Sex Trafficking and Initiation-Related Violence, Alcohol Use, and HIV Risk Among HIV-Infected Female Sex Workers in Mumbai, India

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Female sex workers (FSWs) are the group at greatest risk for human immunodeficiency virus (HIV) infection in India. Women and girls trafficked (ie, forced or coerced) into sex work are thought to be at even greater risk because of high exposure to violence and unprotected sex, particularly during the early months of sex work, that is, at initiation. Surveys were completed with HIV-infected FSWs (n = 211) recruited from an HIV-related service organization in Mumbai, India. Approximately 2 in 5 participants (41.7%) reported being forced or coerced into sex work. During the first month in sex work, such FSWs had higher odds of sexual violence (adjusted odds ratio [AOR], 3.1; 95% confidence interval [CI], 1.6–6.1), ≥7 clients per day (AOR, 3.3; 1.8–6.1), no use of condoms (AOR, 3.8, 2.1–7.1), and frequent alcohol use (AOR, 1.9; 1.0–3.4) than HIV-infected FSWs not entering involuntarily. Those trafficked into sex work were also at higher odds for alcohol use at first sex work episode (AOR, 2.2; 95% CI, 1.2–4.0). These results suggest that having been trafficked into sex work is prevalent among this population and that such FSWs may face high levels of sexual violence, alcohol use, and exposure to HIV infection in the first month of sex work. Findings call into question harm reduction approaches to HIV prevention that rely primarily on FSW autonomy.

There are currently 2.4 million persons in India living with human immunodeficiency virus (HIV) infection [1], with most having acquired the virus via heterosexual sex [2]. Female sex workers (FSWs) remain at greatest risk for HIV infection in India, with commercial sex involvement viewed as the primary means of transmission [1, 3]. The city of Mumbai is considered an epicenter for both sex work and HIV infection [4], with ≥10 000 FSWs and more HIV-related deaths than in any other location in India [5, 6].

Forced or coerced entry (ie, being "trafficked") into sex work is increasingly considered a marker for HIV risk among FSWs. However, although recent data from South Asia illustrate high HIV prevalence among former FSWs identified as having been trafficked [7, 8, 9], little is known of either the prevalence of this experience among general samples of FSWs, or how sexual risk may differ based on involuntary entry into sex work. A prominent explanation for why those trafficked into sex work are at greater risk for HIV infection is exposure to high levels of violence and related sexual risk during their involuntary initiation into prostitution [10]. Qualitative research among Indian and Nepali FSWs identified as trafficked indicates that violence in the period immediately after entry to sex work may involve high levels of sexual brutality, leading to vaginal injuries and significant blood loss, thus creating high

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vulnerability to sexually transmitted infection [8]. Two previous quantitative studies have compared sexual violence at entry and HIV risk based on having been trafficked; both demonstrated that sexual violence at entry is more common among those trafficked into sex work (in one case, those entering at <18 years of age were also coded as having been trafficked) than among FSWs not reporting this experience [7, 11]. However, no quantitative studies have examined the initial period of sex work (ie, after entry) to identify the prevalence and qualities of sexual risk and violence during this first month of "normal" commercial sex exposure, nor has the phenomenon been examined among FSWs infected with HIV. Alcohol has also been implicated in HIV risk among FSWs in India [12]. Almost half (44%) of FSWs in India report drinking alcohol [13], and a recent study of HIV-infected FSWs found that the majority of those who do use alcohol are heavy and/or dependent drinkers [12]. The aforementioned qualitative study of violence and HIV risk among trafficked South Asian women indicates that alcohol may be used to "initiate" women and girls into sex work involuntarily with heavy voluntary alcohol use continuing as a means for them to cope with their lack of autonomy [8]. To date, no quantitative studies have integrated assessments of forced or coerced entry with assessments of alcohol use. To advance the state of knowledge regarding the mechanisms that may link HIV infection and involuntary entry to sex work, the current study assessed the prevalence of trafficking among HIV-infected FSWs in Mumbai, India, and examined whether such history is associated with differences in history of sexual violence, sexual risk, and alcohol use in the initial 30 days of sex work. Such data are critical for prioritizing and developing HIV interventions designed to reach individuals in the early stages of sex work and illuminating the consequences of forced and coerced entry to sex work. Furthermore, because exposure to violence has been linked both to lower likelihood of adherence to antiretroviral therapy and to higher current sexual risk among HIV-infected FSWs, [8] the current findings may also inform secondary prevention efforts to reduce both mortality and the likelihood of HIV transmission among this vulnerable population.

METHODS

HIV infected FSWs were recruited from the ASHA Center, a community-based organization in Mumbai, managed and run by a group of FSWs who provide support and linkage to HIV-related healthcare. A total of 326 FSWs were contacted for study recruitment, of whom 246 (75%) responded positively. Of these, 216 individuals met the study's eligibility criteria: ≥18 years old, HIV infected, and reporting both sex trade involvement in the past year and penile-vaginal or anal sex in the past 30 days. HIV infection was confirmed by medical records brought by the participants. Of those eligible for the study, 97.7% (211/216) were willing to participate and complete survey interviews. Participants received a 45-minute interviewer-administered survey in Hindi assessing demographics, alcohol use, sex risk behaviors, and health status. Instruments were developed in English, translated into Hindi, and then reviewed by a study investigator fluent in both languages. Participants were given 100 rupees ($2.50) as compensation for their time in this study. Study procedures were reviewed and approved by the institutional review boards of Boston University Medical Campus, the Harvard School of Public Health, NMP+, and the Indian Council of Medical Research.

Measures

Demographic data were collected based on items modified or taken from the Indian Demographic and Health Survey [14]. The assessment of being trafficked into sex work, the main independent variable, was developed for this study based on the authors' previous research with sex-trafficked women and girls in South Asia [9, 15]; participants were asked "How did you start having sex for money?" and directed to select the answer they felt best described "how you got you into this work." (The wording of assessments reflects the back-translation from Hindi to English.) Options included (a) I decided myself that this was a good way for me to earn money; (b) someone told me that I should do this business, and I felt I had no choice but to enter; (c) someone forced me to come and do this business; (d) someone tricked me into coming to do this business; (e) I accepted a job doing some other kind of work and was made to have sex for money; and (f) someone used some other means besides trickery or force to make me enter. Participants selecting c, d, e, or f were classified as having been trafficked.

To assess experiences of sexual violence in the first month after entry, participants were asked "During the first month that you were in sex work, how often did anyone use violence or force to make you have sex or have certain types of sex with male clients?" Response options were "never," "rarely," "sometimes," or "very often." Those responding "sometimes" or "very often" were classified as experiencing violence in the first month of sex work. This same response set was used for determining condom nonuse during this same period with the question "During the first month in sex work, how often were condoms used when you were having sex with male clients?" This response pattern was again used to assess frequent alcohol use during the first month of sex work with the question "In the first month that you were in sex work, how often did you use alcohol when engaging in sex work?" Those who reported using alcohol "very often" were classified as frequently using alcohol during this period. Client volume during this initial period of exposure to sex work was assessed by asking "During the first month that you were in sex work, approximately how many male clients did you have on a working day?" Possible responses included 1–2, 3–6, and ≥7;

Table 1. Demographic Characteristics of HIV-Infected Female Sex Workers in Mumbai, India, and Demographic Differences Based on Experiences of Being Trafficked Into Sex Work

Demographic characteristic	Female sex workers, % (No.)			P
	Total sample (n = 211)	Trafficked into sex work (n = 88)	Not trafficked into sex work (n = 123)	
Age, years[a]				.33
≤30 (median)	62.1 (131)	65.9 (58)	59.4 (73)	
>30	37.9 (80)	34.1 (30)	40.7 (50)	
Formal education				.28
No	78.2 (165)	81.8 (72)	75.6 (93)	
Yes	21.8 (46)	18.2 (16)	24.4 (30)	
Marital status				.22
Currently married	9.5 (20)	13.6 (12)	6.5 (8)	
Previously married	49.8 (105)	47.7 (42)	51.2 (63)	
Never married	40.8 (86)	38.6 (34)	42.3 (52)	
Place of origin				.07
Mumbai	6.2 (13)	6.8 (6)	5.7 (7)	
Other parts of Maharashtra	9.0 (19)	13.6 (12)	5.7 (7)	
Karnataka	33.6 (7)	28.4 (25)	37.4 (46)	
Andhra Pradesh	5.2 (11)	5.7 (5)	4.9 (6)	
Bangladesh	6.2 (13)	2.3 (2)	8.9 (11)	
Nepal	20.4 (43)	26.1 (23)	16.3 (20)	
Other	19.4 (41)	17.0 (15)	21.1 (26)	
Religion				.22
Hindu	77.7 (164)	81.8 (72)	74.8 (92)	
Other	22.3 (47)	18.2 (16)	25.2 (31)	
Income per month, rupees[b]				.37
≤3000	63.2 (132)	66.7 (58)	60.7 (74)	
>3000	36.8 (77)	33.3 (29)	39.3 (48)	
Age at entry into sex work				.18
≥18 years	49.8 (105)	44.3 (39)	53.7 (66)	
11–17 years	50.2 (106)	55.7 (49)	46.3 (57)	
Duration in sex work, mean ± SD, years	12.8 ± 5.4	12.7 ± 5.4	12.8 ± 5.4	.86

Abbreviations: HIV, human immunodeficiency virus; SD, standard deviation.

[a] Median age was 30 years.

[b] Median income was 3000 rupees per month.

reports of ≥7 partners per day were classified as high client volume in the first month. Alcohol at first sex work episode was assessed by asking the yes-or-no question "The first time you had sex in exchange for money or gifts, were you drinking alcohol?"

Data Analysis

χ^2 analyses were used to assess whether demographics (all categorical variables) differed based on having been trafficked. Frequencies for being trafficked and for each of the 5 outcome variables (sexual violence, high client volume, nonuse of condoms and frequent alcohol use in first month of sex work, and alcohol use at first sex work episode) were calculated for the total sample. Associations between being trafficked and each outcome variable were assessed via logistic regression, first unadjusted and then adjusted for the following confounders: education, marital status, religion, income, and age at entry into sex work. To minimize the potential for collinearity, we assessed correlation between pairs of independent variables; no variables included in the same regression model were highly correlated (ie, $r > 0.40$). All analyses were performed using SAS software (version 9.1; SAS Institute) [16].

RESULTS

Approximately 2 in 5 (41.7%) HIV-infected FSWs reported being forced or coerced (ie, trafficked) into sex work. The most common perpetrators reported by such women were coworkers (25.0%), acquaintances (25.0%), strangers (18.2%), and family members (9.1%) (data not shown). Slightly more than half (50.2%) entered sex work before age 18 years. The most common places of origin among participating FSWs were

Table 2. Sex Trafficking and Experiences of Violence, Alcohol Use, and HIV Risk in the First Month of Sex Work as Reported by HIV-Infected Female Sex Workers (FSWs) in Mumbai, India (n = 211)

Variable	FSWs, % [95% CI] (No.)
Forced or coerced into sex work	41.7 [35–49] (88)
Sexual violence in first month of sex work	62.2 [56–69] (132)
≥7 clients per day in first month of sex work	35.9 [29–43] (75)
No client condom use during first month of sex work	50.7 [44–58] (107)
Used alcohol very often in first month of sex work	54.0 [47–61] (114)
Used alcohol at first sex work encounter	59.2 [52–66] (125)

Abbreviations: CI, confidence interval; HIV, human immunodeficiency virus.

Mumbai (6.2%), other parts of Maharashtra (9.0%), Karnataka (33.6%), Bangladesh (6.2%), and Nepal (20.4%). Neither age at entry nor other demographics differed significantly between those who reported being trafficked into sex work and those who did not (all $P > .05$) (Table 1). Violence and sexual risk exposures were highly prevalent during the first month in sex work. Sixty-two percent of HIV-infected FSWs reported sexual violence from male clients during the initial month after entry. The volume of male clients during the first month was high, with 35.9% reporting sex with ≥7 clients per day during this period. Slightly more than half (50.7%) of HIV-infected FSWs reported no use of condoms in their first month in sex work. Alcohol related risk was also prevalent; the majority of participants reported frequent alcohol use in the initial month after entry (54.0%) and alcohol use at first sex work episode (59.2%) (Table 2). In multivariate models, those reporting having been trafficked into sex work had significantly higher odds of sexual violence during their initial month in sex work (adjusted odds ratio [AOR] 3.1; 95% confidence interval [CI], 1.6–6.1), a high volume of male clients (AOR, 3.3; 95% CI, 1.8–6.1), and no use of condoms in this same time period (AOR, 3.8; 95% CI, 2.1–7.1). Participating HIV-infected FSWs who reported entering sex work involuntarily also had significantly higher odds of frequent alcohol use during their first month of sex work (AOR, 1.9; 95% CI, 1.0–3.4) and of alcohol use at their first sex work episode (AOR, 2.2; 95% CI, 1.2–4.0) (Table 3).

DISCUSSION

More than 2 in 5 HIV-infected FSWs in the current study reported that they did not enter commercial sex work of their own volition but were instead forced or coerced (ie, trafficked) into the sex trade. This prevalence estimate is slightly greater than what was found in the single other study of sex trafficking among a general sample of FSWs in South Asia (32%) [11]. This greater prevalence is probably due to the high prevalence of HIV infection in the current sample, given that this same earlier study found that being trafficked into sex work was more common among FSWs infected with HIV. Regional differences between Mumbai and West Bengal may also account for this difference. The first month of sex work was characterized by high levels of sexual violence and sexual risk, with almost 2 of 3 FSWs in the current sample reporting such exposure. Those FSWs who were trafficked into sex work had ~3 times the odds of sexual violence at the hands of male clients in the first month after entry, compared with those entering voluntarily. This finding is

Table 3. Associations Between Being Trafficked Into Sex Work and Experiences of Sexual Violence, Frequent Alcohol Use, and HIV Risk in the First Month of Sex Work Among HIV-Infected Female Sex Workers in Mumbai, India (n = 211)

	Female sex workers, % (No.)		OR (95% CI)	
Variable	Trafficked into sex work (n = 88)	Not trafficked into sex work (n = 123)	Crude	Adjusted[a]
Sexual violence in first month of sex work	75.0 (66)	53.7 (66)	2.6 (1.4–4.7)	3.1 (1.6–6.1)
≥7 clients/day in first month of sex work	51.2 (44)	25.2 (31)	3.1 (1.7–5.6)	3.3 (1.8–6.1)
No client condom use in first month of sex work	68.2 (60)	38.2 (47)	3.5 (2.0–6.2)	3.8 (2.1–7.1)
Used alcohol very often in first month of sex work	62.5 (55)	48.0 (59)	1.8 (1.04–1.2)	1.9 (1.0–3.4)
Alcohol use at first sex work episode	69.3 (61)	52.0 (64)	2.1 (1.2–3.7)	2.2 (1.2–4.0)

Abbreviations: CI, confidence interval; HIV, human immunodeficiency virus; OR, odds ratio.

[a] Adjusted ORs were adjusted for history of any formal education, marital status, religion, income, and age at entry into sex work.

consistent with findings of the aforementioned study of FSWs in West Bengal [11] and a similar study of FSWs in Thailand [7], but it provides increased specificity regarding proximity to the time of entry, in that the current assessment of sexual violence was limited to the first 30 days in sex work.

Expanding on previous work assessing links between involuntary entry and HIV risk, current findings indicate that those FSWs who reported being forced or coerced into sex work also experienced far greater early exposure to sexually transmitted infection. Such FSWs had 3 times the odds, compared with those who entered voluntarily, of having had sex with ≥7 partners a day in the first month in sex work, and ~4 times the odds of reporting no condom use by male clients in this same initial period. Alcohol also figured prominently in the early experiences of sex work for trafficked women and girls. Trafficked HIV-infected FSWs had approximately twice the odds of reporting both using alcohol "very often" during the first month in prostitution and using alcohol during their first commercial sex episode. These findings confirm previous qualitative work among trafficked FSWs that describes alcohol being forced on women and girls on entry in order to gain their compliance and voluntary regular use of alcohol subsequent to violent sexual initiation in an attempt to cope with ongoing sexual violence [8]. Relationships between trafficking and other substance use (particularly injection drug use, a major source of HIV infection) warrant further examination.

Most all HIV prevention programs targeting FSWs The high prevalence of trafficking and experiences of sexual violence as part of being forced to participate in sex work described by this sample is critical to recognize; the great majority of current descriptions of conditions of sex work, and HIV prevention programs targeting FSWs assume voluntary entry and autonomy regarding sex work practice [18]. However, the ~40% of women and girls who report being trafficked describe extremely high levels of exposure to HIV risk within the initial month of sex work. Thus, peer education and FSW collectivism (the dominant approaches for HIV prevention among FSWs) are not likely to be effective for a large portion of this population, given that experiences of coercion directly contradict the autonomy and control over sexual protection needed to implement condom use and gain support from fellow FSWs. Further, assuming autonomy may be gradually obtained by those forced or coerced into sex work, the early and intense exposure to infection may well lead them to contract HIV before being able to benefit from such programs. This contention is supported by previous work among trafficked FSWs in Mumbai and in Nepal that found rates of HIV infection between 30% and 60% after only short periods of sex work exposure [9, 15].

There are several limitations related to the design of the current study. Assessments were of experiences in the first month of sex work, leaving open the possibility of recall error. However, recent research indicates that recall for traumatic events is likely to be highly reliable, significantly more than for nontraumatic events [19]. The study surveyed a group of HIV-infected FSWs who were members of an HIV service network; it is possible that the experiences of this population do not reflect those of the larger population of HIV-infected FSWS, or FSWs generally. Finally, the current estimate of the prevalence of trafficking into sex work may be inflated given that being trafficked is associated with elevated risk for HIV infection and the HIV-infected nature of the current sample [11].

In sum, ~2 in 5 HIV-infected FSWs report being trafficked (ie, forced or coerced) into sex work. This experience is associated with increased risk of sexual violence, frequent alcohol use, and high levels of exposure to HIV during the first 30 days after entry. These findings call into question utility of conventional harm reduction approaches to HIV prevention that rely on the autonomy of FSWs. Development of interventions that assure FSW autonomy within the context of sex work should be prioritized. HIV prevention programs and policies should include substantial efforts to prevent the involuntary entry of women and girls into sex work.

Notes

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