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The Connections of Mental Health Problems, Violent Life Experiences and the Social Milieu of the 'Stroll' with the HIV Risk Behaviors of Female Street Sex Workers

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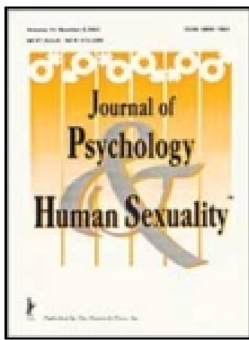

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The Connections of Mental Health Problems, Violent Life Experiences, and the Social Milieu of the "Stroll" with the HIV Risk Behaviors of Female Street Sex Workers

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SUMMARY. This paper examines the connections of mental health, victimization, and sexual risk behaviors among a sample of 278 street-based female sex workers in Miami. Using targeted sampling strategies, drug-using sex workers were recruited into an HIV prevention research program. Data were collected by trained interviewers, and focused on drug use and sexual risk for HIV, childhood abuse, recent victimization, and mental health. More than half of the participants reported histories of

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physical (51.1%) or sexual (53.1%) abuse as children, 37.4% were classified with moderate or severe anxiety symptoms, and 52.9% had symptoms of moderate or severe depression. Logistic regression analyses demonstrated significant associations between mental health issues and engagement in recent unprotected vaginal and oral sex. The program development and policy implications of these findings are discussed.
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KEYWORDS. HIV, sex work, drug abuse, violence, depression

Existing research on female sex workers has demonstrated clear and consistent associations between the sale of sex for money or drugs and an increased risk for HIV and other sexually transmitted infections (STIs) (Cohen & Alexander, 1995; El-Bassel et al., 2001; Paone et al., 1999; Weiner, 1996). However, it is important to emphasize that the ecology of risk tends to vary from one style of sex work to another, and in contrast to popular thinking, female sex workers are an extremely heterogeneous population. They are situated in a myriad of social and environmental contexts, where risk and vulnerability can differ considerably.

Past and current studies suggest that there are many different types of female sex workers, including "call girls" and escorts working in the upper echelons of the sex industry, "in-house" sex workers working in parlors or brothels, "street-walkers" who sell sex for money through sidewalk solicitations, part-timers who supplement their incomes with sex-for-pay, and drug-involved street-based sex workers, the majority of whom shift between sex-for-money and sex-for-drug exchanges as circumstances require (Estébanez et al., 1993; Exner, 1977; Inciardi, 1995; Jones et al., 1998). Although most in this latter group express a preference for commercial solicitation along local "strolls" (i.e., locations where sex workers openly walk the streets soliciting customers), many typically resort to sex-for-drugs exchanges when they have an immediate need for drugs, when money is scarce, and when paying "dates" (customers) are few in number (Inciardi et al., 1993; Inciardi & Surratt, 2001).

Perhaps more important than the particulars of the sexual transaction is a focus on the social location and the related vulnerability of the sex

worker herself. Inherent to street sex work is a level of power and control situated far below that of "in-house" or "call girl" type workers. Street-based women typically occupy the "bottom rungs" of the sex-for-pay hierarchy. Concomitant with this position, they are exposed to elevated levels of violence, including rape and assault (Coston & Ross, 1998; El-Bassel et al., 1997; Farley et al., 1998; Kurtz et al., 2004; Surratt et al., 2004; Wenzel, Leake, & Gelberg, 2001), and because of their visibility on the street, the potential for arrest is high (El-Bassel et al., 2001; Jones et al., 1998; McClanahan et al., 1999). Moreover, many are heavy users of cocaine, crack, heroin, and other drugs (Kilbourne et al., 2002; Young, Boyd, & Hubbell, 2000), placing them at high risk for loss of social services and support structures, including family connections and stable housing (Spittal et al., 2003; Valera, Sawyer, & Shiraldi, 2001; Weiner, 1996). Not surprisingly, it is street sex workers who are particularly vulnerable to HIV and other STI exposure (Pyett & Warr, 1997).

With this unstable and often chaotic social milieu as a backdrop, researchers have observed impaired mental health functioning among women enmeshed in street sex exchanges. In contrast to brothel-based sex workers, among whom measures of mental health tend to approximate those of the general population (Chudakov, Ilan, & Belmaker, 2002; Romans et al., 2001), street-based sex workers are more likely to exhibit psychological distress, including symptoms of psychosis and depression (Alegria et al., 1994; El-Bassel et al., 1997; El-Bassel et al., 2001). In a study of Puerto Rican sex workers, for example, Alegria and colleagues (1994) found that 70% of their respondents manifested high levels of depressive symptoms, with rates of depression two times higher than those in a cohort of non-sex working Puerto Rican women. In addition, adolescent female sex workers have demonstrated higher levels of depression, anxiety, alienation, and a less favorable self-concept when compared to samples of non-sex trading delinquents and general population cohorts (Gibson-Ainyette et al., 1988).

It has been suggested, furthermore, that the relationship between sex exchange and psychological distress may be related to increased victimization, including childhood physical and sexual abuse, and adult violence, all of which are frequently reported among female sex workers (El-Bassel et al., 2001; Silbert & Pines, 1983; Surratt et al., 2004; Valera, Sawyer, & Schiraldi, 2001). Early abuse has been independently associated with an increased likelihood of adult drug use, psychological distress, victimization, sexual risk behaviors and involvement in the criminal justice system among non-sex workers (Goodman

& Fallot, 1998; Johnsen & Harlow, 1996; Morrill et al., 2001; Widom & Ames, 1994; Wilsnack et al., 1997; Young, Boyd, & Hubbell, 2000). In addition, elevated rates of adult victimization and psychological distress have been reported among homeless women, female drug abusers, and female sex workers (Farley & Barkan, 1998; Hutton et al., 2001; Reif, Wechsberg, & Dennis, 2001), and these may mediate women's engagement in sexual risk behaviors as fear of partner violence may reduce some women's willingness to challenge, refuse, or negotiate the terms of sexual encounters (Amaro, 1995; Frieze & McHugh, 1992; Heise, 1993).

Going further, studies of drug-using women have repeatedly demonstrated connections between mental health measures, including anxiety, depression and personality disorders, and elevated levels of HIV risk behaviors (Cohen, 1999; Compton et al., 1995; Wechsberg et al., 2003), yet only a few studies have examined these relationships specifically among female sex workers. One longitudinal study of adolescents found not only that depressive symptoms were associated with engagement in sex work, but that an increase in mental health symptoms for depression and suicidality was related to later injection drug use and risky sexual activity (Stiffman et al., 1992). Similarly, studies of adult and adolescent Puerto Rican sex workers found that individuals with high levels of depressive symptoms more often reported inconsistent condom use with their sexual partners (Alegria et al., 1994; Burgos et al., 1999).

Among street sex workers who are drug-involved, risky sexual behaviors increase. In addition to sexual contact with multiple partners, condom use among crack using sex workers tends to be low and inconsistent with both oral and vaginal sex, with both paid and private partners (Jones et al., 1998; Pyett & Warr, 1997; Rhodes & Donoghoe, 1994; Weiner, 1996).

In spite of the physical and psychological vulnerability resulting from street-based violence and unstable living conditions, studies which describe the associations between mental health functioning and engagement in sexual risk behaviors among chronic drug-using sex workers are noticeably absent.

Within this context, this study examined the prevalence of specific mental health problems among a cohort of drug-involved, street-based female sex workers in Miami, Florida, by collecting standardized measures of current symptom level information on depression, anxiety, and traumatic stress among this understudied population, and investigated the associations between mental health status and sexual risk taking behaviors among women located in an environment of scarce material re-

sources, homelessness, and violent victimization. In this regard, this analysis was undertaken to explore the following questions: (1) What is the extent of childhood abuse, adult victimization and symptomatology for depression, anxiety and traumatic stress in a sample of street-based, drug-involved female sex workers?; and (2) Within this sample, is there an association between current mental health symptoms, violent victimization in childhood and adulthood, and engagement in sexual risk behaviors for HIV and other sexually transmitted infections, and if so, what is the nature of this association?

METHODS

Participants and Procedures

The data for this study were drawn from a larger, ongoing intervention trial designed to test the relative effectiveness of two alternative HIV and hepatitis prevention protocols–the National Institute on Drug Abuse (NIDA) "Standard Intervention" (designed for a myriad of drug-using populations) and a new Sex Worker-Focused Intervention (developed specifically to reduce the risky drug use and sexual behaviors of street-based female sex workers). The Standard Intervention, developed by NIDA researchers and grantees (Wechsberg et al., 1997), includes individual pretest counseling covering such topics as HIV disease, transmission routes, risky drug-using behaviors, unsafe sexual practices, rehearsal of condom use, disinfection of injection equipment, and rehearsal of needle/syringe cleaning. The Sex Worker-Focused Intervention is unique in that it was developed by the authors of this paper with input from active sex workers. In addition to the topics covered in the NIDA Standard Intervention, it addresses issues of special relevance to the target population, including the violent encounters and the barriers to safe sex experienced by street sex workers (Surratt et al. 2004).

Eligible participants were defined as women ages 18 to 49 who have: (a) traded sex for money or drugs at least 3 times in the past 30 days; and, (b) used heroin and/or cocaine 3 or more times a week in the past 30 days. Although it has been argued in the literature that "sex work" and "sex exchange" are behaviorally different phenomena (Cohen & Alexander, 1995), prior research in Miami combined with information from key informants suggest that these distinctions are less clear in the neighborhoods and "strolls" where study participants are recruited. Nearly all

of the drug-involved street-based sex workers in Miami engage in sex-for-money and sex-for-drug exchanges as opportunities arise.

Participants in the study were located for recruitment through traditional targeted sampling strategies (Watters & Biernacki, 1989), which are especially useful for studying hard-to-reach populations. As opposed to "snowball sampling" which begins with one or more initial contacts or starting points and expands through a chain referral process (Inciardi, 1986; Waldorf, 1973), targeted sampling is a more purposeful, systematic method by which specified populations within geographical districts are identified, and detailed plans are designed to recruit adequate numbers of cases within each of the target areas. Similar strategies have been used successfully in recent years in studies of injection and other out-of-treatment drug users (Coyle et al., 1991; Carlson et al., 1994; Braunstein, 1993).

A unique aspect of the project's sampling plan is the use of active sex workers as client recruiters. The effectiveness of indigenous client recruiters in drug abuse and HIV prevention research has been well documented (Inciardi, Surratt, & McCoy, 1997; Latkin, 1998; Levy & Fox, 1998; Wiebel, 1990, 1993). Because active sex workers do the recruiting of study participants, and because of their membership in the target population, they know of many locations on and off the primary strolls where potential participants can be found. In addition, sex worker recruiters are more likely to have familiarity with drug user networks, drug "copping areas" and markets; they typically approach potential clients with culturally appropriate language, dress, and methods; and their "insider status" helps to build the trust and confidence necessary for successful outreach and recruitment.

Client recruiters made contact with potential participants in various street locations to explain the nature and procedures of the study. For those interested in participation, recruiters conducted pre-screening interviews to determine eligibility. Those meeting project eligibility requirements were scheduled for appointments at the project intervention center, where they were re-screened by project staff members. After eligibility was confirmed, informed consent was obtained and urine testing was conducted for cocaine and opiates. The interview process took approximately ninety minutes to complete. Interviews were conducted in Spanish by bilingual field staff for the few participants who were not fluent in English. All study procedures were reviewed and approved by the University of Delaware's Institutional Review Board.

Study recruitment began in March 2001, and through late 2003, more than 600 eligible clients had been recruited, enrolled, and interviewed.

Supplementary support was awarded by the funding agency in mid-2002 to conduct mental health assessments and to provide case management services and referrals for women enrolled in the larger study. As such, mental health data are available on 278 street-based sex workers, who are the focus of this analysis.

Measures

Interviews were conducted using a standardized data collection instrument based primarily on the NIDA Risk Behavior Assessment (Dowling-Guyer et al., 1994; Needle et al., 1995; Weatherby et al., 1994) and the Georgia State University Prostitution Inventory (Elifson, 1990). This instrument captures demographic information, health status, and treatment history, as well as lifetime and 30 day measures of drug use frequency and sexual risk behaviors. The following key measures of mental health and trauma were also utilized:

Childhood Trauma Questionnaire (short form) (Bernstein et al., 1994). The CTQ-SF assesses the prevalence and extent of childhood physical, sexual and emotional abuse, as well physical and emotional neglect. The CTQ-SF is a 28-item instrument that uses a 5-item Likert scale ranging from 1 (Never True) to 5 (Very Often True), thereby capturing severity data on abuse and neglect history unavailable with categorical measures. Summary subscale scores range from 5 to 25 and are classified as none, minimal, moderate or severe according to criteria set by the authors of the scale. Severe sexual and physical abuse classifications required scores of 13 or higher, while severe emotional abuse required a score of at least 16. Only abuse subscales are reported in this paper. The alpha reliability coefficients for this sample were as follows: 0.87 (emotional abuse), 0.89 (physical abuse), and 0.96 (sexual abuse).

Beck Depression Inventory-II (Beck, Steer, & Brown, 1996) contains 21 items to assess the presence and severity of symptoms of depression over the preceding two week period, and is consistent with DSM-IV criteria. A four-point rating on 19 of the items and a seven-point rating on two items are summed to yield a single score classified as minimal (0-13), mild (14-19), moderate (20-28), or severe (29-63). In this sample, the alpha reliability coefficient for the depression scale was 0.92.

Beck Anxiety Inventory (Beck & Steer, 1993) contains 21 items to assess the presence and severity of symptoms of anxiety over the preceding one week period, including subjective, somatic and panic-related symptoms. A four-point rating on each of the 21 items is summed

to yield a single score classified as minimal (0-7), mild (8-15), moderate (16-25), or severe (26-63). In this sample, the alpha reliability coefficient for the anxiety scale was 0.92.

Traumatic Stress Index (Dennis, 2003). Based on the Civilian Mississippi PTSD scale (Kulka et al., 1991), this scale consists of 12 yes/no items assessing the presence of symptoms of stress disorders related to past trauma over a 3 month period, but does not distinguish PTSD, Acute Stress Disorder or other stress disorders. The summary score yeilds a classification of none (0), low (1-4) or acute (5-12). The alpha reliability coefficient for the traumatic stress scale in this sample was 0.86.

Data Analysis

Descriptive statistics were compiled on demographic characteristics, drug use, experiences of childhood and adult victimization, symptoms of depression, anxiety and traumatic stress, as well as sexual risk behaviors of the participants. Bivariate logistic regression analyses were then conducted to examine the relationship between sexual risk behaviors for HIV, specifically unprotected vaginal and oral contact, and each of the following possible independent predictors: age, race/ethnicity, current homelessness, current alcohol use, current marijuana use, current cocaine use, current crack use, current heroin use, number of lifetime sexual partners, number of sexual partners in the past thirty days, history of sexually transmitted infections, victimization by customers or "dates" in the past month and past year, victimization by any perpetrator in past three months, history of childhood physical, emotional and sexual abuse, and symptoms of depression, anxiety and traumatic stress. Significant factors in the bivariate analyses were subsequently entered into a multivariate stepwise logistic regression model to examine their combined prediction of engagement in unprotected vaginal sex, while a separate model examined engagement in unprotected oral sex. Victimization by customers or "dates" in the past month and past year, victimization by any perpetrator in past three months, history of childhood physical, emotional and sexual abuse, and symptoms of depression, anxiety and traumatic stress were included as explanatory variables in order to investigate the effects of victimization and psychological functioning on sexual risk taking behaviors. All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) v.11.5.1 for Windows.

RESULTS

The participants ranged from 18 to 49 years of age, with a mean of 35.2 years (Table 1). In terms of race/ethnicity, the majority (70.9%) were African-American. The living situation of the sex workers was typically unstable, with 38.5% reporting that they considered themselves to be homeless. While the remainder were sheltered, they were often precariously housed in nightly hotels, temporary public shelters, rooming houses, or the homes of acquaintances. Only 24% reported having their own stable living space. More than half of the sample (54.0%) failed to complete their high school education, and very few had legal employment (6.8%). The majority had incomes of less than $1,000 per month, primarily from sex work, but also from other illegal

TABLE 1. Demographic Characteristics of 278 Female Sex Workers in Miami, Florida

Age	
18-24	14.4%
25-34	28.0%
35-39	24.1%
40+	33.5%
Mean	35.2
Race/Ethnicity	
African-American	70.9%
White-Anglo	12.6%
Latina	14.4%
Other	2.2%
Education	
Less than High School	54.0%
High School	28.0%
More than High School	18.0%
Monthly Income	
Less than $500	18.0%
$500-999	34.2%
$1,000-1,999	24.5%
$2,000+	23.3%
Currently Homeless	38.5%

activities, spouse or family members, and welfare or public assistance programs.

As illustrated in Table 2, the drug use and sex work histories of the participants were substantial. The participants were typically poly-drug users, and reports of past month activity indicated that alcohol and crack-cocaine were the substances most widely used (79.4% and 68.0%, respectively). A history of drug injection was reported by 19.8% of the women.

The sex work careers of the participants spanned an average of 13.4 years, with a mean of over 1,400 lifetime sexual partners. Current (past month) sex work activities most often included vaginal and oral sexual contacts, with a mean of 18.2 sexual partners. Of significance was the finding that 18.7% of the participants tested positive for HIV, 47.5% tested positive for hepatitis B, and 18.7% tested positive for hepatitis C (data not shown).

TABLE 2. Drug Use and Sex Work Histories Among 278 Female Street Sex Workers in Miami, Florida

Percent Currently Using	
Alcohol	79.4%
Marijuana	65.2%
Crack-cocaine	68.0%
Cocaine	49.3%
Heroin	18.4%
Mean Years of Sex Work	13.4
Mean Number of Sex Partners	
Lifetime	1,470.8
Mean Number of Sex Partners	
Past 30 Days	18.2
% Reporting Past Month[1]	
Unprotected Vaginal Sex	57.1%
Unprotected Oral Sex	65.7%

[1] n = 273, participating in past month vaginal sex;
n = 216, participating in past month oral sex.

Drug involvement and street-based sex work tended to expose women to violent episodes in their daily lives, often deepening and extending patterns of victimization from childhood. Interesting in this regard were the historical self-reports of trauma experienced by the participants as children. As indicated in Table 3, the prevalence of childhood abuse in this sample was extremely elevated. Similarly, 36.0% of the women reported some violent encounter while engaging in sex work in the past year, most frequently being "ripped off" (being forced to give up money that was paid for sex), beaten, threatened, or raped by a customer or date. When individuals other than "dates" were

TABLE 3. Victimization and Mental Health Among 278 Female Street Sex Workers in Miami, Florida

Childhood Victimization	
Emotional Abuse	64.7%
Physical Abuse	51.1%
Sexual Abuse	53.1%
% Any Violent Encounter	
In Past 3 Months	71.2%
% Violent "Date" Encounter	
In Past Month	16.9%
In Past Year	36.0%
% Depression Symptoms	
Minimal/Mild	47.1%
Moderate/Severe	52.9%
% Anxiety Symptoms	
Minimal/Mild	62.6%
Moderate/Severe	37.4%
% Traumatic Stress Symptoms	
None	7.2%
Low	23.6%
Acute	69.2%

considered as perpetrators of violence, the percentage reporting a violent encounter (physical, sexual or emotional) in the past three months jumped to 71.2%. Typically, these perpetrators were boyfriends, drug dealers, or other street people, but victimization by police officers and relatives was reported as well.

Within the context of these violent life experiences, self-report mental health inventories administered to the participants revealed that significant proportions of the sample were affected by psychological issues, specifically anxiety, depression, and traumatic stress. Over one-third of the women assessed were classified with moderate or severe anxiety symptoms (37.4%), more than one-half had symptoms of moderate or severe depression (52.9%), and 69.2% had symptoms of acute traumatic stress.

As noted earlier in Table 2 above, 57.1% of the participants reported unprotected vaginal sex in the past month. Table 4 presents the results of the bivariate and multivariate logistic regression analyses conducted in order to assess the potential effects of trauma, victimization and mental health issues on this specific sexual risk behavior, along with other possible predictors as well. In the bivariate models, the factors significantly related to engaging in unprotected vaginal sex included homelessness ($p = .009$), moderate/severe depression ($p = .004$), moderate/severe anxiety ($p = .000$), acute traumatic stress ($p = .019$), severe child sexual abuse ($p = .011$), and any victimization over the past three months ($p = .01$). When all of these independent predictors were included in a multivariate model, only homelessness ($p = .037$) and moderate/severe anxiety ($p = .000$) remained significant. Accordingly, homeless women were 1.7 times more likely than non-homeless women to engage in unprotected vaginal sex, while women with moderate to severe anxiety were 2.7 times more likely to report vaginal sex without a condom than women classified with minimal or mild anxiety.

Table 5 displays the results of bivariate and multivariate logistic models predicting engagement in unprotected oral sex in the past month. Again, bivariate modeling indicated that moderate/severe depression ($p = .026$), moderate/severe anxiety ($p = .018$) and moderate childhood physical abuse (.033) were significant predictors of unprotected oral-genital contact in the past month. The full multivariate model found moderately to severely depressed sex workers more than 2 times as likely to engage in unprotected oral sex compared to their non- or minimally-depressed counterparts, and those with moderate physical abuse histories 4 times more likely to engage in unprotected oral sex than those not experiencing childhood physical abuse.

TABLE 4. Predictors of Unprotected Vaginal Sex in Logistic Regression Models Among 273 Female Sex Workers in Miami, Florida

Bivariate Predictors[1]				
	Regression Coeff.	**Odds Ratio**	**95% CI**	**Sign. Level**
Homelessness[2]	.681	1.976	(1.19, 3.29)	.009
Moderate/Severe Depression[2]	.709	2.032	(1.25, 3.31)	.004
Moderate/Severe Anxiety[2]	1.054	2.868	(1.69, 4.87)	.000
Childhood Sexual Abuse[2]				
Minimal	.383	1.467	(.442, 4.86)	.531
Moderate	.634	1.886	(.918, 3.87)	.084
Severe	.723	2.060	(1.18, 3.60)	.011
Any Victimization in Past 3 Months[2]	.698	2.009	(1.18, 3.42)	.010
Traumatic Stress[2]				
Low	.494	1.639	(0.58, 4.64)	.353
Acute	1.156	3.176	(1.21, 8.34)	.019
Multivariate Predictors				
Moderate/Severe Anxiety[2]	.963	2.619	(1.53, 4.49)	.000
Homelessness[2]	.558	1.748	(1.03, 2.96)	.037

[1] Non significant predictors included age, race, current alcohol use, current marijuana use, current crack use, current cocaine use, current heroin use, victimization by "dates" in past month, victimization by "dates" in past year, number of lifetime sexual partners, number of current sexual partners, STI history, childhood physical abuse, and childhood emotional abuse.
[2] Reference category is "no."

DISCUSSION

Although many of the current discussions of the public health risks associated with sex work focus on HIV and other sexually transmitted infections (UNAIDS 2004), there is a considerable body of literature documenting significant levels of other public health problems that have been experienced by women in the sex industry, including childhood abuse, adult victimization, and symptomatology for depression, anxiety, and other mental health problems (Baldwin, 1993; Belton,

TABLE 5. Predictors of Unprotected Oral Sex in Logistic Regression Models Among 216 Female Sex Workers in Miami, Florida

Bivariate Predictors[1]	Regression Coeff.	Odds Ratio	95% CI	Sign. Level
Moderate/Severe Depression[2]	.646	1.908	(1.08, 3.37)	.026
Moderate/Severe Anxiety[2]	.728	2.071	(1.13, 3.79)	.018
Childhood Physical Abuse[2]				
Minimal	−.609	.544	(.244, 1.21)	.136
Moderate	1.384	3.990	(1.12, 14.22)	.033
Severe	.085	1.088	(.544, 2.18)	.811
Multivariate Predictors				
Moderate/Severe Depression[2]	.756	2.129	(1.17, 3.89)	.014
Childhood Physical Abuse[2]				
Minimal	−.728	.483	(.212, 1.10)	.083
Moderate	1.406	4.078	(1.13, 14.70)	.032
Severe	−.113	.893	(.434, 1.84)	.758

[1] Non significant predictors included age, race, homelessness, current alcohol use, current marijuana use, current crack use, current cocaine use, current heroin use, victimization by "dates" in past month, victimization by "dates" in past year, any victimization in past 3 months, traumatic stress, number of lifetime sexual partners, number of current sexual partners, STI history, childhood sexual abuse, and childhood emotional abuse.
[2] Reference category is "no."

1992; Farley & Barkan, 1998; Giobbe, 1990; Mahan, 1996). In this study of drug-involved, female sex workers recruited from the streets of Miami, Florida, a clear majority of the participants reported these violent incidents and mental health problems.

Of the 278 sex workers interviewed, 53.1% reported sexual abuse as children. This prevalence is not unlike that found in other research on female drug abusers, who are not necessarily sex workers. For example, in a study of 181 drug using women in San Antonio who completed the

Childhood Trauma Questionnaire, 60% reported sexual abuse and 55% reported physical abuse (Medrano et al., 2003). Similarly, among 60 recovering chemically dependent women living in a residential treatment facility, 43% experienced some kind of unwanted childhood sexual experiences with relatives, 51.6% with persons outside of the family, and overall, 68% had been sexually abused sometime in childhood (Teets, 1995). Slightly lower figures were reported in a study of 1,478 community recruited, drug using female partners of injection drug users in Los Angeles, San Diego, and Boston, in that 39.5% had experienced some sort of sexual abuse in childhood (Freeman, Collier, & Parillo, 2002).

Given the literature supporting the relationships between childhood sexual abuse and later drug use (Brabant, Forsyth, & LeBlanc, 1997; Medrano et al., 1999; Widom, Weiler, & Cottler, 1999), and between childhood sexual abuse and adult careers in sex work (Boyle et al., 1997; Jeffreys, 1997; Maher, 1997), one might expect that the 53.1% prevalence of childhood sexual abuse reported in this study should be even higher, given that the sampled women were both drug users and sex workers. In all likelihood, the prevalence of childhood sexual abuse was underreported by the women studied, for two reasons. First, the research interview occurred during the first contact that participants had with the project staff. As such, the sex workers were in unfamiliar surroundings, and some may have been unwilling to discuss extremely traumatic events from their childhood. Second, and perhaps more notably, informal discussions with project participants found that many were uncertain as to what sexual “abuse” actually was. As young children, some were unaware that sexual contacts without penetration were “sex,” and for many others, coercion in the absence of physical force was not necessarily viewed as abuse. This finding has been reported elsewhere in the literature (Farley & Barkan, 1998).

Violent victimization during the course of sex work was commonplace, in that 71.2% of the women in this study had been victimized during the three-month period prior to recruitment into the study. This proportion was considerably higher than that seen in other studies. For example, a study of 113 street based sex workers in New York City found that 32.1% had suffered physical or sexual abuse in the past year (El-Bassel et al., 2001), and a British study of 115 women found that 50% had been victimized by a commercial customer in the prior 6 months (Church et al., 2001). Perhaps most significantly, a recent National Violence Against Women survey sponsored by the National Institute of Justice and the Centers for Disease Control and Prevention placed the percentage of women in the general population experiencing

rape or physical assault in the past 12 months at 0.3% and 1.9%, respectively (Tjaden & Thoennes, 1998). In this analysis of drug-involved sex workers, the rates of violence from dates and other perpetrators are many times higher, supporting the contention that female sex workers are enmeshed in a social milieu wherein violence is commonplace and victimization is expected. These data provide a context to understand the elevated rates of acute traumatic stress observed in this sample of drug-involved sex workers.

This study also documented elevated prevalence rates of current depression and anxiety among the sample of street-based female sex workers. These data are supported by similar studies reporting high levels of past year depressive symptoms in 64% to 70% of street sex workers (Alegria et al., 1994; Burgos et al., 1999), and well exceed the rates of current depression in both incarcerated women (10%) and women in the general population (5% to 9%) (Hutton et al., 2001). Moreover, these levels of depressive symptoms are significantly higher than those of other female drug users who are not necessarily sex workers. For example, in a study of 420 African American female, out-of-treatment drug users in St. Louis, only 11% reported depression during the past month (Johnson, Williams, & Cottler, 2002).

The drug-involved sex workers from which the women in this study were sampled represent one of the most highly marginalized populations in the Miami area. All are indigent, and given their drug use, combined with the shifting and precarious nature of their resources, health, safety, and social ties, it is not surprising that many reported being homeless at the time of study recruitment. The finding that homelessness was a significant predictor of recent unprotected vaginal sex is also not unexpected, considering the effects of marginalization and economic deprivation on the women's need to engage in sex work as a survival mechanism (Inciardi, 1995). As such, this analysis has identified key individual and contextual factors that increase street sex workers' vulnerability to sexual risks. However, although 18.7% of the women tested positive for HIV infection, an interesting finding in these data is the lack of an association between mental health symptoms, homelessness, or economic circumstances, and HIV seropositivity. Focus groups and in-depth interviews with many of the sex workers as well as discussions with key informants in the street culture, however, suggested a plausible explanation. It would appear that although only 38.5% reported being homeless at the time of recruitment into the study, cycling in and out of homelessness is a lifestyle pattern experienced by an overwhelming majority of the drug-involved, female sex workers in this

sample. As such, sexual risks tended to increase during periods of homelessness, and it is likely that at one point or another, virtually all of the women in the sample were at increased risk for infection. In other words, all of the women, whether homeless or not at the time of their interview, were at comparable risk for HIV over time.

During the course of this study, arrangements were made for participants to receive the results of their mental health assessments, and referrals for services, if necessary, and almost three-fourths (73%) of the women returned for this appointment. Using detailed locator information collected at the first interview, staff were often able to re-contact participants through telephone or mailings for follow-up appointments. When these strategies failed, field staff tracked participants in the streets and other locales they were known to frequent. Although almost one-third required no referral, another 30% either refused the referral or stated that they were already in some form of counseling. Of the 34% who accepted the referral, all but 3 failed to follow through with the referral recommendations. The reasons for this non-compliance were many: services required payment or insurance; the majority of the service providers required that the sex workers produce identification, and most of the women either had none or were unwilling to show it; few of the women had access to the necessary transportation; many were afraid of being labeled as "crazy"; and almost all expressed a dislike for mental health professionals.

Given that this population is in great need of mental health services, these observations suggest a number of program development and policy changes that may assist in effectively reaching female sex workers. First, mental health services need to be integrated into other types of locations where drug-involved sex workers are more likely to visit, such as shelters and substance abuse treatment programs. Second, services need to be sensitive to the barriers faced by this population, such as providing transportation and not requiring identification. Third, and perhaps most importantly, mental health service providers need to create an environment where sex workers and other marginalized populations are treated with respect and are cared for in a non-judgmental manner. From a public health point of view, opportunities for mental health treatment for this population, as well as substance abuse treatment, must be integrated into prevention programs for sex workers in order to effectively decrease risk for HIV and other sexually transmitted infections.

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