

## Seroprevalence of Human Immunodeficiency Virus in Female Sex Worker in Yavatmal (Maharashtra) region

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### Abstract

India has the third highest number of estimated people living with HIV in the world. According to the HIV Estimations 2012, the estimated number of people living with HIV/AIDS in India was 20.89 lakh, with an estimated adult (15-49 age group) HIV prevalence of 0.27% in 2011. India has demonstrated an overall reduction of 57% in the annual new HIV infections among adult population from 2.74 lakh in 2000 to 1.16 lakh in 2011, reflecting the impact of various interventions and scaled-up prevention strategies under the National AIDS Control Programme (NACP). This HIV infection is not only common in males but also in females and in female commercial sex workers facing the major problem. Hence the present study was conducted to study the impact of Targeted Interventions on HIV in female sex workers.

A total of 351 commercial sex workers were screened for HIV. Seroprevalence of HIV in female sex workers was found to be 0.28%.

**Conclusion:** The seroprevalence of HIV in high risk group can be reduced by the effective implementation of Targeted Intervention Programme of NACO.

**Key words:** Female sex workers, HIV, AIDS, NACO.

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### Introduction

HIV-1 infection followed by AIDS spread worldwide during the 1980s. India has had a sharp increase in the number of HIV infections, from a few thousands in the early 1990s to an estimated 3.8-4.6 million children and adults living with HIV/AIDS in 2002 while in 2003, the country had an estimated 4.8 million HIV infected cases.<sup>1</sup> According to the HIV Estimations 2012, the estimated number of people living with HIV/AIDS in India was 20.89 lakh in 2011. The adult (15-49 age group) HIV prevalence at national level has continued its steady decline from estimated level of 0.41% in 2001 to 0.27% in 2011. But still, India is estimated to have the third highest number of estimated people living with HIV/AIDS, after South Africa and Nigeria (*UNAIDS Report on the Global AIDS epidemic 2010*).<sup>2</sup> Not only males but females and among females, commercial sex workers facing the burnt. In India the HIV epidemic is mostly heterogeneous and more than 90 percent of the infections were acquired through the people having multiple partners and not practicing safe sex practices.

Sexual transmission of HIV is the most dominant route of infection in the country and is concentrated

among the high risk group particularly female sex worker (FSW), their clients/partners, Men having sex with men (Transgender/Hijras), intravenous drug users.<sup>3</sup> Female sex worker are at the core in transmitting the disease. Very few studies have been done on this in Yavatmal region of Maharashtra, India. Since female sex workers are 14 times more vulnerable to other high risk groups. This study was conducted to see the seroprevalence and impact of targeted intervention on HIV in female sex worker in this area.

### Aims and objective

To study seroprevalence of HIV among FSWs and impact of targeted intervention on HIV in FSWs.

### Material and Methods

This study was carried in Integrated Counseling and Testing Centre (ICTC) department of Microbiology Shri Vasantrao Naik Government Medical College and Hospital, Yavatmal with NGO Gramin Samasya Mukti Trust (GSMT). A total of 351 FSW from the period of January 2014 to December 2015 were studied. Client brought to us by GSMT to VCTC were counseled by counselor and after pretest counseling blood sample were subject for HIV testing according to NACO guidelines. Every non-reactive FSW were tested repeatedly every 6 monthly.

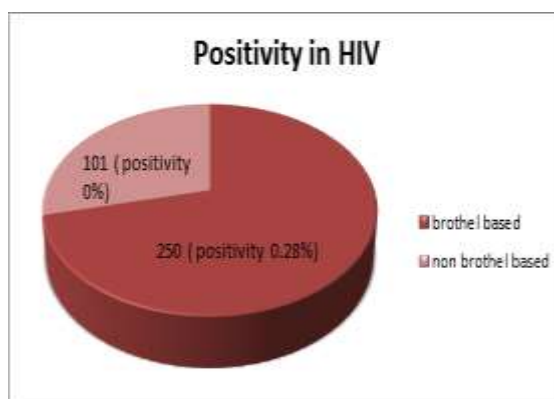
### Observation

Blood sample from 351 FSW were collected for screening of HIV 1 & HIV 2 infections, only one sample was reactive for HIV 1 while none of the sample was reactive for HIV 2.

**Table 1: Positivity of HIV in FSW**

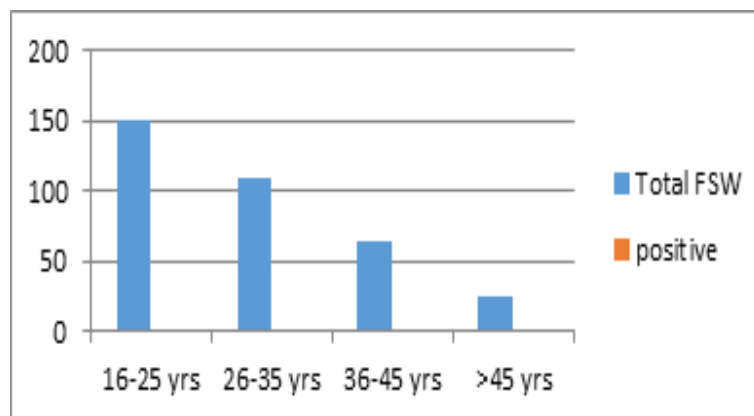
Base of FSWs	Number	Positive	%
Brothel based	250	1	0.28
Non-brothel based	101	0	0
Total	351	1	0.28

Of the 351 FSW, 250 (71.23%) were brothel based while 101(28.77%) were non- brothel based. Single positive case we found that belongs to brothel based.



**Table 2: Age-wise distribution of FSWs**

Age ( years)	FSWs	%	Positive	%
16-25	151	43.02	1	0.28
26-35	110	31.34	0	0
36-45	65	18.52	0	0
>45	25	7.12	0	0
Total	351	100	1	0.28



Of the 351 female sex workers, 151(43.02%) were aged 16-25years, 110 (31.34%) were aged 26-35years, 65 (18.52%) were aged 36-45 years and 25 (7.12%) were >45 years. Only one positive case was found and that is from age group 16-25 years.

**Table 3: literacy rate of FSW**

Base	Illiterate	Primary education	Secondary and higher secondary	Total
Brothel	235	15	0	250
Non-brothel	02	43	56	101
Total	237	58	56	351

Out of 250 brothel base FSW 235(94%) were illiterate and only 15(6%) were minimally educated (able to write their name). Out of 101 non-brothel base FSW most of them were educated (43 were upto primary school and 56 upto secondary and higher secondary school) and only 2 were illiterate.

Out of 351 FSW, 157 (44.73%) were married but separated from husbands, 108 (30.77%) married and also maintaining relationship with their husbands, 42 (11.97%) were unmarried and 44 (12.53%) were widow.

## Discussion

In India, Female Sex Workers (FSWs), Men who have sex with Men (MSMs), Transgenders/ Hijra and Injecting Drug Users (IDUs) have been identified as the core HRGs. These populations are at high-risk of HIV infection and also play a significant role in the transmission of HIV infection to general population through the sexual networks. Hence, prevention through focused interventions amongst high risk groups and their sex partners is of extreme importance for controlling HIV epidemic in the country (annual report 12-13). Apart from HRGs other risk groups are long distance truckers and migrant workers. Since these groups serve as conduits of infection from HRGs to general population, they are also known as bridge populations. These groups also play a significant role in the transmission of infection from high prevalent areas to hitherto low infection areas.<sup>2</sup>

Therefore, focused preventive intervention projects among HRGs as well as bridge populations are supported under the National AIDS Control Programme (NACP). These intervention projects are known as the Targeted Interventions (TIs).

We observed that prevalence of HIV among the brothel based FSW in Yavatmal region was 0.28% (1/250). While a study done by Singh M et al in Nagpur region seroprevalence of HIV in FSW was 2% which is higher than our study.<sup>4</sup> The 42% HIV reactivity among FSW was noted by Desai et al which is much more higher than our study.<sup>5</sup> According to HSS Annual report 2008-09, seropositivity among FSW in Yavatmal region was high that is 14.4 %.<sup>6</sup> Also at national level there has been decline in HIV prevalence in FSW (5.06% in 2007 to 2.67% in 2011)<sup>7</sup>. There is also steadily decline in prevalence of HIV among FSW in Maharashtra (54.29% in 2003 to 6.89% in 2011)<sup>8</sup>.

The HIV epidemic continues to be heterogenic in geographical spread and across different typologies. Reiterating India's success story on HIV/AIDS control, the HIV prevalence trend has witnessed significant decline among antenatal clinic attendees considered proxy for general population (0.49% in 2007 to 0.35% in 2012- 2013), Female Sex Workers (5.06% in 2007 to 2.67% in 2011) and Men who have Sex with Men (7.41% in 2007 to 4.43% in 2011), and stable trends have been recorded among Injecting Drug Users

(7.23% in 2007 to 7.14% in 2011) at the national level.(annual report 13-14)<sup>9</sup>

We found only one HIV reactive FSW and that is from age group 16-25 years which was similar to the findings of Behavioral Surveillance Survey (BSS)<sup>10</sup>. Similar findings were noted in studies from Kolkata and Nepal that most HIV affected victims were young FSW compared to older<sup>11</sup>. This may be because of professional immaturity of younger sex workers who might have joined the profession recently, leading to more incidences of unprotected sex with their clients.<sup>1</sup>

In our study 94% of brothel base FSWs were illiterate and only 6% had primary education, while in non brothel base FSWs only 2% were illiterate, 44% had primary education and 55% had secondary education. Like our study Gedam et al and Pallavi et al also reported that majority of FSWs were illiterate<sup>3,12</sup>. Though majority of FSWs were illiterate but prevalence of HIV is very less (0.28%) among FSWs in our study, this may be because of implementation of Targeted Interventions (TIs) by NACO and various efforts taken by NGO; constant visits to FSW site; insisting use of condoms (male and female condoms); provision of clean needle and syringes; behaviour change communication, linkages to testing, care & support services<sup>13</sup>.

Similar to the study by Pallavi et al , majority of the FSW from our study were single (unmarried, previously married but now separated from their husbands, divorced and widowed) this may be because of the earning potential in sex work for poor and illiterate women is larger to what they could earn through other types of work.<sup>12</sup>

Currently, the epidemic remains concentrated in specific high risk populations and their sexual partners. Therefore, prevention through focused interventions amongst these groups is of extreme importance for controlling HIV epidemic.<sup>13</sup>

## Conclusion

The main objectives of National AIDS Control Programme phase IV (NACP-IV, from 2012 -2017) are to reduce new infections and provide comprehensive care and support to all People Living with HIV (PLHIV) and treatment services to all those who require it. This can be achieved by effective implementation of Targeted Intervention Programme of NACO.

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