation and vulnerability. Many women said that they were taken advantage of or exploited by others when they began to trade/sell sex.
 - *Reasons for continuing sex work:* In comparison, today, most participants say that they are better able to control their working conditions, keep all of their earnings, and assure their safety, compared to in the past. While most of our participants also expressed a desire to leave sex work, the economic need to support children, drug addiction, limited training, and few job opportunities are ongoing barriers to leaving sex work.
 - *Health concerns:* The following health concerns were identified as related to forced or underage entry into sex work:
 - **HIV/STIs:** Most participants experienced barriers to condom use with men who exploited them, as well as clients and partners, when they began sex work. Today, many have developed strategies to better ensure that clients and other men use condoms due to the experience and knowledge they have gained, though this is an ongoing issue.
 - **Use of 'hard' drugs (heroin, methamphetamines):** Many women began to use these drugs to cope with the stresses of sex work and improve their job performance, though some also used other drugs (cocaine, inhalants, or marijuana) before sex work. A few participants were forced to use drugs or alcohol when they began sex work. Dependence on highly addictive drugs (e.g., heroin) is one of the biggest reasons the women we spoke with continue to do sex work.
 - **Unintended pregnancy:** Women often experienced unintended or unplanned pregnancy at a young age. The need to care for children was described as a very important reason for beginning and continuing to do sex work.
 - **Violence & trauma:** Many women reported that they experienced sexual violence, including rape, during the time that they began to sell/trade sex. This is an ongoing concern today, with violence from police, clients, pimps, intimate partners, and other men being a very common experience. Some women continue to experience difficult and sometimes traumatic feelings related to violence and abuse that they experienced in the past.
 - Do you identify with some of these concerns?
 - What do you think is important about these findings?

- What do you feel is missing? Is there anything that we've misunderstood?
3. Based on what we've discussed until now, I would like get your input on some strategies we've considered to improve HIV prevention and other support services for female sex workers in Tijuana.
- We have prepared a number of suggestions for how to do this, based on what women told us in their previous interviews.
 - To reduce vulnerability to sexual exploitation and sex work, *counseling, shelter, and related services* for vulnerable young women, especially migrants, should be provided and advertised.
 - To prevent violence and abuse of women and girls, *efforts to improve awareness and strengthen the response to violence* among authorities and in the wider community are necessary.
 - To lower HIV/STI risk, *access to HIV testing and care, free or low-cost female and male condoms, and substance abuse treatment* should be improved, especially for underage sex workers
 - To provide opportunities to leave sex work, *vocational training and job placements* should be made available to women who desire these alternatives.
 - What do you think about these suggestions?
 - What else do you think we should add to this list?
 - Are there any other ways you can think of that service providers can better serve women such as yourself?
4. Thinking back to your experience when you began sex work and what we have discussed today, what would you tell someone else who was thinking about beginning sex work?

Closing Remarks

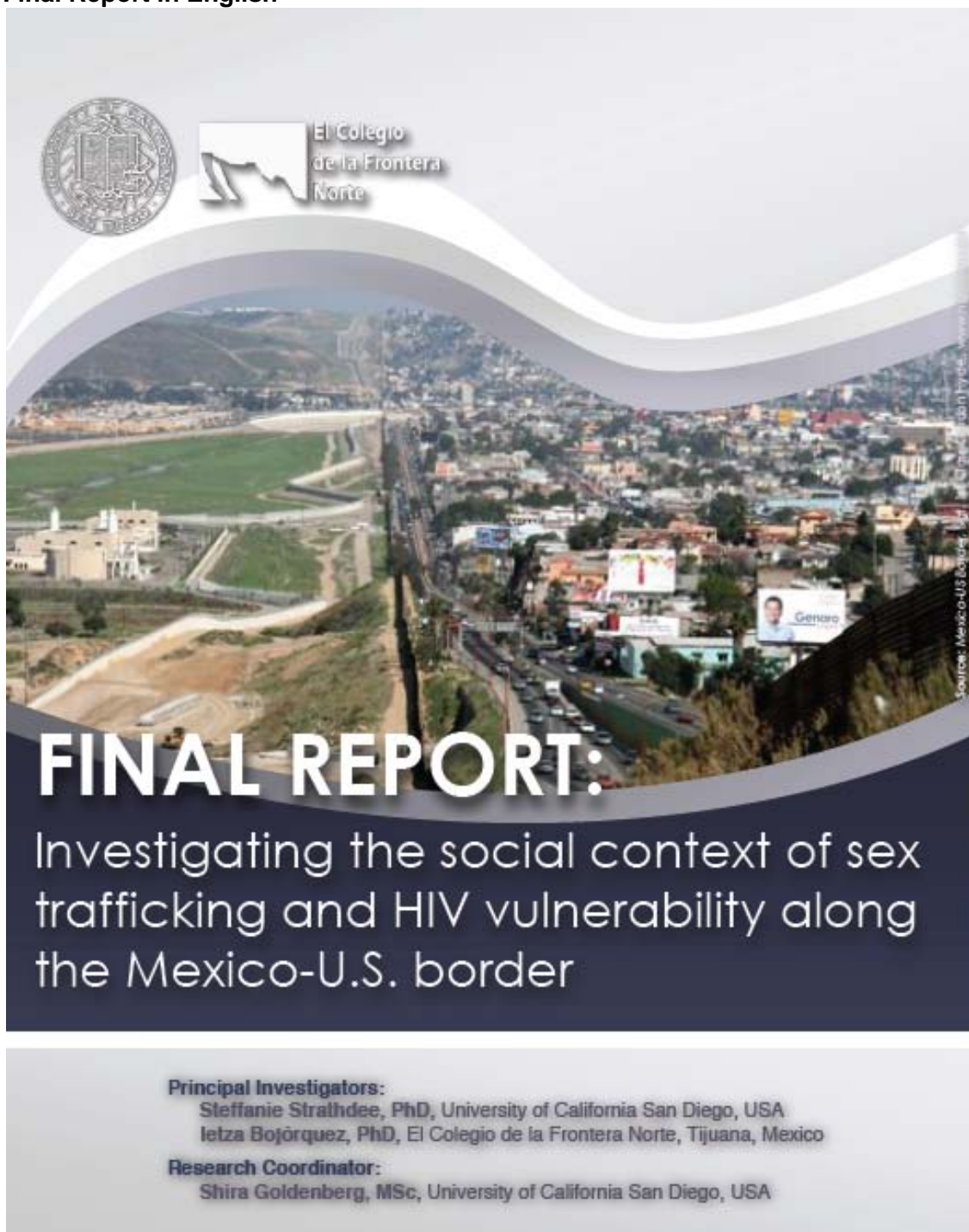
5. Is there anything else you want to tell me about your experiences with sex work and HIV prevention?
6. Are there further insights you would like to share (e.g. any opinions, feelings)?



Ensure that the interview ends on a positive note. For example:

- *“Thank you very much for taking the time and having the strength to tell me about your experiences. Nobody deserves to be treated the way that you have been treated and you are clearly a strong and courageous woman to have survived these abuses.”*
- *“Thank you for providing your ideas and opinions regarding our study findings and recommendations. This information will help us design programs and services to assist and protect women such as yourself in the future.”*

Appendix 3: Final Project Report

Final Report in English



  El Colegio de la Frontera Norte

FINAL REPORT:
Investigating the social context of sex trafficking and HIV vulnerability along the Mexico-U.S. border

Principal Investigators:
Steffanie Strathdee, PhD, University of California San Diego, USA
Ietza Bojórquez, PhD, El Colegio de la Frontera Norte, Tijuana, Mexico

Research Coordinator:
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Source: Mexico-U.S. Border, USA, 2012, Robin Hayes, www.nv.gov

Background

Sex trafficking is a human rights violation with enormous health and social impacts, including HIV. Influenced by migration flows, the AIDS pandemic, and child sex tourism, attention to trafficking has recently proliferated. This study employs the international definition provided by the U.N. Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children in which sex trafficking is constituted by any act of recruitment, transportation, transfer, harboring or receipt of persons, using threat, force, coercion, abduction, fraud, or deception, for the purpose of prostitution or sexual exploitation. Very high HIV prevalence has been documented among trafficked women and girls in Asia (i.e., 22-45.8%); however, little is known regarding the public health impacts of trafficking, especially HIV, among trafficked women and girls in Latin America.

REASONS FOR MIGRATION

- Economic inequalities
- Desire for socio-economic mobility
- Gender inequities
- Natural disasters
- Political upheaval
- Deportation policies
- Urbanization,
- Transnational networks

SEX TRAFFICKING (ST)

- 80% of victims are female
- Latin America: 100,000 trafficked across international borders annually
- 41% of trafficking victims in 2007 in the U.S. were Latin American
- Most individuals trafficked to the U.S. are trafficked from or through Mexico
- ~10,000 women/year from southern & central Mexico are trafficked to U.S. border for sex

MEXICO

- Major source, transit, & destination country
- Trafficking in Latin America reported to be increasing
- Sex tourism locations: Border areas as 'hot spots'
- Mexico-U.S. border: Tijuana is a popular destination for sex tourism, including child sex tourism
- 9000 female sex workers (FSWs) sell/trade sex to U.S., Mexican, and international clients
- Underage sex work visible at all hours of day
- Adult sex work is 'quasi-legal' in red light district





Materials & Methods

Objective

- To describe formerly trafficked FSWs' experiences with sex trafficking and their relationship to HIV vulnerability in Mexico

Study setting: Tijuana, Mexico

HIV epidemic

- Baja California: 2nd highest cumulative AIDS incidence by state in Mexico
- Prevalence: 6% among FSWs

Mobility

- Busiest international land border crossing in the world; increase in deportations
- Approximately half of the population is migrants

Data collection

Ethnographic fieldwork and in-depth interviews with 31 formerly trafficked FSWs (Sept. 2010 – July 2011)

In-depth interviews

- 31 FSWs recruited from HIV prevention study*
 - Eligibility: Aged ≥18, sold/traded sex in Tijuana in the past

month, reported former sex trafficking

Former sex trafficking defined as any of the following:

- Forced/coerced into sex work
- <18 years old at sex work entry
- Transported for sexual exploitation

Interview topics:

- Sex work initiation, continuation, & migration
- Violence and abuse
- Health issues: HIV, drug use, unintended pregnancy
- Structural and contextual factors

*Parent study: *Proyecto Parejas* (PI: Strathdee)

- Conducted among 232 adult FSWs in Tijuana & Cd. Juarez
 - Eligibility: Aged ≥18, resided in Tijuana or Cd. Juarez, and reported having sold/traded sex in the past month, having a regular non-commercial male sexual partner for the last 6 months, and no plans to permanently leave the city for the next 24 months

Data analysis

- NVIVO 9.0
- Data analysis restricted to 30 FSWs
 - 1 FSW omitted because ST experience was > 20 years ago
- Constant comparative method to describe the structure and relationships between themes

Results

Participant characteristics

Table 1: Socio-demographic characteristics of formerly trafficked FSWs (n=30) in Tijuana, Mexico, 2011

Variable	(n = 30)
Age, years*	32.4 (19-54)
How many years of education completed, years*	7.1 (1-15)
Race: Latino/Hispanic	29 (96.7%)
Living arrangement	
Your own house/apartment	12 (40.0%)
Rented room	11 (36.7%)
Relative's or friend's house/apartment	2 (6.7%)
More than one place	3 (10.0%)
Country of Birth	
Mexico	28 (93.3%)
United States	1 (3.3%)
Central American country	1 (3.3%)
Was born outside of Tijuana	19 (63.3%)
% of vaginal sex acts with clients that were unprotected in the last month*	50.5 (0-100)
Drugs used in the past 6 months	
Heroin	19 (63.3%)
Crack	2 (6.9%)
Cocaine	6 (20.7%)
Methamphetamine	22 (75.9%)
Ever injected drugs	21 (70.0%)
Injected drugs in the past 6 months	18 (60.0%)
HIV/STI status	
HIV	2 (7.1%)
Any STI/HIV	5 (16.7%)

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

* Mean (range)

Findings

Trafficking along the Mexico-U.S. border is heterogeneous, ranging from cases of severe exploitation to very subtle forms of deception or coercion. Sex trafficking was linked to HIV vulnerability through the themes of gender-based violence, economic exploitation and independence, migration, and stigma.

These themes were demonstrated to increase these women's likelihood of sex trafficking and exploitation, increase their marginalization and reliance on sex work, and decrease their HIV prevention capacities.

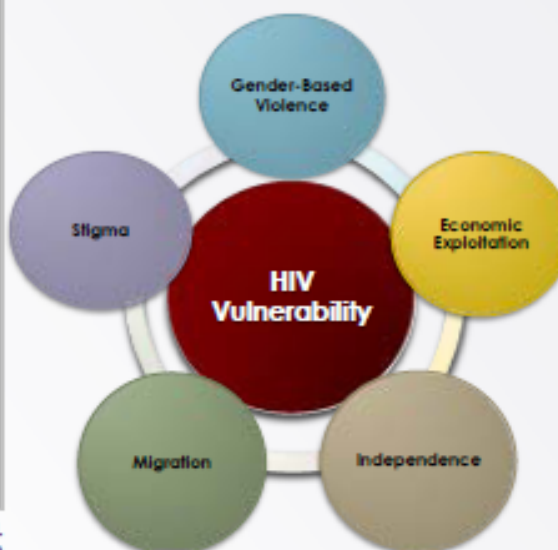


Table 2: Sex trafficking experiences of formerly trafficked female sex workers in Tijuana, Mexico, 2011

Variable	(n = 30)
Began sex work <18 years old (SW<18)	25 (85.3%)
Forced, deceived, or coerced into sex work entry or continuation (ForcedSW)	11 (36.7%)
Transported for sexual exploitation against their will (TransportSW)	2 (6.67%)
Age when female participant first traded sex, in years*	17.2 (12-28)
Age when female participant began to work regularly in sex work, in years*	18.2 (12-30)
Participant was ever:	
Promised a job that turned out to be selling or trading sex	6 (20.0%)
Sold or traded for sexual purposes	5 (16.7%)
Forced to exchange sex for money, drugs, or other goods at the orders of another person	5 (16.7%)
Held captive/kidnapped for sexual purposes	5 (16.7%)
Denied your earnings or what was owed you from selling/trading sex	6 (20.0%)
Ever experienced a traumatic event	9 (30.0%)
Ever been forced/coerced to have non-consensual sex	11 (36.7%)
Age at first rape, in years*	11.6 (3-18)
Ever physically abused	7 (23.3%)
Age at first abuse, in years*	18.3 (9-27)

NOTE: Data are N (%) of women, unless otherwise indicated. Certain percentages may reflect denominators smaller than the n value give in the column head. Except as specifically noted, these discrepancies are due to missing data.
* Mean (range)

"Well, how did I start? Well, I didn't start, I was put into it... See, it was very hard for me because I was raped at 11 years old and I had that trauma. I started working at 13 years old, they took me like any other chick that they would take to a place like that[...] they made me take my clothes off, I felt attacked, they gave me 500 pesos [50 USD]."

-[SW<18]

"I started that stage [sex work] when my dad raped me when I was 14 [...] I left my house, [I went] to the streets with the drug addicts[...] [I met] my pimp when I was about 16 years old."

-[SW<18, ForcedSW, TransportSW]

Q: How was it that you first started or decided to exchange sex the first time?

A: "Well, that was when I left my home, I went to live with a friend, [...] Everything was fine for a while, but later on I had to start having sex in exchange for getting to live there [...] I ran away because there was a lot of fighting...I wanted to go back, but I stayed and kept, you know, teaching myself, going out...that's all."

-[SW<18, ForcedSW]

"Everything happened because I was desperate...I was hungry, I didn't know what to do[...] So, this chick told me, "Oh well, let's go meet a friend, he has a lot of money and he's American..." But she went with the intention of selling me [...] She didn't tell me that she was going to take me to a client or anything [...] Obviously, if she had told me what I had to do, I wouldn't have gone, but she tricked me."
-[SW<18]



Source: San Diego Youth Services



"I left my house when I was 13 years old because of the hitting and everything [...] I was the one that was beat up. I was fed up ... I left the house, I was on the streets. I stayed at an abandoned house by myself [...] Sometimes the gangsters would go there to chemear [use inhalants]. One time I was sleeping, that's when I lost it [my virginity]...You know. It was about 15 guys in the group and they all did it. The good thing is that I was left alive, right? I started walking along that neighborhood [doing sex work] [...] I was just 16."
-[SW<18]

HIV risk during trafficking



"They [her traffickers] would get us in the room at night, the first time I said "no, that that's not how the business went," that's not how we did it. Pretty much the only ones we didn't use protection with were with him [her trafficker] or his friends; he hit me too."
-[ForcedSW]

Q: That first time that you had sex with a client, when you were with your friend [her trafficker], did she tell you to use a condom?

A: "I don't remember, I think probably not, because I remember when he pulled out...I got scared, I started to cry. I was all wet down there, and so I don't think he used one. Later, the other girls explained, "listen, you have to take these precautions, don't even think about doing it without a condom"... That was when I started to know about using condoms."
-[SW<18, ForcedSW]



ONGOING RELIANCE ON SEX WORK

- Need to support young children and
- Substance addiction (need for \$)
- Stigma and ostracism
- Lack of employment opportunities
- Desires for alternative employment



Source: Ken Hawkins

"I was already really hooked on heroin, and I had to sell my body to curarme [get high] [...] One time that I was really malilla [in withdrawal] here, I didn't have [money] ...the guy who would give me [heroin] wasn't here, they had sent him to jail, and I was by myself and that was the first time I knew what malilla [withdrawal] was... I couldn't walk or anything. So then, this man who was interested in me, he always told me "hey, I'll give you money", and well [...] he called me and I accepted."

—[SW<18, ForcedSW]



Source: Robin Hammond

"Since I had already tried it [sex work] I just went back to it, right? You tell yourself, 'It's easy, it's just my body or whatever,' it seems easy to me. If I hadn't been introduced to prostitution in Guadalajara, maybe it wouldn't have come to this, right? But since I was introduced to it there, I needed money for my drugs."

—[SW<18, ForcedSW]

Q: What would you like for there to be, in terms of services, in order to meet your needs?

A: "That there would be the opportunity...to learn about office work, computers, because there are jobs...but well, no, one doesn't have the means to study, and many don't, not just me. I know that many would take a computer course, or a beauty [course], to look for a better job. There are a lot that are happy with what they do, but there are a lot who aren't, who do it because we don't have another way of getting a job."

Q: If you had that opportunity, would you take it to give yourself another chance at life?

A: "Of course I would."

—[ForcedSW]

PROGRESSION TOWARDS INDEPENDENCE:

"He [her intimate partner] was the one that initiated me, he wanted to deceive me, to be my pimp... But I didn't let him and I left, but I started doing it on my own. I said, 'Instead of giving someone else money, I'd rather keep it. If I'm doing something bad, well, it should at least be worth it.' [...] At least I opened my eyes, I didn't want to keep giving money to people who just wanted to take advantage of me."

—[SW<18, ForcedSW]

Early years in sex work

- Economically desperate
- Lacking in experience
- Limited control over well-being

Leaving exploitative circumstances associated with entry into sex work

Despite economic reliance on sex work:

- Gained increased autonomy
- Control over working conditions
- Scheduling clients
- ↑ abilities to control work safety
- Control of earnings
- Having their own money

Q: When you started exchanging sex on your own, were you free to do what you wanted?

A: "You could say that my life was calmer because I was earning my own money; the money I earned belonged to me. I rented a hotel room and lived there, living on my own, you know, nobody told me what to do, and that was when I started to get more familiar with it [sex work]."

—[SW<18, ForcedSW]

REASONS FOR MIGRATION: IMPLICATIONS FOR TRAFFICKING & HIV RISK

Ran away from home to escape abuse

Forced by intimate partner or family

Forced movement for sexual exploitation

Deported from the U.S.

Voluntary migration for sex work in Tijuana

Limited opportunities in home communities

Desire for socio-economic mobility

Family instability

A: "Once we got here, he took me to the alley where there were a lot of women [...] he said, 'Look, this is where you are going to work [...] Don't think that the women here only sit around, they have to move.' From the time I got here [Tijuana], the next day he wanted to send me off to work [...] he first charged and then he sent them over here. He wasn't embarrassed to do it. He is just like my mom, the same. In fact, they should get married; they would make a good couple."

Q: So, when you noticed what kind of person your partner was, did he threaten you?

A: "Yes, he did threaten me...He said he was going to call immigration services so they would take me away, because I wasn't from here."

—[SW<18, ForcedSW, TransportSW]

Discussion

PUBLIC HEALTH IMPLICATIONS

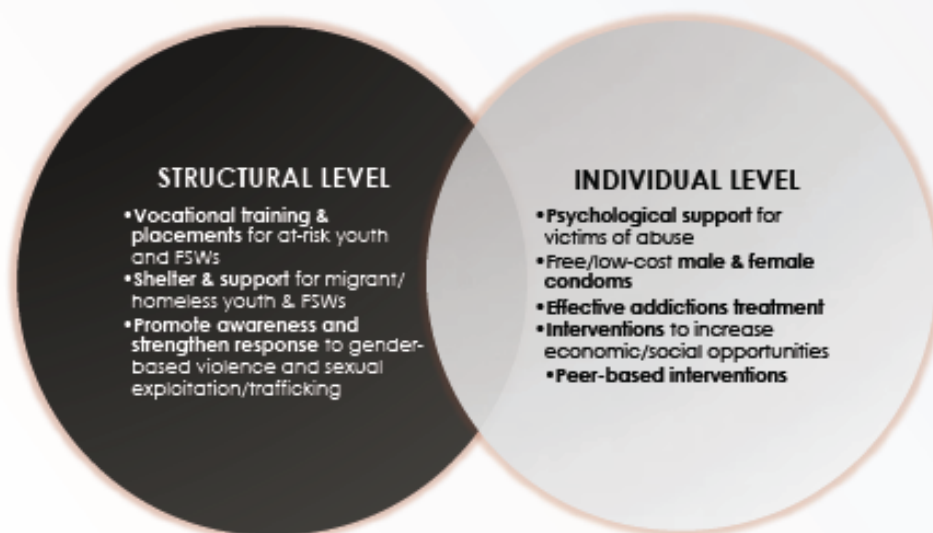
Our analysis highlights how the early experiences of young, abused women along the Mexico-U.S. border may have a direct impact of their future vulnerability to trafficking, sex work, and their associated health impacts, including HIV/STIs, addictions, and violence.

The findings of this study underscore the importance of efforts to prevent and address abuse of minors and provide counseling, shelter, HIV prevention, and related services to prevent trafficking and reduce harm among migrant women and FSWs in Mexico-U.S. border cities.

The women in our study described themselves during trafficking as younger and possessing less knowledge and skills related to HIV and violence prevention, they explained that once they had begun to work independently as FSWs, they had developed a solid basis of knowledge surrounding HIV risk and

transmission and had improved their abilities to prevent HIV and violence. They also described the need for shelter, food, and emotional support during their trafficking experience as factors that enabled others to take advantage of them. For vulnerable young women and migrants, the provision of shelter, psychological support, and vocational opportunities represent opportunities to prevent or intervene in sex trafficking, and the provision of condoms and HIV prevention information are necessary to reduce HIV risk. Conversely, women described their most pressing needs as sex workers as more congruent with interventions incorporating principles of harm reduction (e.g., condom and needle distribution), addictions treatment, and the provision of employment opportunities for those women who wish to exit sex work.

Recommended interventions to reduce vulnerability to HIV & trafficking



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El Colegio
 de la Frontera
 Norte

PIMSA

Final Report in Spanish

UNIVERSITY OF CALIFORNIA
SAN DIEGO

El Colegio
de la Frontera
Norte

REPORTE FINAL:
Investigando el contexto social de la trata
sexual y la vulnerabilidad al VIH a lo largo de
la frontera México-EE.UU.

Fuentes: Maximalist/Border, Shutterstock.com

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Antecedentes

La trata sexual es una violación a los derechos humanos con enormes consecuencias sociales y de salud, incluyendo la infección por VIH. La reciente proliferación de la trata se ha visto influenciada por flujos migratorios, la pandemia del SIDA, y el turismo sexual infantil. Este estudio utiliza la definición internacional prevista en el protocolo de las Naciones Unidas para prevenir, reprimir, y sancionar la trata de personas, especialmente mujeres y niños, en el cual se constituye la trata sexual como todo acto de captación, transporte, traslado, albergue o recepción de personas utilizando la amenaza, fuerza, coacción, rapto, fraude, o engaño con el propósito de prostituir o explotarlas sexualmente. La prevalencia del VIH se ha documentado como muy alta en mujeres y niñas en Asia (p. ej. 22-45,8%), sin embargo, poco se sabe acerca de las consecuencias de la trata en la salud pública, especialmente sobre el VIH entre las mujeres y niñas de América Latina.

El contexto de la trata sexual en México:

CAUSAS DE MIGRACIÓN

- La desigualdad económica
- El deseo de movilidad socioeconómica
- La inequidad de género
- Los desastres naturales
- La agitación política
- Las políticas de deportación
- La urbanización
- Las redes transnacionales

LA TRATA SEXUAL (TS)

- 80% de las víctimas son mujeres
- Latinoamérica: 100.000 víctimas/año de trata sexual atraviesan fronteras internacionales
- 41% de las víctimas de la trata en los EE.UU. en el 2007 eran latinoamericanas
- La mayoría de los objetos de la trata son traficadas desde México hacia EE.UU.
- ~10.000 mujeres/año del centro y sur de México son traficadas a la frontera de EE.UU. con fines sexuales

MÉXICO

- País de destino, tránsito y fuente principal
- Se ha reportado que la trata en América Latina va en aumento
- Lugares de turismo sexual: las zonas fronterizas son lugares "populares"
- Tijuana es un destino popular para el turismo sexual, incluyendo el turismo sexual infantil
- 9.000 trabajadoras sexuales (TS) venden/intercambian sexo a clientes internacionales, EE.UU. y México
- El trabajo sexual con menores de edad es visible a todas horas
- El trabajo sexual adulto es "casi legal" en la zona de tolerancia



Fuente: Iqbal Gopal Gossain-Hyde, <http://www.igp.com.mx>



Materiales & Métodos

Objetivo

- Describir las experiencias de las TS con antecedente de trata con su relación a la vulnerabilidad al VIH en México

Lugar del estudio: Tijuana, BC, México

La epidemia del VIH

- Baja California: 2ª incidencia acumulada más alta por estado en México
- Prevalencia: 6% entre TS

Movilidad

- Garita internacional de mayor tráfico en el mundo
 - o Aumento en deportaciones
- Aproximadamente la mitad de la población es migrante

Recopilación de Datos

Entrevistas a fondo y trabajo de campo etnográfico con 31 TS con experiencias anteriores de trata (sep 2010-julio 2011)

Entrevistas a fondo

- 31 TS reclutadas de estudio de prevención del VIH*
 - o Elegibilidad: ≥ 18 años de edad, vender/intercambiar sexo en Tijuana durante el último mes, reportar antecedente de trata sexual

Antecedente de trata sexual puede ser definido como cualquiera de los siguientes:

- Entrada al TS forzado/coaccionado
- < 18 años de edad al inicio del TS
- Transportada con fines de explotación sexual

Temas de la entrevista:

- o Iniciación del TS, continuación y migración
- o La violencia y el abuso
- o Problemas de salud: VIH, uso de drogas, embarazos no planificados
- o Factores estructurales y contextuales

*Estudio original: Proyecto Parejas (IP: Strathdee)

- 232 TS adultas en Tijuana & Ciudad Juárez

- o Elegibilidad: ≥ 18 años de edad, residentes de Tijuana o Ciudad Juárez, y reportaron haber vendido/intercambiado sexo en el último mes, tener una pareja sexual íntima (no-comercial) durante últimos 6 meses, y sin planes permanentes de dejar durante los siguientes 24 meses

Análisis de datos

- NVIVO 9.0
- Análisis de datos 30 FSWs
 - o 1 TS omitida debido a experiencia de trata > 20 años
- Método comparativo constante para describir estructura y relaciones entre los temas

Resultados

Características de las participantes

Tabla 1: Características sociodemográficas de TS con experiencias anteriores de trata (n=30) en Tijuana, México, 2011

Variable	(n = 30)
Edad, años*	32,4 (19-54)
Años de educación completados, años*	7,1 (1-15)
Raza: Latina/Hispana	29 (96,7%)
Vivienda	
<i>Casa/departamento propio</i>	12 (40,0%)
<i>Habitación alquilada</i>	11 (36,7%)
<i>Casa/departamento de familiar o amistad</i>	2 (6,7%)
<i>Más de un lugar</i>	3 (10,0%)
País de nacimiento	
<i>México</i>	28 (93,3%)
<i>Estados Unidos</i>	1 (3,3%)
<i>País centroamericano</i>	1 (3,3%)
Nació fuera de Tijuana	19 (63,3%)
% de actos sexuales vaginales con clientes sin protección en el último mes*	50,5 (0-100)
Sustancias utilizadas en los últimos 6 meses	
<i>Heroína</i>	19 (63,3%)
<i>Crack/Piedra</i>	2 (6,9%)
<i>Cocaína</i>	6 (20,7%)
<i>Metanfetamina</i>	22 (75,9%)
Alguna vez se inyectó drogas	21 (70,0%)
<i>Se inyectó drogas en los últimos 6 meses</i>	18 (60,0%)
Estatus de VIH/ITS	
<i>VIH</i>	2 (7,1%)
<i>Cualquier ITS/VIH</i>	5 (16,7%)

NOTA: Los datos son N (%) de las mujeres al menos que se indique lo contrario. Ciertos porcentajes pueden reflejar un denominador más pequeño que el valor "n" de la columna. Salvo que se indique lo contrario, estas discrepancias se deben a la falta de datos.

Hallazgos

La trata sexual a lo largo de la Frontera México—EE.UU. es heterogénea, con un rango desde casos graves de explotación sexual hasta formas muy sutiles de engaño o coacción. La trata sexual se relacionó con la vulnerabilidad al VIH a través de los temas de violencia de género, la explotación económica, la independencia, la migración, y el estigma.

Se demostró que en estas mujeres, estos temas aumentaron la probabilidad de tener experiencias de trata sexual y explotación, al igual que de marginalización, su dependencia en el trabajo sexual, y disminuyeron sus capacidades para prevenir el VIH.



Tabla 2: Experiencias de trata sexual de TS con experiencias anteriores de trata (n=30) en Tijuana, México, 2011

Variable	(n = 30)
Comenzó el trabajo sexual <18 años de edad (TS<18)	25 (85,3%)
Forzada, engañada o coaccionada a la entrada o continuación del trabajo sexual (TSforzado)	11 (36,7%)
Transportada con fines de explotación sexual en contra de su voluntad (TStransporte)	2 (6,67%)
Edad en la que la participante intercambio sexo por primera vez, en años*	17,2 (12-28)
Edad en la que la participante comenzó a trabajar regularmente como TS, en años*	18,2 (12-30)
La participante fue alguna vez:	
Prometida un trabajo que resultó ser la venta o intercambio de sexo	6 (20,0%)
Vendida o interoambiada con fines sexuales	5 (16,7%)
Forzada a interoambiar sexo por dinero, drogas, u otros bienes a las órdenes de otra persona	5 (16,7%)
Cautiva/sequestrada con fines sexuales	5 (16,7%)
Le negaron sus ganancias o la que se debía de la venta/intercambio de sexo	6 (20,0%)
Alguna vez ha tenido un evento traumático	9 (30,0%)
Alguna vez ha sido forzada/coaccionada a tener sexo sin su consentimiento	11 (36,7%)
Edad a la primera violación sexual, en años*	11,6 (3-18)
Alguna vez fue abusada físicamente	7 (23,3%)
Edad al primer abuso, en años*	18,3 (9-27)

NOTA: Los datos son N (%) de las mujeres al menos que se indique lo contrario. Ciertos porcentajes pueden reflejar un denominador más pequeño que el valor "n" de la columna. Salvo que se indique lo contrario, estas discrepancias se deben a la falta de datos.

*Medio (rango)

"Bueno, ¿cómo empecé? Pues, no empecé, me metieron... Mira, fue muy difícil para mí por que a mí me violaron a los 11 años y tenía ese trauma.

Empecé a trabajar a los 13 años, me llevaron como a cualquier otra que llevarían a un lugar así[...] me hicieron quitarme la ropa, me sentía atacada, me dieron 500 pesos [50 USD]."

-[TS<18]

"Comencé esa etapa [trabajo sexual] cuando mi papá me violó cuando tenía 14 [...] Me fui de la casa, [me fui] a la calle con los drogadictos[...] [Conocí a] mi padrote cuando tenía como 16 años."

-[TS<18, TSforzado, TStransporte]

P: ¿Cómo fue que tú decidiste la primera vez intercambiar sexo?

R: "Fue porque yo me saí de mi casa y pues mm, me fui a vivir con una amiga [...] primero pues todo estaba bien, pero ya después tuve que, que intercambiar sexo para poder estar ahí viviendo. [...] Eran muchos pleitos me regañaban y muchas cosas, y pues yo me saí [...] quería regresar, pero me quede y seguí, tu sabes, enseñándome, saliendo... es todo."

-[TS<18, TSforzado]

"Todo pasó por que estaba desesperada... tenía hambre, y no sabía que hacer[...] Esta mamá me dijo, "Oh pues, vamos con un amigo, el tiene mucho dinero y es gringo..." Pero ella fue con la intención de venderme [...] No me dijo que me iba a llevar con un allente ni nada [...] Obviamente si me hubiera dicho lo que tenía que hacer no hubiera ido, pero pues me engañó."
-[SW<18]



Fuente: San Diego Youth Services



"Yo me salí de la edad de 13 años de mi casa, porque eran muchos golpes y todo eso [...] me enfadé, me harté[...] deje la casa, estaba en la calle [...] me quedaba en una casa sola...que estaba abandonada [...] llegaban todos los choílos que se juntaban a chemear [usar inhalantes] [...] Sí, pero desgraciadamente una vez, este me quede bien dormida ahí fué donde perdí lo que [la virginidad], verdad? Entre toda la bola eran como 15 fulanos [hombres] y entre todos, pero pues lo bueno que me dejaron viva verdad [...] de ahí empecé a caminar [...] y a los 16 años ya me metí a la cantina a prostituirme."
-[TS<18]

El riesgo de VIH durante la trata



"Ellos [sus traficantes] nos tenían en el cuarto toda la noche, la primera vez dije, "no, así así no es como va el negocio," así no es como lo hacíamos. Casi los únicos con los que no usábamos protección era con él [su traficante] o sus amigos; también me pegaba."
-[TSforzado]

P: La primera vez que tuviste sexo con un cliente, cuando estuviste con tu amiga [su traficante], ¿te dijo ella que usaras condones?

R: "No me acuerdo, no creo, pues me acuerdo que cuando la sacó... Me asusté, empecé a llorar. Estaba toda mojada ahí abajo así que no creo que uso uno. Después, las otras chicas me explicaron, "escucha, tienes que tomar estas precauciones, ni pienses en hacerlo sin condón"... ahí fue cuando comencé a saber sobre usar condones."
-[TS<18, TSforzado]



DEPENDENCIA CONTINUA EN EL TRABAJO SEXUAL

- La necesidad de apoyar a hijos pequeños/jóvenes
- La adición de sustancias (necesidad de \$)
- El estigma y el ostracismo
- La falta de oportunidades de empleo
- Los deseos de un empleo alternativo



Fuente: Ken Hawkins

"Yo ya estaba adicta a la heroína, y tenía que vender mi cuerpo para curarme [drogarme] [...] Una vez que andaba bien mailla [síndrome de abstinencia] aquí, no tenía [dinero]... y había uno que me daba [heroína] y no estaba ahí, lo habían metido al bote [cárcel], y estaba ahí sola y esa fue la primera vez que supe lo que era una malilla... No podía caminar ni nada. Entonces, este hombre que estaba interesado en mí, siempre me decía, 'ey, yo te doy dinero', y pues [...] me dijo y acepté."

—[TS<18, TSforzado]



Fuente: Robin Hammond

"Como ya lo había hecho [TS] solo regresé, no? Solita te dices, 'es fácil, solo es mi cuerpo o lo que sea', me parece fácil. Si no me hubieran introducido a la prostitución en Guadalajara, tal vez no hubiera llegado a esto, no? Pero pues como me introdujeron ahí, yo necesitaba dinero para mis drogas."

—[TS<18, TSforzado]

P: ¿Qué te gustaba que hubiera de algunos proveedores de servicios [...] para tus necesidades?

R: "Sí, que estuviera la oportunidad pues de que uno aprendiera de oficina, de computadoras que si hay trabajos, si hay trabajos pero pues no, no tiene una la manera de estudiar pues, y muchas no nada más yo, yo sé que muchas, porque el trabajo de prostituta pues casi siempre lo hacemos en la noche, muchas si tomarían un curso de computadoras o de belleza, para buscar un trabajo más bien. Hay muchas que pues están feliz haciendo lo que hacen, pero hay muchas que no, que lo hacemos porque no hay otra manera de conseguir trabajo."

P: Si tuvieras otra oportunidad, de la darías?

R: "Claro que sí."

—[TSforzado]

PROGRESIÓN HACIA LA INDEPENDENCIA:

"Él [su pareja íntima] fue el que me inició, me quiso engañar, ser mi padrote... Pero no lo deje y me fui, pero yo empecé a hacerlo sola. Dije, 'en vez de darle a otro mi dinero, mejor me quedo con él. Si estoy haciendo algo malo, pues, por lo menos vale la pena.' [...] Por lo menos abrí los ojos, no quise seguir dándole dinero a gente que solo que se quiere aprovechar de mí."

-[TS<18, TSforzado]

Periodo inicial en el TS

- Económicamente desesperada
- Careciendo de experiencia
- Control limitado sobre bienestar

Dejando las condiciones de explotación asociadas a la entrada al TS

A pesar de la dependencia económica en el TS:

- Adquirió mayor autonomía
- Control sobre sus condiciones de trabajo
- Selección de clientes
- ↑ habilidades para controlar su seguridad en el trabajo
- Control de sus ganancias
- tiene su propio dinero

P: Cuando comenzaste a intercambiar sexo tu sola, ¿eras libre para hacer lo que quisieras?

R: "Puedes decir que mi vida era mas calmada por que estaba ganando mi propio dinero; el dinero que ganaba me pertenecía. Renté un cuarto y vivía ahí, vivía sola, sabes, nadie me decía que hacer, y ahí fue cuando me empecé a familiarizar con el [TS]."

-[TS<18, TSforzado]

CAUSAS DE MIGRACIÓN: Implicaciones en la trata sexual y el riesgo de VIH

Huyó de su casa para escapar abusos

Obligada por su pareja íntima o familia

Desplazamiento forzado con fines de explotación sexual

Deportada de EE.UU.

Migración voluntaria para el TS en Tijuana

Oportunidades limitadas en comunidad de origen

Deseo de movilidad socioeconómica

Inestabilidad familiar

R: "Sí, ya llegando aquí me lleva para ahí pa' l callejón donde hay mucha mujer [...] Sí y me dice, 'mir, a aquí vas a trabajar [...] no creas que las mujeres que vienen no vienen a sentarse, vienen a moverse [...] Desde el tiempo que estuve que llegue aquí [Tijuana] ya otro día me quería mandar a trabajar en eso [...] Sí él les cobraba primero ahí y ya me lo mandaba para acá y el mismo lo dice a él no le da vergüenza - es igual a mi mamá, igualito, igualito, es más se deberían de casar los dos juntos a ver si hacen buena pareja."

P: ¿Cuándo te diste cuenta como era tu pareja [...] ¿te amenazó?

R: "Sí me amenazó [...] Que iba a llamar este a, a migración para que me llevaran porque yo no era de aquí."

-[TS<18, TSforzado, TStransporte]

Discusión

IMPLICACIONES DE SALUD PÚBLICA

Nuestro análisis resalta cómo las experiencias primarias de las mujeres jóvenes y abusadas a lo largo de la Frontera México-EE.UU. pueden tener un impacto directo en su futura vulnerabilidad a la trata sexual, el trabajo sexual y sus impactos asociados sobre la salud, incluyendo el VIH/ITS, las adicciones y la violencia.

Los resultados de este estudio subrayan la importancia de esfuerzos para prevenir y luchar en contra del abuso de menores y brindar asesoramiento, albergue, prevención del VIH y servicios relacionados para prevenir la trata sexual y reducir los daños entre las mujeres migrantes y las TS en ciudades fronterizas de México y Estados Unidos.

Las mujeres en nuestro estudio se describieron como más jóvenes y con pocos conocimientos y habilidades relacionados al VIH y a la prevención de la violencia, explicaron que una vez que habían comenzado a trabajar de forma independiente como TS, desarrollaron una base sólida de conocimiento en

torno a los riesgos del VIH y la transmisión y habían mejorado sus capacidades para prevenir el VIH y la violencia. También describieron la necesidad de vivienda, alimentación y apoyo emocional durante su experiencia de trata como un factor que permitió que los demás se aprovecharan de ellas. Para mujeres jóvenes vulnerables y migrantes, la provisión de albergue, apoyo psicológico y oportunidades de formación profesional representan oportunidades para prevenir o intervenir en la trata sexual, y el suministro de condones e información de prevención del VIH son necesarias para reducir el riesgo de VIH. Por el contrario, las mujeres describieron sus necesidades más apremiantes como TS como más congruentes con los principios de la incorporación de intervenciones de reducción de daños (p. ej., distribución de condones y agujas), el tratamiento de adicciones, y la provisión de oportunidades de empleo para las mujeres que desean salir del trabajo sexual.

Recomendaciones para la disminución de la vulnerabilidad a la trata sexual y al VIH



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