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HIV RELATED KNOWLEDGE AND PREVENTION AMONG FEMALE SEX WORKERS IN AGRA DISTRICT OF INDIA : A CROSS SECTIONAL STUDY

Community Medicine

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ABSTRACT

Background: Globally female sex workers (FSWs) are 13% more likely to be living with HIV than other women of reproductive age; In Asia, female sex workers are almost 30% more likely to be living with HIV, this study was conducted to assess knowledge of FSWs regarding HIV /AIDS in Agra district, India **Methods:** A cross-sectional study was conducted among 82 FSWs which were recruited through snowball sampling technique. **Results:** Majority of respondents were between 20-29 years of age. Most respondents were illiterate and single. 61.00% subjects had ever heard of HIV/AIDS, while 45.12% knew that HIV/AIDS was a sexually transmitted disease and 23.20% knew that HIV was the cause of AIDS. 22% had always used condom during last 10 intercourse. Regarding knowledge of transmission routes of HIV/AIDS, following results were found: both homo and heterosexual intercourse (37.80%), sharing of needles (48.80%), receiving infected blood (48.80%). 48.78% subjects said that regular condom use was necessary during each sexual intercourse to prevent HIV/AIDS, their knowledge and information regarding HIV/AIDS were mainly gained through friends/colleagues (36.60%) followed by manager (30.50%). Among those who regularly received HIV test, 20(24.40%) said they usually were tested at least once every 3 months. Thirty participants who were not regular in testing said the main reason was lack of information about where to receive the test (33.32%). **Conclusion:** The level of knowledge of FSWs regarding HIV/AIDS was not satisfactory. It is recommended to make them aware regarding transmission route, safe sex and regular condom use through outreach health campaign.

KEYWORDS

Female sex worker, Condom, HIV/AIDS, Sexually transmitted disease, Snow ball sampling.

INTRODUCTION

Around the world, the number of people living with HIV/AIDS continues to rise despite the fact that effective prevention strategies exist. India has the third largest HIV epidemic in the world, with 2.1 million people living with HIV.[1,2,3] India's HIV epidemic is driven by sexual transmission, which accounted for 86% of new infections in 2017/2018.[4] Female sex workers are highly prone to HIV due to their high risk sexual behaviour. On average, female sex workers are 13 times more likely to become infected with HIV than adults in the general population.[5] According to the union health ministry, there are 688,751 "registered" sex workers while National AIDS Control Organisation (NACO) estimates the population of sex workers to be 1.26 million. The National Aids Control Organization estimates that around 4.9% of FSWs in India are HIV-positive.[6] Female sex workers represent an important reservoir of sexually transmitted diseases (STDs), including HIV.[7] Increasing prevalence of HIV in sex workers is an indication of increasing probability of a generalized epidemic.[6]

Agra district is one of India's biggest tourist hubs, it also has the 'mandis', or brothels, in Mal ka Bazaar, Seo ka Bazaar, Basai and Sikandra which are as old as the ancient monuments this city is famous for. The number of tourists seeking sex with female sex workers in Asia is on the rise. In many cases, these female sex workers are simply unaware of the risk of HIV/AIDS, since most of them are young girls with limited education who have migrated from poor rural areas to towns or cities.[8] The prevalence of STDs and HIV in FSWs suggests a critical need for prevention efforts and health education. Here, we conducted a cross-sectional study to evaluate the HIV/ AIDS-related knowledge and prevention among female sex workers in Agra, India. The information gathered from this study will contribute to future construction and institution of effective strategies towards HIV/ AIDS prevention among this particular population.

MATERIAL AND METHOD:

This descriptive observational survey was conducted among female sex workers residing in red light area of Seo ka bazaar region in Agra district of Uttar Pradesh, India between July 2020 and April 2021. The inclusion criteria for the participants of the study were: 1) Self reported female sex worker ; and 2) working or residing at Seo ka bazaar red light area. Participants were recruited through the non-random snowball sampling technique. Firstly few female sex workers was recruited through direct communication with them by taking consent at their working place. These participants acts as seeds and they subsequently referred other FSWs from their peer circles. The exclusion criteria included: 1) Self reported HIV positive status; 2) Critically ill or suffering from end stage disease; 3) Lack of willingness to participate in the study. Data collection was done from August 2020 to January 2021. A total of 82 female sex workers participated in the study. Semi-structured questionnaire used in the study had three main areas of investigation. The first section focused on participants sociodemographic data, such as age, education, marital status, and experience in the sex work. The second part included questions concerning their knowledge of HIV/AIDS and the sources of information on HIV/AIDS. The third section focused on questions on frequency of undergoing HIV antibody tests and factors influencing such behavior. Multiple choice were used in the first three sections of the investigation, while in the last section mainly open-ended questions were used.

Before start of the interview, the participants were explained about the purpose of the study and sensitive nature of the questionnaire. Informed consent was taken and confidentiality was assured. we conducted semi-structured interviews in locally spoken, hindi language. Information collected on the study schedule was transferred on pre-designed classified tables and analyzed according to the aims and objectives and represented by tables analysed through MS excel.

Ethical clearance for the study was taken from the Institutional Ethical Clearance Committee, F.H. Medical College and Hospital, Agra. The study was not funded and has no-conflict of interests.

RESULTS:

Socio-demographic characteristics:

This descriptive study was conducted among Eighty two FSWs working at Seo ka bazaar, red light area in Agra city of Uttar Pradesh, India. The study found that 56.10% of FSWs were in the age group of 20 to 29 years. Mean age of respondents was 25.75 (±6.48) years ranging from 18 to 40 years. Twenty three participants (28.04%) had received primary and thirty two (39.02%) were illiterate. Thirty-four (41.46%) were single, and 23(28.04%) had regular sex partners. Seventy eight (95.12%) reported their last job just before joining Agra brothel was not in the sex industry, and only five(6.10%) participants said their last job was as a CSW. 6.10% of FSW had less than one year of experience in sex work while 29.26% had experience of more than 10 years. (Table:1)

Table 1: Socio-demographic characteristics of study population:

Variables	Number of respondents	Percentage
Age groups (years)		
15-19	6	7.30%

20-24	20	24.40%
25-29	26	31.70%
30-34	10	12.20%
35-39	12	14.60%
40-45	8	9.80%
Educational Status		
Illiterate	32	39.02%
Primary School	23	28.04%
Middle School	11	13.41%
High School	9	11.00%
Above High School	7	8.53%
Last Job before coming to Agra brothel		
Employee/ Laborer	50	61.00%
Self-employed	10	12.20%
Commercial sex worker	5	6.10%
Student	4	4.90%
Un-employed	10	12.20%
Other	2	2.40%
No answer	1	1.20%
Marital Status		
Single	34	41.46%
Cohabiting	23	28.04%
Divorced/separated	20	24.39%
Widowed	4	4.90%
No answer	1	1.21%
Experience in sex work		
<1 year	5	6.10%
1-5 years	17	20.74%
5-10 years	36	43.90%
>10 years	24	29.26%

HIV/AIDS related knowledge and sources of information:
61.00% subjects had ever heard of HIV/AIDS, while 45.12% knew that HIV/AIDS was a sexually transmitted disease and 23.20% knew that HIV was the cause of AIDS. Regarding knowledge of transmission routes of HIV/AIDS, the following results were found: both homo and heterosexual intercourse (37.80%), sharing of needles (48.80%), receiving infected blood (48.80%). 48.78% subjects said that regular condom use was necessary during each sexual intercourse to prevent HIV/AIDS, while 42.68% said that single unprotected sex could cause HIV/AIDS. fifty-two (63.41%) knew that HIV infection is a preventable disease, on the other hand, relatively few participants knew that contact with HIV positive people in daily life through sharing food and utensils (26.82%), or sharing a toilet (25.60%) would not put them at risk of getting HIV. Regarding attitude towards persons living with HIV/AIDS, 52.42% subjects said that they would not avoid a person with HIV/AIDS, while 68.29% said they would remain friendly with persons living with HIV/AIDS (Table 2).

Table: 2 Knowledge of HIV/AIDS among study population (N=82)

Knowledge regarding HIV/AIDS	Yes		No		Don't Know	
	Number	%	Number	%	Number	%
General questions						
Have heard of HIV/AIDS	50	61.00%	22	26.80%	10	12.20%
HIV is an STD	37	45.12%	30	36.58%	15	18.30%
Knows cause of HIV/AIDS	19	23.20%	54	65.80%	9	11.00%
Knowledge regarding transmission route						
Air	13	15.85%	17	20.73%	52	63.42%
Water	14	17.07%	20	24.40%	48	58.53%
Shaking hand	7	8.53%	15	18.30%	60	73.17%
Sharing a bathroom or toilet	6	7.32%	21	25.60%	55	67.08%
sharing food and utensils	5	6.10%	22	26.82%	55	67.08%
Sharing of needles	40	48.80%	12	14.60%	30	36.60%
Both Homosexual and Heterosexual sex	31	37.80%	31	37.80%	20	24.40%
Sex with CSWs only	5	6.10%	17	20.73%	60	73.17%
Receiving infected blood	40	48.80%	20	24.40%	22	26.80%
Single unprotected sex	35	42.68%	10	12.20%	37	45.12%
Mosquitoes/bed bugs	4	4.87%	10	12.20%	68	82.93%
Knowledge regarding diagnosis						
HIV/AIDS can be diagnosed	41	50%	25	30.48%	16	19.52%
Knowledge regarding treatment						
HIV/AIDS has treatment	16	19.52%	30	36.58%	36	43.90%
Knowledge regarding Prevention						
HIV/AIDS is preventable	52	63.41%	16	19.52%	14	17.07%
Vaccine against HIV/AIDS	11	13.41%	49	59.75%	22	26.82%
Regular condom use necessary to prevent HIV/AIDS	40	48.78%	25	30.48%	17	20.73%
Attitude regarding HIV/AIDS						
Will you avoid a person HIV/AIDS	43	52.42%	30	36.58%	9	11.00%
Will you remain friendly with person living with HIV/AIDS	56	68.29%	20	24.40%	6	7.31%

When asked about their sources of information regarding HIV/AIDS (Table 3),

Table:3 Sources of information on HIV/AIDS among study population (N=82)

Sources of information on HIV/AIDS	Multiple answers n (%)
TV	12(14.60%)
friends or colleagues	30 (36.60%)
Pamphlets	5 (6.10%)
newspapers / magazines	10 (12.20%)
Manager / "boss"	25 (30.50%)

participants reported that their knowledge and information regarding HIV/AIDS were mainly gained through friends or colleagues (36.60%) followed by Manager or boss (30.50%), TV(14.60%) ,newspapers or magazines (12.20%) and pamphlets (6.10%)

HIV antibody test and frequency of protected sex : Twenty participants (36.58%) reported that they had regularly (at least once every three months) undergone the HIV antibody test during the past 12 months (Table 4). Thirty participants (36.58%) who did not undergo testing regularly said the main reason for not doing so was because the "boss" did not take them to the clinic and they did not have enough information about where to receive the test (33.32%). Other reasons included financial problems (26.66%), feeling healthy (20%), and because they were newcomers who had been in Agra for less than six months (6.66%), fear of police (6.66%) and fear of a bad result (6.66%).(Table 4)

Table :4 Details on HIV antibody tests (N=82)

Undergoing for the test in the past 12 months (N=82)	
Regularly (at least once every three months)	20(24.40%)
Not regularly	30 (36.58%)
No answer	32(39.02%)
Reasons for not to undergo HIV test regularly (N=30)*	
Lack of information about the testing sector	10(33.32%)

Financial problems	8(26.66%)
Feel healthy	6(20%)
Just arrived in Agra brothel	2(6.66%)
Afraid of being arrested by the police	2(6.66%)
Afraid of a bad result	2(6.66%)

* open-ended questions

Eighteen (22%) of the participants said they always used condoms during last 10 sexual intercourse, while 25 (30.50%) of them said they never used condoms. The average frequency of condom use per ten sexual contacts was 4.6 with a range of 0 to 10. (Table 5)

Table :5 Condom use per last 10 intercourse among study population (N=82)

Never	25 (30.50%)
1-3 times	20 (24.40%)
4-6 times	7 (8.50%)
7-9 times	12 (14.60%)
Every time	18 (22.00%)

Condom use per last 10 intercourses Range=0-10, Mean=4.6, Median=5.5, Mode=10

DISCUSSION :

Female sex workers lacking Knowledge about HIV/AIDS are at an extremely high risk of acquiring HIV-1 (HIV). This vulnerable group is uniquely poised to amplify HIV transmission to the general population. Prostitution has been a visible part of Indian culture throughout history, but the devastating health consequences of the female sex trade were not documented until the 20th century. Thus, we conducted our research among female sex workers of Agra district to access the baseline of HIV/AIDS-related knowledge and frequency of preventive measures used by them.

In our study 30.50% of FSWs had sex without condoms while another study in China FSW population also found that 33.6% of the FSWs had sex without condoms.[9] Our results showed that participants knowledge of HIV/AIDS was mostly obtained from their colleagues. As they belong to a marginal community and work illegally, peers may be the most trustworthy agents. A previous result from the survey of Japanese CSW showed that the CSW's success in condom application is correlated to the learning from peers and the managers.[10] Peer education which has been successfully used with similar populations in other countries, seems to be an appropriate strategy for this target group.[11,12] In our study most common reason for not being regular in HIV antibody test was found to be lack of information about the testing sector followed by financial problem and they feels healthy, similar findings were found in another study done among thai FSWs in Japan.[13]

CONCLUSION :

The level of knowledge of female sex workers regarding various STDs including HIV/AIDS was not satisfactory. It is recommended to make them aware regarding transmission route, safe sex and regular condom use which can be done through health education campaigns by using mass media (i.e. TV, radio, newspaper) or by conducting out-reach camps giving emphasis to peer education.

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