



Violence & Vulnerability: A Cross Sectional Study of Prevalence and Factors Associated with Sex-work Related Violence among Female Sex Workers

Sweta R Panchal¹, J K Kosambiya², Deepak B Saxena³, Bharat H Patel⁴, Rahul Mhaskar⁵, Ambuj Kumar⁵

Financial Support: None declared
Conflict of Interest: None declared
Copy Right: The Journal retains the copyrights of this article. However, reproduction of this article in the part or total in any form is permissible with due acknowledgement of the source.

How to cite this article:

Panchal SR, Kosambiya JK, Saxena DB, Patel BH, Mhaskar R, Kumar A. Violence & Vulnerability: A Cross Sectional Study of Prevalence and Factors Associated with Sex-work Related Violence among Female Sex Workers. *Ntl J Community Med* 2017; 8(3):143-147.

Author's Affiliation:

¹Ex-Tutor; ²Professor (Add.), Community Medicine Dept., Government Medical College, Surat; ³Additional Professor, Indian Institute of Public health, Gandhinagar; ⁴Associate Prof, Gotri Medical College, GMERS, Vadodara; ⁵Evidence Based Medicine and Health Outcome Research, College of Medicine, University of South Florida, USA

Correspondence:

Dr. J.K. Kosambiya
jkkosambiya@gmail.com

Date of Submission: 23-02-17

Date of Acceptance: 28-03-17

Date of Publication: 31-03-17

ABSTRACT

Introduction: Experiences from Targeted Intervention for a cohort of Female Sex Workers (FSWs) for the prevention & control of HIV/STI indicated that despite the high condom usage rate (94%), the incidence of STI/HIV remained high among FSWs. Feedback from peer-educators revealed violence as one of the key factors for the increased STI/HIV incidence among FSWs.

Objective: To explore characteristics of violence and its associated factors associated among FSWs.

Methods: A cross sectional survey among 200 FSWs from August 2010 to January 2011 was conducted by Gujarati and Hindi speaking interviewers. Multivariate logistic regression was conducted to assess the association of various factors and sex-work related violence among FSWs.

Results: 27% (53/197) of FSWs had experienced sex work-related violence. Multivariate analysis revealed street versus home-based sex work (OR 2.84; 95% CI 1.33- 6.07), single living status (OR 2.32; 95% CI 1.05 - 5.23), and sex-work with intoxicated clients (OR 2.58; 95% CI 1.12 - 5.91) as risk factors associated with sex-work related violence.

Conclusions: Violence among FSWs is significant with wide range of consequences for individuals coming in close contact with FSWs and also for population in general. Interventions to address the sex-related violence crisis among FSWs by involving all stakeholders are required.

Key words: HIV, Female Sex Worker, Domestic Violence, Sex work based Violence, violence against women

INTRODUCTION

In 1998, we started a targeted intervention (TI) program among a cohort of female sex workers (FSW) aimed at prevention and control of HIV/STI.¹ The program primarily focused on increasing condom usage and has achieved a phenomenal success. The reported condom usage rate among clients of FSWs is about 94%. However, despite the reported increased usage of condoms, the incidence of sexually transmitted infections (STI)

remains high among FSWs (approximately 59% bacterial vaginosis, 16% gonococcal infection, 4% syphilis)². As part of the delivery of TI services, a weekly meeting of peer educators is conducted to discuss any issues associated with any aspect of the TI program. During these informal sessions with peer-educators, the issue of increased rate of STI despite the high condom usage was discussed. The informal feedback from peer-educators revealed that condom usage is still high; however it may have been compromised in a few instances

and might be contributing to the increased rate of STI. Furthermore, the breaches in condom usage were due to violence perpetrated on FSWs. However, to assess the extent of violence requires a systematic assessment. Therefore, we performed a cross-sectional survey to assess the prevalence of violence and the factors associated with violence in a cohort of FSWs.

METHODS

Study design: A 6-month cross sectional study among FSWs from August 2010 to January 2011 was conducted. All consecutive FSWs who were beneficiaries of the Prevention, Advocacy, Research Alliance Services (PARAS) Preventive and Social Medicine (PSM) project run by PSM Department, Government Medical College, Surat, India were eligible for inclusion.³ All consecutive FSWs who attended the field level clinic in Surat City, India for routine medical check-up were asked to participate in the study. All FSWs who agreed to participate were asked to give written informed consent. The study was approved by the local Institutional Review Board.

Data collection: We employed a two-step approach for data collection. The sociodemographic information including number of clients and details of violence (e.g., incidence of physical violence, history of arrests, characteristics of perpetrator, etc.) was collected using a structured questionnaire. The design of the structured survey was informed by the PARAS PSM project, behavioral surveillance, National AIDS Control Organization (NACO) HIV sentinel surveillance 2008⁴, domestic violence variables from National Family & Health Survey (NFHS) III⁵, and variables for violence and forceful sexual activity from the Cambodian study.⁶ The finalized data collection instrument was pilot tested among 35 randomly selected FSWs. The finalized survey instrument was administered face-to-face in person by trained study personnel fluent in Gujarati and Hindi. The survey was administered in a closed private room to ensure confidentiality.

Statistical data analysis: The sample size was determined in two steps. First, we conducted a pilot study that enrolled 35 FSWs which showed a 30% (10/35) incidence of violence among FSWs. The results of the pilot study informed the final sample size calculations. With a power of 80% at 5% significance level, 168 participants would be needed. Estimating a non-response rate of 10%, we planned to enroll 200 participants. Descriptive statistics were used to summarize socio-demographic variables. Multivariate logistic regression using a step-wise elimination approach at the significance level of 0.05 was conducted to assess the association between various factors on sex-work related violence

affecting FSWs. The statistical significance was set at 5% for all associations. All data analyses were performed using SPSS statistical analysis software.⁷

RESULTS

Participant Characteristics: A total of 592 consecutive potential participants were approached in drop-in centers operated by the PARAS PSM Project. Of these 200 agreed to participate. Three participants did not respond to all questions. Data obtained from the 197 participants who answered all questions were included in the final analysis. The participant characteristics are summarized in Table 1. 99% (197/200) were citizens of India. The median age of participants was 30 years (range 25 to 44 years). The median weekly income of participants from sex related work was approximately US\$ 24 (about Rs.1500; range US\$ 8 [Rs. 500] to US\$ 160 [Rs. 10,000]). Approximately, 81% (159/197) of FSWs were living with their sexual partners (husband or intimate partner). The median age of sexual debut was 16 years (range 10 to 24 years) and the median age of commercial sex work was 25 years (range 10 to 40 years). Public places were the most common location for solicitation of clients (43%; 85/197) followed by direct contact over the phone (37%; 73/197) and through pimps (20%; 39/197), respectively. The most frequent place of commercial sexual activity was client's choice of place (31%; 60/197) followed by brothels (31%; 62/197), hotel/guest house (23%; 46/197), street or isolated places (13%; 25/197), respectively. Fifty-five percent (107/196) of participants reported performing sexual activity under the influence of alcohol.

Sex-work related violence: Twenty seven percent (53/197) of FSWs reported having experienced any form of sex-work related violence. The most common perpetrators of violence were clients of FSWs (77%; 41/53) followed by police personnel (38%; 20/53) and criminals/muscle men (36%; 19/53), respectively. The median episode of violence was 326 (range 190 to 597 episodes). Clients of FSWs were significantly more likely to inflict violence on FSW compared with police (OR=5.63; 95% CI: 2.40-13.1) or muscle men/criminals (OR=6.11; 95% CI: 2.60 to14.3). Of the 53 FSWs experiencing various forms of violence, 49% (26/49) reported forceful sexual activity. Approximately, 69% (18/26) reported at least two to five episodes of forceful sexual activity followed by 15% (4/26) experiencing six to ten episodes and 8% (2/26) experiencing more than ten episodes of forceful sexual activity. Of the 26 forceful sexual incidents, in 19 incidents condoms were used appropriately. In five incidents either condom was not used or the condom ruptured during the forceful activity (Table 2).

Table: 1 Sociodemographic and sexual profile of female sex workers

Variables	Frequency (%)
Demographic characteristics	
Country (n=200)	
India	197 (98.5)
Nepal	3 (1.5)
Age in completed years (n=200)	
18 - 24	31 (15.5)
25 - 30	74 (37.0)
31 - 44	86 (43.0)
>= 45	9 (4.5)
Mean = 31.33 ± 6.82; Median = 30	
Income (Rs.) from sex work per week (n = 197)	
Less than 500	16 (8.1)
500 - 1000	53 (26.9)
1000 - 5000	120 (60.9)
5000 - 10000	7 (3.6)
More than 10000	1 (0.5)
Mean = 2118.5 ± 2088.0; Median = 1500	
Sexual profile of FSWs	
Present Living status (n = 197)	
Alone	12 (6.1)
Husband	127 (64.5)
Lover/Intimate partner	28 (14.2)
Peers	4 (2.0)
Only children	15 (7.6)
Parents	9 (4.6)
Relatives	2 (1.0)
Age of Sexual Debut (n = 197)	
10 -14	52 (26.4)
15 - 17	70 (35.5)
18 to 24 years	72 (36.5)
More than 24 yrs	3 (1.5)
Mean = 16.1 ± 3.5; Median = 16	
Age of Sex work Debut (n = 196)	
10 - 14	1 (0.5)
15 - 17	13 (6.6)
18 - 24	76 (38.8)
25 - 30	61 (31.1)
31 - 35	34 (17.3)
36 - 40	8 (4.1)
> 40	3 (1.5)
Mean = 25.5 ± 8.29; Median = 25	
Mode of client Soliciting (n = 197)	
Railway/ bus station	2 (1.0)
Street/market/Road	64 (32.5)
Hotel/ restaurants	6 (3.0)
Entertainment places	13 (6.6)
Mobile / Telephone	73 (37.1)
Through friend	29 (14.7)
Through Pimp	10 (5.1)
Railway/ bus station	2 (1.0)
Street/market/Road	64 (32.5)
Places of Sexual Activity (n = 197)	
At own home	11 (5.6)
Street/Isolated places	25 (12.7)
Workplace	4 (2.0)
Hotel/ guest house	46 (23.4)
Client's rented room	60 (30.5)
Friend's home	51 (25.9)
At own home	11 (5.6)

Table 2a: Types of violence and violence perpetrators among female sex workers

Variables	FSWs (n = 53)	Episodes of violence (n = 1107)
Violence perpetrators		
Police	20 (37.7)	190 (17.2)
Criminals	19 (35.8)	326 (28.9)
Clients	41 (77.4)	597 (53.9)
Types of violence (n = 53) (n = 1118)		
Arrest	9 (17.0)	25 (2.2)
Beating	20 (37.7)	68 (6.1)
Harassment & threatening	37 (69.0)	493 (43.6)
Money taken	19 (35.8)	51 (4.6)
Forceful activity by single person	15 (28.3)	232 (20.8)
Forceful activity by group of persons	27 (50.9)	244 (21.8)
Physical injury and bleeding from private parts	6 (11.3)	11 (1.0)

Table 2b: Description of forceful sexual activity among FSWs in last 12 months

Description	Frequency (%)
Forceful sexual activity (n=26) (All Peno-viganal Sexual Activity)	
1	2 (7.7)
2-5	18 (69.2)
6-10	4 (15.4)
>10	2 (7.7)
Men with condom	24 (92.3)
Men without condom	2 (3.3)
Any discrepancy in condom use	5 (-)
Reasons of non-use of condom (n=5)	
Forceful activity	3 (60.0)
Not available	1 (20.0)
Drunken	1 (20.0)
Any incidence of condom tear	2 (7.7)
Bleeding/swelling	9 (34.6)
Beating	3 (11.5)
Tied	1 (3.8)

Factors associated with sex work related violence:

In the univariate analysis, typology of FSWs (public place versus brothel-based sex work), number of clients per week (>5 or ≤5), living status of FSW (single versus with regular sexual partner), alcohol consumption by FSW before sexual activity (yes versus no), sex work with clients who were under the influence of alcohol and travelling outside city limits for sex work were significantly associated with sex work related violence among FSWs (Table 3).

In the multivariate analysis typology of FSWs (public place versus brothel based sex work), living status of FSWs (single versus with sexual partner), and sex work with clients who were under the influence of alcohol were found to be significantly associated with violence among FSWs (Table 3). FSWs working in public places were 2.84 (95% CI 1.33 to 6.07) times more likely to face sex work re-

lated violence compared with home/brothel based FSWs. FSWs who were single were 2.32 (95% CI 1.05 - 5.23) times more likely to face sex work related violence compared with FSWs living with a sexual partner. FSWs performing sexual activities

with intoxicated clients (alcohol) were 2.58 (95% CI 1.12 - 5.91) times more likely to face sex work related violence compared with FSWs working with clients not under influence of alcohol.

Table 3: Analysis of predictive factors for sex work related violence among FSWs

Risk factors	Univariate analysis	Multivariate analysis	
	Crude OR (95% CIs)	aOR (95% CIs)	P value
Age group (>25 yrs/≤ 25 yrs)	0.86 (0.49 - 2.71)	0.59 (0.21 - 1.64)	0.31
Typology (Street based/Home based)	3.26 (1.61 - 6.65)	2.84 (1.33 - 6.07)	0.007
Place of sex work activity (Out of home/Own home)	2.74 (0.60 - 12.51)	0.42 (0.07 - 2.26)	0.31
No. clients per week (>5/≤5)	2.31 (1.21 - 4.39)	0.57 (0.25 - 1.29)	0.18
Living status (Single/With sexual partner)	2.57 (1.25 - 5.27)	2.32 (1.05 - 5.23)	0.03
FSWs drink alcohol before sexual activity (Yes/No)	3.37 (1.41 - 8.09)	2.00 (0.76 - 5.23)	0.15
Sexwork with clients found under influence of alcohol (Yes/No)	3.99 (1.84 - 8.78)	2.58 (1.12 - 5.91)	0.02
Travelling outside Surat city for sex work (Yes/ No)	2.22 (1.11 - 4.43)	1.39 (0.68 - 2.87)	0.35
Income per week (>2500/ ≤2500)	1.65 (0.82 - 3.32)	1.10 (0.44 - 2.76)	0.83

OR=Odds Ratio; aOR=Adjusted Odds Ratio

DISCUSSION

The findings from this study show that FSWs work under severe duress and the prevalence of violence is high. Furthermore, the violence is perpetrated by all individuals who are directly and indirectly involved in this network which includes clients of FSWs, law enforcement personnel as well as criminals. The results also show that forceful/coercive sex is common and has significant consequences for prevention of STIs including HIV due to either lack of condom use or inappropriate use. We also found that FSWs who live alone are more prone to sex work related violence compared with those living with partners.

The findings have significant implications for the prevention of STIs/HIV. While in absolute terms the prevalence of violence may not appear that high, the nature of violence in this population had severe consequences. Because FSWs are exposed to unsafe sexual practices, the spread of infections can be rapid among the general population with associated huge costs. Furthermore, the incidence of sex related violence is under reported in India, including this study, for several reasons.⁸ Due to the restricted nature of commercial sexual activity in India, FSWs are less likely to seek recourse through law enforcement agencies or governmental agencies as officials of these agencies are also involved in perpetrating violence in this cohort. Hence, violence among FSWs is one of the major hurdles towards prevention of STI/HIV.⁹

The results are also in line with other similar studies in the field. For example, the study by Beattie et al¹⁰ assessed the impact of violence against FSWs in the state of Karnataka in India and found a similar 26% prevalence of violence (27% in the present

study). Similarly, the authors also reported that FSWs experiencing violence are more likely to use condoms inappropriately and are therefore at increased risk for STI/HIV. A qualitative study by Panchanadeswaran et al¹¹ also reported coercive sexual interactions with intoxicated clients and the increased risk for violence. The study by Sarkar et al¹² assessed the prevalence of sex trafficking, violence etc. in a cohort of brothel-based sex workers in India and found a 30% incidence of sexual and physical violence.

A non-governmental organization Sangram Collective reported police beating in 70% of FSWs and arrest without any evidence among more than 80% of FSWs at Sangli, Maharashtra, India¹³. The present study participants also experienced violence perpetrated by clients (77%), police (38%) and goonda muscle men/criminals (36%).

STRENGTHS AND LIMITATIONS

The key strength of this study lies in investigators' established collaborative relationship of over 10 years with FSWs as beneficiaries of the PARAS PSM project at Surat. The mutual trust built over years of collaborative relationship increases the reliability of the responses provided by the FSWs. However, the self-reporting methodology used in this study is prone to recall bias. Nevertheless, we collected data on sex-related violence from FSWs that occurred during the previous one year period only, which is likely to reduce the recall bias.

In summary, violence among FSWs is a significant issue with a wide range of consequences for not only individuals coming in close contact with FSWs but also for the general population. The re-

search community needs to develop interventions to address the sex related violence crisis among FSWs by involving all stakeholders. Similarly, more comprehensive research is needed for systematic data collection for tracking and reporting of sex related violence among FSWs to develop a crisis management system to reliably address this issue. These efforts will also help policymakers provide legal aid in cases where law enforcement agencies are involved in inflicting violence.

ACKNOWLEDGEMENT

Authors acknowledge the resources and support received from the Fogarty International Grant/USNIH: Grant # 1D43TW006793-01A2-AITRP.

We are thankful to team members PARAS - PSM NACP III, Sahyog Mahila Mandal, and Ekta Mahila Mandal for all their assistance throughout the research study.

REFERENCES

- Desai V.K, Kosambiya J.K., Thakor H.G., Umarigar D. D, Khandwala, B.R., Bhuyan K.K Prevalence of sexually transmitted infection and performance of STI syndromes against etiologi cal diagnosis in female sex workers in Red Light Area of Surat, India. *Journal of STI.* (2003)(79):11-115.
- PARAS PSM NACP Project. Annual Report March 2007-08 . Department of Preventive and Social Medicine, Government Medical College, Surat;2008.
- Gujarat State AIDS Control Society. HIV Sentinel Surveillance Report. Health & Family Welfare Department Government of Gujarat, Ahmedabad: 2004-07.
- National AIDS Control Organisation. Prevention Strategies. Health & Family Welfare Department Government of India, New DelhiNov 2006.
- National AIDS Control Organisation. Prevention Strategies : TIs for High Risk Groups. In: India Health &Family Welfare Department Government of India, New Delhi2006.
- Indian institute of Population Science. National Family & Health Survey III, INDIA, . 2005-06:p.392-394.
- (USAID). USAfIID. Violence and exposure to HIV among sex workers in Phnom Penh, Cambodia. . 2006 March:p.42-43.
- IBM SPSS Statistics for Windows [computer program]. Version 22.02013.
- Mahapatra B BM, Porwal A, Saggurti N. Non-Disclosure of Violence among Female Sex Workers: Evidence from a Large Scale Cross-Sectional Survey in India. . *PLoS ONE* 2014;9(5): e98321.
- Allience IHA. Sex work, Violence, HIV: A Guide for programme with sex-workers. 2008.
- Beattie TS, Bhattacharjee P, Ramesh BM, et al. Violence against female sex workers in Karnataka state, South India: impact on health, and reductions in violence following an intervention program. *BMC public health.* 2010;10:476.
- Panchanadeswaran S, Johnson SC, Sivaram S, et al. Intimate partner violence is as important as client violence in increasing street-based female sex workers' vulnerability to HIV in India. *The International journal on drug policy.* Apr 2008;19(2):106-112.
- Sarkar K, Bal B, Mukherjee R, et al. Sex-trafficking, violence, negotiating skill, and HIV infection in brothel-based sex workers of eastern India, adjoining Nepal, Bhutan, and Bangladesh. *Journal of health, population, and nutrition.* Jun 2008;26(2):223-231.
- SangramProject. Rehabilitation: against their will? Of veshyas, vamps whores and women: challenging pre conceived notions of prostitution and sex work. Sangli, Maharastra, India 2002.