Predictors of Inconsistent Condom Use among Female Sex Workers: A Community-Based Study in a Red-Light Area of Kolkata, India

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Abstract

Background: Condom is an integral part of all interventions for female sex workers (FSWs). However, certain situations hinder them from practicing consistent condom use. This paper aims at identifying the situations that predict inconsistent condom use by FSWs of Sonagachi red-light area, Kolkata. Subjects and Methods: The cross-sectional community-based observational study was conducted among 296 brothel-based FSWs of Sonagachi. Outcome variable, that is, inconsistent condom use was said to be present if any sex act with any type of partner was not protected by condom. Association with sociodemographic, occupational, and behavioral characteristics of FSWs was examined. Results: Inconsistent condom use was present among 37.5% of the study participants, and this was predicted by the presence of a nonpaying partner (NPP) (adjusted odds ratio [AOR] [95% confidence interval (CI)]: 15.04 [7.52–30.08]), violence (AOR [95% CI]: 2.08 [1.07–4.03]) and sexual intercourse under the influence of alcohol (AOR [95% CI]: 1.86 [1.02–3.39]). The major cause behind nonuse of condom as reported by the participants was trust on partner. Conclusion: NPPs need to be given emphasis in program strategies for FSWs. The FSWs should constantly be motivated for safe sex emphasizing the fact that trust on partner may be detrimental for their health.

Keywords: Female sex workers, inconsistent condom use, nonpaying partners

Introduction

Promotion of condom remains central to all the HIV/AIDS intervention strategies globally. Male condom, when used consistently and correctly, is highly effective and inexpensive tool in preventing the sexual transmission of infections such as HIV, other sexually transmitted infections, and genital human papillomavirus and associated diseases, for example, genital warts and cervical cancer. However, the sex workers who are in maximum need of condom use with their partners often encounter challenges, such as lack of knowledge, substance abuse, inefficacy in negotiating condom with partners, and violence. Concurrently, studies have been arguing that all these barriers are somehow linked to stigma, discrimination, disempowerment, and lack of community action among this vulnerable group.

However, the challenges tend to vary according to the context of sex work and typology of workers. Therefore, a “one-size-fits-all” approach may not be appropriate, and the necessity to address individual and community level barriers will never disappear. Female sex workers (FSWs) operating from Sonagachi red-light area of Kolkata, West Bengal, India, have some distinctive features owing to their exposure to the community led structural intervention model, which is the first of its kind to address the sociocultural, economic, and health-related vulnerabilities of sex workers. This model, commonly known as “Sonagachi project,” has evolved over decades and successfully reduced the traditional barriers for condom use such as lack of awareness and access to condom.

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However, their susceptibility is not eliminated as still the FSWs are considered high-risk group for various reasons but most importantly because of multiple sexual partners. In this scenario, it was imperative to know their current practice related to condom use to identify specific areas that need attention on this existing empowerment-based strategy. This paper aimed at assessing the pattern of condom use among brothel-based FSWs of Sonagachi and delineating the predictors of inconsistent condom use, if any.

**Subjects and Methods**

This was community-based cross-sectional observational study among brothel-based FSWs of Sonagachi red-light area, Kolkata, India. Sex workers of this area are conventionally and predominantly brothel-based.[13] This area is served by five drop-in-centers (DICs) of Sonagachi HIV Intervention Project. These DICs are service units of targeted intervention of West Bengal state AIDS prevention and control society and operated by Durbar, sex workers’ community organization. Two[14] such DICs were selected purposively. “Probability proportionate to size” technique was applied to determine the number of participants to be selected from the area served by each DIC. A total of 296 FSWs were selected from 3450 brothel-based FSWs under those two DICs using simple random sampling. FSWs who are registered member of Durbar; working in the study area for at least 6 months and consented for the study were included in the study. Data collection was done over a period of 1 year (July 2015 to June 2016) at the brothels where the participants resided during the study period. After obtaining written informed consent, participants were interviewed with the help of a predesigned pretested schedule in Bengali (local language), prepared after rigorous literature review and consultation with experts in this field.

The use of male condom with different types of partners as reported by the participants was assessed. Inconsistent condom use (outcome variable) was defined when any sex act with any type of partner during 2 weeks preceding data collection was not protected by condom. Independent variables were sociodemographic characteristics (age, marital status, cohabiting status, education, income, and participants’ response to community collectivization), occupational differentials (duration in profession at Sonagachi, volume of work, and experience of violence), and behavioral characteristics (sexual intercourse under the influence of alcohol [SUIA]).

Partners of FSWs were either paying partners (PPs) or clients and non-PPs (NPPs) or cohabiting partners. Husband (i.e., the spouse) and/or “Babu” (lovers or boyfriends) were the cohabiting partners. Many of FSWs were currently married who pursued their conjugal lives with husbands when they used to visit their homes. Some shared emotional relationship with their regular clients or any male inhabitant of this area and eventually cohabit with such partners, popularly known in this area as “Babu.” Some of the Babus subsequently marry their lover females and become “husband.” Response to community collectivization was measured based on two items, namely, having a functional account in the sex workers’ cooperative bank (Usha) and attending public “events” such as gatherings and rallies, where they could be identified as sex workers. It was hypothesized that those who would show positive response would be more efficient in condom negotiation. The volume of work was categorized based on the average number of clients one FSW entertained in the last week. Those who were found to be having <15 clients were termed as having “low volume of work.” For physical violence, self-report of any violent episode (e.g., verbal abuse, push, slap, hit, and choke) within the past 6 months was considered. SUIA was present when either or both of FSW and her partner consumed alcohol immediately before intercourse within the past 14 days.

Descriptive and inferential statistics were done using SPSS Software version 16 (Statistical Package for the Social Sciences Inc, Chicago, IL, USA). Multivariable logistic regression analysis (using forced entry method) was performed to find predictors of inconsistent condom use. The selection of independent variables for the model was based on their significant association with the outcome in bivariate analysis. This study is a part of postgraduate dissertation which was approved by institutional ethics committee of the concerned institutes/authorities.

**Results**

Background characteristics of the respondents revealed that the mean age was 29.7 ± 6.6 years. Majority (68.2%) were “ever married, but not currently married” (separated or abandoned by their husband – 76.2%, widowed – 15.8%, and divorced – 8.0%), followed by “currently married” (20.3%) and “never married” (11.5%). Among the participants, 48% had any cohabiting partners, and out of them, “Babu” (57.7%) was the predominant type. Nearly, 42% of the participants were illiterate, followed by up to primary education (40.2%). Socioeconomic status of the study population was represented by weekly income which had a wide range, from INR 400.00 to INR 25,000.00. Among them, 50.7% did not have an active account in Usha and 43.9% did not participate in “events” which might disclose her identity, these two put together 43.2% responded negatively to both the measures of collectivization. Most of the participants (68.2%) were working at Sonagachi for ≤5 years and 62.2% were found to be having low volume of work. Nearly, one-fourth (24.7%) experienced any kind of violence. SUIA was reported by 33.8% of the participants.

Condom use pattern with different partners was elaborated in Table 1. Nearly, 60% of the last sex act with NPPs was unprotected compared to only 2% with PPs. Similar findings were noticed during the past 2 weeks where 64.8% of the respondents did not use condom always with NPPs. Inconsistent condom use with any type of partner was found to be 37.5%. The three leading causes behind nonuse of condom, as reported by the participants, were trust on Babu (30.6%), refusal by the client (26.2%), and trust on husband (25.2%).
Table 1: Distribution of the study population according to self-reported condom use pattern

| Condom use                                                                 | n (%)  |
|---------------------------------------------------------------------------|--------|
| Used condom during the last time she had intercourse                      |        |
|   With paying partner (client) (n=296)                                     | 290 (98.0) |
|   With nonpaying partner (babu/husband) (n=142)                           | 57 (40.1) |
| Used condom during the past 2 weeks                                       |        |
|   With paying partner (n=296)                                             |        |
|     Always                                                                | 254 (85.8) |
|     Not always                                                            | 42 (14.2) |
|   With nonpaying partner (n=142)                                          |        |
|     Always                                                                | 50 (35.2) |
|     Not always                                                            | 92 (64.8) |
| Condom use with any type of partner within the past 2 weeks (n=296)       |        |
|   Consistent                                                              | 185 (62.5) |
|   Inconsistent                                                            | 111 (37.5) |
| Causes of inconsistent condom use (n=111*)                                 |        |
|   Trust on “Babu”                                                         | 34 (30.6) |
|   Client did not want to use                                              | 29 (26.1) |
|   Trust on husband                                                        | 28 (25.2) |
|   Babu did not want to use                                                | 8 (7.2) |
|   Regular well-known client                                               | 7 (6.3) |
|   She wished so                                                           | 4 (3.6) |
|   For extra money                                                         | 2 (1.8) |
|   Using another contraceptive                                             | 1 (0.9) |
|   Condom was not available                                                | 1 (0.9) |
|   No response                                                             | 6 (5.4) |

*Multiple responses

Bivariate analysis identified that the proportion of inconsistent condom use was higher among participants with older age, lower educational status, negative response to community collectivization measures, and reporting high volume of work; however, none of these were statistically significant. Inconsistency was not related to their income or duration in profession. Significantly higher odds of inconsistent condom use was found among currently married FSWs, FSWs with NPPs, those who experienced violence, and those who practiced SUIA, compared to their counterparts. These four variables were included in the multiple logistic regression model [Table 2]. After adjustment presence of a NPP (adjusted odds ratio [AOR] [95% confidence interval (CI)]: 15.04 [7.52–30.08]) violence (AOR [95% CI]: 2.08 [1.07–4.03]), and SUIA (AOR [95% CI]: 1.86 [1.02–3.39]) remained significant predictors of the outcome. Model fitness was assessed by nonsignificant Hosmer–Lemeshow test and significant Omnibus Chi-square statistics. Nagelkerke $R^2$ was found to be 0.41.

Discussion

In this study, condom use showed appreciably high prevalence in case of PPs, but in case of nonpaying/cohabiting partners, the picture evoked concern. Using condom with Babu or husband is almost synonymous with the breach of trust on him. The emotional bonding with NPP as a barrier to safer sex was also shown by Cooperman et al., where only 44% of the participants always used condoms with their noncommercial sex partners. Most of them believed condom use is a sign that partner trust was lacking (84%). Data analysis of integrated behavioral and biological assessment (2009–2010) presented similar findings: 87% FSWs who had NPPs reported inconsistent condom use, which was only about 10% who did not have any cohabiting partner. Comparable findings were reported by Jayaraman et al. (17.6% condom use with NPP vs. 97.2% with occasional clients); Shukla et al. (42.9% FSWs used condom “always” with regular partners, whereas with nonregular partners, this value was 69%). Although the present study did not differentiate between “regular” and nonregular/occasional clients, it was not hard to conceptualize the notion of trust played a role in such cases too. In a study in China, 33.6% of FSWs had ever had sex without a condom because clients paid more money. Nonuse of condom for extra money was a negligible reason in our study which could have been possible because of the financial security the FSW population enjoy at Sonagachi. Among other predictors, violence needs special mention. Reed et al. found that consistent condom use was less likely to be reported among victims of physical or sexual violence, irrespective of whether perpetrated by husband or by client. Similar findings were evident in this study. The participants here felt that most of such violent episodes could be attributed to alcohol use by the perpetrator. Consumption of alcohol before sexual encounter was also associated with inconsistent condom use, and this finding was in congruence with findings of the study by Chen et al. among FSWs in China. Participants of the present study shared that they were sometimes made to drink by the partner who, otherwise would have offended; some consumed it to cope up with the agony. However, few FSWs told that they overdiluted the drink so that they could not be intoxicated at the same time partners remained pleased. Others practiced discarding some amount of the drink in such a way that partners could not notice and pretending she already took it. Such tricks helped them to retain their efficacy to negotiate condom and practice safer sex. Those who responded negatively to both of the community collectivization measures studied had higher risk of inconsistent condom use but that was not statistically significant. Inclusion of variables, for example, condom self-efficacy that might have direct bearing with condom use would have brought out clearer picture in this scenario. Higher inconsistent condom use was reported elsewhere by FSWs who were in the middle age group (25–34 years), currently married, and who had sex with three or more clients a day as compared to their counterparts. In our study, the odds among currently married were high than never married, among those with high volume of work compared to those with low, among higher age of FSWs; however, these relationships were not statistically significant. It has been evident that for the FSWs studied here, relational or emotional factors could explain what might not be ascertained by other factors.
Major strength of this study was that it quantified the effect of important risk situations which pose a threat against the effort of FSWs to maintain sexual and reproductive health by practicing safe sex. To what extent the cohabiting partners could affect the practice of sex workers was not studied previously among sex workers of Sonagachi as per the current knowledge. The important limitations lied in the self-reported nature of practice or behavior and probability of social desirability bias. Moreover, the purposive selection of two DICs might affect the generalizability of the findings.

**CONCLUSION AND RECOMMENDATIONS**

Intervention strategies for sex workers should include their non-paying partners (NPPs) because of the fact that they are the bridge population between sex workers and general population and have the potential of transmitting diseases by sexual contacts. Cohabiting husbands still remained a gap area, complicated by several sociocultural barriers that need to be addressed by appropriate and acceptable behavior change communication strategies. Women in the profession should constantly be motivated for safe sex emphasizing the fact that trust on partner may be detrimental for their health. They need to be empowered with the effective techniques for successful condom negotiation citing the example of fellow sex workers who are practicing condom use consistently.

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**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**

1. World Health Organization, United Nations Population Fund, Joint United Nations Programme on HIV/AIDS, Global Network, of Sex Work Projects The World Bank. Implementing Comprehensive HIV/STI Programmes with Sex Workers: Practical Approaches from Collaborative Interventions. Geneva: World Health Organization; 2013.

2. National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention. Condoms and STDs: Fact Sheet for Public Health Personnel. Available from: https://www.cdc.gov/condomeffectiveness/docs/condoms_and_stds.pdf. [Last accessed on 2016 Sep 18].

3. Tan SY, Melendez-Torres GJ. A systematic review and meta-synthesis of barriers and facilitators to negotiating consistent condom use among sex workers in Asia. Cult Health S×2016;18:249-64.

4. Mahajan D, Otitilingam KR, Gurusamy M, Chokkalingam C. Barriers, facilitators and socio-demographic characteristics associated with condom usage amongst male HIV integrated counselling and testing centre attendees at the government hospital of thoracic medicine, an HIV tertiary care centre in Chennai. Indian J Community Health 2013;25:140-6.

5. Shannon K, Stratthee SA, Shoveller J, Rusch M, Kerr T, Tyndall MW, et al. Structural and environmental barriers to condom use negotiation with clients among female sex workers: Implications for HIV-prevention strategies and policy. Am J Public Health 2009;99:659-65.

6. Deering KN, Shaw SY, Thompson LH, Ramaika S, Raghavendra T, Doddamane M, et al. Fertility intentions, power relations and condom use within intimate and other non-paying partnerships of women in sex work in Bagalkot district, South India. AIDS Care 2015;27:1241-9.

7. Luchters S, Richter ML, Bosire W, Nelson G, Kingola N, Zhang XD, et al. The contribution of emotional partners to sexual risk taking and violence among female sex workers in Mombasa, Kenya: A cohort study. PLoS One 2013;8:e68855.

8. Stockman JK, Lucea MB, Campbell JC. Forced sexual initiation, sexual intimate partner violence and HIV risk in women: A global review of the literature. AIDS Behav 2013;17:832-47.

9. Bekker LG, Johnson L, Cowan F, Owers C, Besada D, Hillier S, et al. Combination HIV prevention for female sex workers: What is the evidence? Lancet 2015;385:72-87.

10. Vejella S, Patel SK, Saggurti N, Prabhakar P. Community collectivization and consistent condom use among female sex workers in Southern India: Evidence from two rounds of behavioral tracking surveys. AIDS Behav 2016;20:776-87.

11. Souverein D, Euser SM, Ramaiah R, Narayana Gowda PR, Sheshkar Gowda C, Grootendorst DC, et al. Reduction in STIs in an empowerment intervention programme for female sex workers in Bangalore, India: The Pragati Programme. Glob Health Action 2013;6:22943.

12. Durbar Mahila Samanwaya Committee (DMSC), Theory and Action for Health (TAAH) Research Team. Meeting Community Needs for HIV Prevention and More: Intsectoral Action for Health in the Sonagachi Red-Light area of Kolkata. Available from: http://www.who.int/social_determinants/resources/isa_sonagachi_ind.pdf. [Last accessed on 2016 Sep 18].

13. Swedeman D, Basu I, Das S, Jana S, Rotheram-Borus MJ. Empowering sex workers in India to reduce vulnerability to HIV and sexually transmitted diseases. Soc Sci Med 2009;69:1157-66.
14. Durbar Mahila Samanwaya Committee. Durbar: A Brief Profile. 4th ed. (Revised). West Bengal, India: Durbar Prakashani; 2011.

15. Cooperman NA, Shastri JS, Shastri A, Schoenbaum E. HIV prevalence, risk behavior, knowledge, and beliefs among women seeking care at a sexually transmitted infection clinic in Mumbai, India. Health Care Women Int 2014;35:1133-47.

16. Travasso SM, Mahapatra B, Saggurti N, Krishnan S. Non-paying partnerships and its association with HIV risk behavior, program exposure and service utilization among female sex workers in India. BMC Public Health 2014;14:248.

17. Jayaraman GC, Kumar S, Isaac S, Javalkar P, Gowda PR, Raghunathan N, et al. Demographic changes and trends in risk behaviours, HIV and other sexually transmitted infections among female sex workers in Bangalore, India involved in a focused HIV preventive intervention. Sex Transm Infect 2013;89:635-41.

18. Shukla P, Masood J, Singh JV, Singh VK, Gupta A, Asuri K, et al. Perception of sex workers of Lucknow city, Uttar Pradesh, India towards sexually transmitted infections. Indian J Public Health 2015;59:218-22.

19. Cai Y, Shi R, Shen T, Pei B, Jiang X, Ye X, et al. A study of HIV/AIDS related knowledge, attitude and behaviors among female sex workers in Shanghai China. BMC Public Health 2010;10:377.

20. Reed E, Erausquin JT, Biradavolu M, Servin AE, Blankenship KM. Non-barrier contraceptive use and relation to condom use behaviour by partner type among female sex workers in Andhra Pradesh, India. J Fam Plann Reprod Health Care 2017;43:60-6.

21. Chen Y, Li X, Zhang C, Hong Y, Zhou Y, Liu W, et al. Alcohol use and sexual risks: Use of the alcohol use disorders identification test (AUDIT) among female sex workers in China. Health Care Women Int 2013;34:122-38.

22. Mahapatra B, Lowndes CM, Mohanty SK, Gurav K, Ramesh BM, Moses S, et al. Factors associated with risky sexual practices among female sex workers in Karnataka, India. PLoS One 2013;8:e62167.