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Street Based Female Sex Workers: Determinants of Sexual Violence and the risk of acquiring HIV and STI in Nagaland, India

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Abstract

Background: Various social and behavioural factors are associated with an increased risk of acquiring HIV/AIDS and STI. Gender and power imbalance leads to violence, unwanted sex, and sexual abuse. We tried to evaluate the association of sexual violence in society and the determinants of STI transmission.

Materials and Methods: A total of 426 female sex workers were recruited by the Respondent Driven Sampling technique in a Linked Anonymous strategy. The behavioural data and biological samples were collected with proper consent. Serum samples were tested for Syphilis by RPR and TPHA, HIV, HBsAg and HSV-2 by ELISA. Urine samples were tested for gonorrhoea and chlamydial infections by Aptima Gen probe.

Results: Of the 426 FSWs, 117 (27.5%) gave the history of physical abuse and use of force to have sexual intercourse during the past one year. A total of 154 (36.2%) had sexual exposure with non-paying male partners. Condom usage with nonpaying male partners was very low (n=50, 11.7%). Forced sex was found to be significantly associated with oral drug use (O. R=9.5, p=0.04), FSW-IDU (O.R=10.3, p=0.03), entertained injection drug user (IDU) clients (O.R=13.5, p=0.03), sold sex for drugs (O.R=38.8, p=0.000), practiced anal sex (O.R=37.0, p=0.000) or were currently suffering from STI (O.R= 12.2, p= 0.002). The overall prevalence of HIV infection was 13.6% and 29.6% of these experienced forced sex, while 41% of the 22 participants with HIV, HCV, and HBV co-infection were beaten for sex.

Conclusion: The act of forceful sex was found to be higher and significant among those FSWs who indulged in other high-risk behaviours.

Keywords: Female Sex Workers; Sexual Violence; Sexually transmitted Infections

Introduction

Sexual violence is a matter of grave public health concern with physical and psycho-social implications. Of all forms of violence against women, sexual violence is most common with a link to STIs (Sexually transmitted Infections) and HIV (Human Immunodeficiency Virus) [1]. Sexual violence is any sexual act or attempts to obtain unwanted sex, sexual comments, advances or otherwise directed against a person's sexuality using coercion by any person regardless of their relationship to the victim in any setting including home or work [2] In low prevalence settings with a concentrated epidemic, such as India, Indonesia, Cambodia and the Russian Federation, the HIV epidemic initially spreads rapidly among sex workers with prevalence reaching as high as 65% in

some sex-worker populations [3,4]. From a public-health perspective, it is important to examine the risk factors of forced sex. Studies have reported forced sex to be associated with political violence [5], war-related [6] or socio-economic factors etc. This includes temporary migrants, commercial sex workers, the homeless [7], injection drug users (IDUs) [8], and partners of IDUs [7,8,9] Sex workers, especially street-based sex workers, may be forced to exchange unpaid and unprotected sex in order to escape arrest, harassment, obtain release from prison, or not be reported. There has been no substantial study documenting the burden of forced sex and measuring its outcome from this part of India. Therefore, through this study, we tried to determine the extent of sexual abuse faced, factors that facilitate the act, and subsequently its role in increasing the risk of acquiring HIV/STIs among the street-based FSWs of India.

Materials And Methods:

This study was carried out among 426 Female Sex Workers in the Dimapur district of Nagaland in 2006. Respondent-driven sampling (RDS) technique was applied to recruit the FSWs for the study. To achieve the sample size in respondent-driven sampling we collected the sample till an equilibrium of major characteristics in the community was reached. In this case, equilibrium was achieved at 400 and 426 was recruited to compensate non-responder for either behavioral, biological, or both. RDS centers were set up for conducting behavioral interviews and biological sample collection among the study subjects. Female Sex Worker was defined as females 18 years or older, who had sex with men in exchange for cash at least once in the past one month. FSWs who were exclusively selling sex in exchange for drugs were not included in the study. Predesigned and pretested questionnaires were used to capture data on their demographic profile, sexual practices, and other high-risk behaviour. The study followed a 'Linked Anonymous' strategy to maintain the confidentiality of behavioral and biological data provided by every individual respondent. Informed consent was taken from all participants. The project was cleared by the Institutional Ethical Committee of the Regional Medical Research Centre for Northeast India (ICMR).

Blood samples of all consenting participants were collected for laboratory diagnosis. Serum was separated by centrifugation and stored at -70ºC to be tested later. Serum samples were tested for antibodies to HIV was by Microlisa-HIV (J Mitra & Co. India) and confirmed by Genedia HIV1/2 ELISA3.0 (Green Cross Life Science corp.) Serology for HSV-2 was done using Herpe Select 2 ELISA IgG (Focus Diagnostics, Cypress, USA.). HCV antibody was tested by a commercially available HCV4.0 ELISA (Murex Biotech S.A.). Participants were considered positive when the sera were repeatedly positive by Recombinant Immunoblot Assay (Chiron RIBA 3.0 SIA). HBsAg was determined by ELISA (Murex Biotech S.A.). Urine samples were collected for the determination of *Neisseria gonorrhea* and *Chlamydia trachomatis* infection by Aptima Gen-Probe. Statistical significance of forced sex with different variables were obtained using Pearson's Chi-square test. Odds ratio and their 95% confidence interval were documented to indicate the magnitude and directions of associations. Analysis was performed using SPSS16.0 statistical software.

Results:

A total of 426 eligible female sex workers were recruited. Compliance for behavioural interview and the biological sample was (99.5%). The mean age of the participants was 25.6 (SD±6.65) years. Two hundred and forty-nine (61%) FSW knew how to read or write. The main occupation of 62% of women was sex work, 21% were also involved in some petty business while 5% of them were employed as maid servants. About one-third (35%) were never married, a similar proportion were currently married (36%) and the rest were either divorced/separated/deserted or widowed. Forty percent reported of started selling sex at the age of 18 to 21 years while 133 (31%) did so when they were 17 years or below. However, a very small number of four (1%) joined this profession at 36 years or above.

Nearly a third (29.8%) were into sex work for more than 6 years and 20% of the respondents got into sex work less than a year ago. All of them practiced street-based sex work. The median length of sex work was 4 years and the median number of clients per day was 2. Almost all the respondents had both occasional and regular clients in the past one month and almost half of them experienced receptive anal

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sex with their clients. Condom use at last sex with the occasional clients was 41% and 13.3% with the regular clients. Only 24 (5%) FSW had injected drugs for non-medical reason in the past. STI prevalence was high (60.9 %) among the FSW who had at least one STI. A 36.2% (n=154) had sexual exposure with non-paying male partners other than husbands, boyfriends and living-in partners.

About 67% of respondents reported symptoms of STI. This included foul-smelling vaginal discharge (58%), pain during intercourse (33%), burning on urination (25%), and genital ulcer (5%). Of the 426 FSWs, 117 (27.5%) were beaten or physically forced to have sexual intercourse without consent with someone during the past one year. Of these, the regular payment clients formed the major group (n=43, 10.1%), followed by 'others' (n=40, 9.4%), main regular non paying partner (n=26, 6.1%), uniformed men (n=11, 2.6%), and pimp (n=1, 0.2%). Condom usage with such non-paying male partners was very low (n=50, 11.7%), the majority (n=101, 23.7%) did not use a condom. Forced sex was reported to be more among participants less than 35 years of age. About 72% (n=304) FSWs consumed alcohol regularly and (n=82) underwent sexual abuse. Sexual abuse was found to be significantly associated with those who were married (O.R=7.8,p=0.02), illiterate (O.R=48.4, p=0.000), entertained clients at hotels and lodges (O.R= 36.6,p=0.002), oral drug use (O.R=9.5, p=0.04), injecting drug practice (O.R=10.3,p=0.03), entertaining clients who abused drugs (O.R=13.5,p=0.03), selling sex for drugs(O.R=38.8,p=0.000), practising anal sex (O.R=37.0,p=0.000) or were currently suffering from STI (O.R= 12.2, p= 0.002). Prevalence of HIV, Syphilis, HBsAg, HCV, HSV-2 Chlamydia and gonorrhoea infections were 31%,23.3%,40%, 31.7%, 28.5% and 26.3% respectively, among those who experienced forced sex. About 41% of the 22 HIV, HCV and HBV co-infected individuals were victims of physical violence (beaten for sex). The confounders were addressed during the interview as well as during analysis by adjusting.

Discussion:

The problem of sexual abuse among FSWs is extensive. The nature and reasons for abuse may vary. The present study area is within of the high HIV prevalent states in India (>1%) and majorly attributed to commercial sex. It falls along the drug trail of Southeast Asia and is a hub for illegal drug trafficking. Therefore, the sex workers of this region form a unique group as they are exposed to the HIV/AIDS epidemic in a two-pronged manner i.e. by heterosexual mode as well as being a part of the substance abuse network. Unknowingly or otherwise they are exposed to the IDU clients and some even indulge in drug abuse. This behaviour perhaps enhanced the chances of acquiring STIs. Individuals engaged in high-risk behaviours and sexual violence can directly increase their risk of becoming infected with HIV through vaginal trauma and lacerations. It has been reported that many sex workers experience low self-esteem, emotional stress and depression associated with living with violence and fear of arrest. Some resort to alcohol and drug use to cope with their situation – behaviours that are linked to violence, lack of control and HIV risk [10].

Very little is known about the prevalence of sexual abuse and related behavioural risk factors among FSWs in India and particularly in this region. Our study revealed that sexual abuse was experienced by 27.5% of the participants and the major perpetrators were clients followed by a non-specified group of people. A study from Nigeria recorded a prevalence of 63.6% sexual abuse and the main perpetrators of sexual violence being clients (47.5%), brothel owners (38.2%) and uniformed men (4%). The main health consequences reported were, HIV infection (4.3%), other STIs (10.5%), unplanned pregnancy (55.7%).

In Namibia, 72% of 148 sex workers who were interviewed, reported being abused. Approximately 16% reported abuse by intimate partners, 18% by clients, and 9% at the hands of the police [11]. In Bangladesh, the national HIV surveillance (1999-2000) found that between 52% and 60% of street-based sex workers reported being raped by men in uniform in the previous 12 months, and between 41% and 51% reported being raped by local criminals [12]. In our study, forced sex was significantly associated with other high-risk behaviours like substance abuse, selling sex for drugs, anal sex which make the FSWs vulnerable to unsafe sexual practices. In Panama City, approximately 13% of sex workers reported being raped while engaged in sex work and this proportion increased to 41% among those who used drugs [13]. In New York City, a study found that street-based sex workers who reported injecting drug

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use were more likely to report physical and sexual violence compared to those who did not use drugs. Researchers explained that conflicts over-sharing, buying and selling drugs, and hostility while under the influence of drugs exposed sex workers to potentially violent situations (e.g. shooting galleries), people (e.g. drug dealers), or activities (e.g. stealing) which contributed to violence against those who used drugs [14]. Women who had exchanged sex for money or drugs were over four times more likely to have experienced rape in their lifetime [15]. Our study also reports low condom usage which is corroborated by studies conducted in the U.S. which show that women in violent and abusive relationships are less likely to use condoms, more likely to incur abuse as a result of requesting condoms, and more likely to contract an STI than women who have not been in violent relationships [16,17]. Studies report that women who had been sexually coerced (a total of 40% of women surveyed) were significantly more likely to have exchanged sex to meet survival needs and to have had multiple male sex partners, greater rates of unprotected vaginal intercourse, lower rates of condom use, more blood contact due to injury acquired during the forceful sexual act, and greater rates of STI. Women who had been sexually assaulted were also more likely to have been physically (non-sexually) abused by relationship partners and were more likely to be afraid to ask sex partners to use condoms [18]. Present study as well as studies elsewhere also reported forced sex to be associated with the presence of any STI [19,20]. Among female IDU, risky sexual behaviors (e.g., sex trade, having a male IDU sex partner, having an STI) can predominate as risk factors. Many female IDU sell sex in exchange of money or drugs [21,22] and studies have shown that female IDU involved in selling sex are more vulnerable to HIV [21,23]. Sexual violence has also been found to be associated with HIV infection in IDU and this is more commonly reported by female IDU [24].

Violence is a manifestation of the stigma and discrimination experienced by sex workers. In all societies, sex work is highly stigmatized and sex workers are often subjected to blame, labeling, disapproval and discriminatory treatment. Laws governing prostitution and law enforcement authorities play a key role in the violence experienced by sex workers. Sex workers are therefore, frequently regarded as easy targets for harassment and violence for several reasons. They are considered immoral and deserving of punishment. The criminalization of sex work contributes to an environment in which, violence against sex workers is tolerated, leaving them less likely to be protected from it [25].

Conclusion:

In the above context, our study underlines the need for greater social consciousness with regards to maintaining the civil rights of the FSWs in regions like ours where such factors are often overlooked. Programmes focusing on civil and human rights should be integrated along with other Targeted Intervention programmes. Awareness among the sex workers regarding violation of their rights by means of sexual abuse and the high-risk factors that contribute to the act should be emphasized to bring about a change of behaviour in them.

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Informed Consent: Both verbal and written consents were obtained from the patient.

Contribution of authors: "We declare that this work was done by the authors named in this article with equal contributions."

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