

Behavioral Surveillance Survey in Maharashtra



Family Health International (FHI). All rights reserved. This report may be freely received, quoted, reproduced, or translated in full or in part, provided the source is acknowledged. The views expressed in this document do not necessarily reflect the views of FHI or United States Agency for International Development (USAID). The mention of specific company or product implies no endorsement and does not suggest that they are recommended by FHI or USAID over others of a similar nature that are not mentioned. This report was compiled in 2001.

For more information on the different studies contact:

AVERT Society
AcWorth House
R.A. Kidwai Marg
Wadala (West) - 400 031
info@avertsociety.org

Family Health International
Opposite Convention Hall
Hotel Ashok, Chanakyapuri
New Delhi - 110 021
fhiindia@fhiindia.org

Funded by United State Agency for International Development (USAID)
through the AIDS Prevention and Care (IMPACT) Project.
Cooperative Agreement # HRN-A-00-97-00017-00

Preparatory Studies

Behavioral Surveillance Survey in Maharashtra

Study conducted by
ORG Center for Social Research (ORG CSR)
with technical assistance from
Family Health International

**Funded by
United States Agency for International Development (USAID)**

Foreword	<i>i</i>
Introduction	<i>iii</i>
Abbreviations	<i>vi</i>
Executive Summary	1
Background	7
Methodology	8
Key Findings	13
Conclusions and Recommendations	31
Appendix: Indicators at a Glance	33
Appendix: TWG Members	37



United States Agency For International Development

Five Decades of U.S.-India Cooperation

FOREWORD

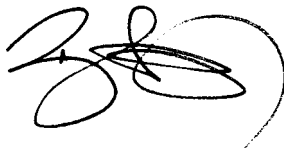
Since 1951 The United States Agency for International Development (USAID) has been a significant partner to India's development success. Improving living conditions for India's population has called for some of the largest public health programs undertaken anywhere in the world. Today, USAID is at the forefront of India's interventions to control the emergence of diseases like HIV/AIDS. USAID initiated the AIDS Prevention and Control (APAC) project in Tamil Nadu in 1995 to expand and improve the prevention and control of HIV/AIDS and sexually transmitted diseases. In 1999, USAID expanded its HIV/AIDS initiatives into the state of Maharashtra, which accounts for more than 50 percent of all reported HIV and AIDS cases in India. As a result, AVERT, a seven-year HIV-AIDS Prevention and Control Project for Maharashtra, was initiated on December 1, 2001.

AVERT has been established through a tripartite agreement between Government of India (NACO), Government of Maharashtra and USAID to implement project activities along with Maharashtra State AIDS Control Society (MSACS), Mumbai District AIDS Control Society (MDACS), other national/ international agencies, Non Government Organizations (NGOs), Community Based Organizations (CBOs) and other institutions in the development sector. The project aims to provide a comprehensive and holistic program including targeted interventions for high-risk groups.

The goal of AVERT is to reduce the impact of HIV/AIDS on the social, economic and human development in Maharashtra. The main objective of the project is to increase use of effective and sustainable responses to reduce

the transmission and mitigate the impact of STI/HIV/AIDS and related infectious diseases in Maharashtra. AVERT will work in Mumbai and throughout many Districts in Maharashtra. The project will focus on a variety of high risk groups including: transport workers/truckers, slum based young people, organized/un-organized business/industrial sectors, intravenous drug users as well as youth and the general population.

In order to provide inputs to the initial planning being undertaken for the AVERT project, five preparatory research studies were carried out during 1999-2001. These studies were conducted in selected areas of Maharashtra and include major commercial sex access points; risk behaviors of the key target groups; the quality of STI/HIV health care facilities; condom supply; and communication needs of the people. The studies were conducted by national research agencies with technical assistance by FHI and funding from USAID. MSACS and MDACS provided all their help and support in implementing the studies. Many distinguished technical experts, as members of Technical Working Groups, provided their useful inputs and guidance to the research agencies for ensuring high quality outputs. On behalf of USAID, I thank all who made great contributions during implementation of these preparatory studies.

A handwritten signature in black ink, appearing to read 'BethAnne Moskov', with a large, stylized flourish extending to the right.

BethAnne Moskov

Team Leader (Infectious Diseases), PHN, USAID

DIRECTORATE OF HEALTH SERVICES, MUMBAI GOVT. OF MAHARASHTRA



Dr. Subhash Salunke
D.P.H., D.I.H., M.D.
DIRECTOR GENERAL

Tel. No. : 2621006 (P), 2621031-35 (O)
Fax : 022-2674480/ 2622155
E mail : dir001@vsnl.net/dir1201@vsnl.com
Telegram : "DIRHEALTH"
Govt. Dental College Bldg., 4th Floor,
St. George's Hospital Compound,
Mumbai - 1

INTRODUCTION

The first AIDS case in Maharashtra was detected in Mumbai in May 1986. Today, the State records the highest incidence of HIV in India, accounting for over 50 percent of all HIV/AIDS cases in the country. According to National AIDS Control Organization (NACO), as far as the AIDS epidemic is concerned the State is categorized as Concentrated – Stage I, with HIV prevalence rate in antenatal clinics exceeding one percent (2.4%). Recent evidences reveal that HIV infection is rapidly spreading from high-risk groups to low risk population groups. In 1999, HIV seroprevalence among STI patients in Maharashtra was 19 percent. In Mumbai, prevalence of HIV among STI patients had risen in 1999 to 56 percent from one percent in 1987.

Given the complexity of multi-dimensional issues surrounding HIV, such as awareness, behavioral change, gender empowerment, greater involvement of people living with HIV/AIDS and elimination of stigma and discrimination, it is immensely important for all of us in the fight against the epidemic to mainstream a right-based development approach. HIV/AIDS needs to be tackled not only as a public health problem but also as one of the most important development issues in Maharashtra.

During the last decade Maharashtra State AIDS Control Society (MSACS) and Mumbai District AIDS Control Society (MDACS) implemented a number of activities as part of National AIDS Control Program under the leadership of National AIDS Control Organization (NACO) for the prevention of HIV/STI. Activities include awareness generation, behavior change communication, condom promotion, and management of sexually transmitted diseases (STIs) including the training of health care providers.

However, it was felt that much more efforts need to be made for confronting the emerging generalized epidemic in the State. As a result, Government of India (NACO), Government of Maharashtra and United States Agency for International Development (USAID) initiated AVERT, a HIV/AIDS project in Maharashtra, to implement project activities along with MSACS, MDACS, other national/international agencies, non-governmental organizations, community based organizations and other institutions in the development sector. The basic objective of AVERT is to ensure increased use of effective and sustainable response to reduce the transmission and mitigate the impact of STI/HIV/AIDS and related infectious diseases in Maharashtra.

In order to provide inputs to the strategic planning being undertaken for the AVERT project, five preparatory research studies were carried out during 1999-2001. These studies were funded by USAID through Family Health International (FHI), and conducted by premier national research agencies, with technical assistance from FHI. These studies included the following:

1. Mapping of Commercial Sex Access Points and Relevant Service Outlets in Maharashtra, conducted by the Social and Environmental Research Division (SERD), Blackstone Market Facts.
2. Behavioral Surveillance Survey in Maharashtra, conducted by ORG Center for Social Research (ORG CSR), a division of ORG-MARG.
3. The Maharashtra Condom Market: Product Quality and Supply Study, conducted by TNS MODE.
4. Health Care Provider Survey in Maharashtra, conducted by Indian Market Research Bureau (IMRB).
5. Communication Needs Assessment in Maharashtra, conducted by Social and Environmental Research Division, Blackstone Market Facts.

All these studies provide useful insights into the existing scenario in the State in relation to major commercial sex access points, risk behaviors of the key target groups, the quality of STI/HIV health care facilities, condom supply and communication needs of the people. More importantly, it provides information at the beginning of the AVERT project. It will be very important

to repeat these studies at periodic intervals to assess the change in various key project indicators over time.

It is expected that these study reports will also be very useful for all agencies and individuals involved in the fight against STI/HIV/AIDS elsewhere in the country.

Dr. S.R. Salunke
Project Director,
Maharashtra AIDS Control Society

ABBREVIATIONS

HIV	Human Immune-Deficiency Virus
AIDS	Acquired Immuno Deficiency Virus
STI	Sexually Transmitted Infections
PLHA	People Living with HIV/AIDS
BSS	Behavioral Surveillance Survey
WHO	World Health Organization
NACO	National AIDS Control Organization
MSACS	Maharashtra State AIDS Control Society
MDACS	Mumbai District AIDS Control Society
FSWs	Female Sex Workers
FSWs-bb	Brothel Based Female Sex Workers
FSWs-nbb	Non-Brothel Based Female Sex Workers
MSM	Men who have Sex with Men
LTW	Local Transport Workers
ORG CSR	ORG Center for Social Research
ISSA	Integrated System for Survey Analysis package
STATA	Inter-Cooled (6.0) package
USAID	United States Agency for International Development
FHI	Family Health International

The present summary report gives the key findings and conclusions of the HIV/AIDS Behavioral Surveillance Survey (BSS), which was funded by United States Agency for International Development (USAID), and conducted by ORG Center for Social Research (ORG CSR), with technical assistance from Family Health International (FHI). The study was conducted between October 1999 and March 2001 in selected areas of Maharashtra, including urban areas of Mumbai, Pune, Thane, and both urban and rural areas of Sangli. The main objective of the Behavioral Surveillance Survey was to obtain trend data on HIV-related risk behaviors among selected population groups.

Methodology

Six sub-population groups were identified as the target respondent groups for the first round of BSS in Maharashtra: (1) brothel based female sex workers (FSWs-bb), (2) non-brothel based female sex workers (FSWs-nbb), (3) men who have sex with men (MSM), (4) local transport workers aged 20-49 years (LTWs – taxi and auto rickshaw drivers and handcart pullers), (5) single male slum youth aged 15-19 years (youth 15-19), (6) single male slum youth aged 20-24 years (youth 20-24).

A two-stage cluster sampling approach using probability sampling methods was used to ensure representative estimation of indicators for each target group. Sampling was conducted separately for each of the four survey sites, allowing for site-specific estimates of indicators. However, in this report summary results covering all the sites are reported. Details by site are given in the full report.

Key findings

Brothel based FSWs

A total of 1072 brothel based FSWs, 268 at each study site, were interviewed during the survey.

Approximately 23 percent of the FSWs-bb in Mumbai had more than 40 clients in the previous week before the survey. The mean number of partners in the previous week was 13, with those in Mumbai reporting a higher number of clients. Only seven percent of the FSWs-bb reported that they had any non-paying client during the previous week before the survey. Condom use between FSWs-bb and their clients was reported to be fairly high across all four study locations. Nearly 77 percent of the FSWs-bb reported condom use during the previous sexual encounter with a paying client and 74 percent of the FSWs-bb reported consistent condom use with all their paying clients during the previous one month before the survey. Twenty-two percent of brothel based sex workers reported genital discharge in the previous 12 months, and 15 percent reported genital ulcers. Ninety percent knew that consistent condom use could prevent HIV infection. Approximately six percent of the FSWs-bb interviewed in Mumbai reported injecting drug use within the previous 12 months.

Non-brothel based FSWs

Non-brothel based FSWs included street based as well as bar based female sex workers. A total of 542 non-brothel based FSWs, 270 in Mumbai and Thane and 272 in Pune and Sangli, were interviewed during the survey. Most of the non-brothel based FSWs had one or two clients on the previous working day with a mean of nine in the previous week. Nearly 31 percent of the FSWs-nbb had at least one non-paying partner during the previous seven days. Around 69 percent of the FSWs-nbb reported condom use during their previous sexual encounter and 64 percent of the FSWs-nbb reported consistent condom use with all their paying clients during the previous one month before the survey. However, condom use with non-paying partners was considerably lower. Only 32 percent of FSWs-nbb reported using condoms consistently with all their non-paying partners in the previous 12 months. Considering the reported shift of male clients away from the brothel-based sex industry into the more informal non-brothel-based sex exchange, this is cause for concern. Awareness of STIs and their symptoms was found to be relatively low across all four study sites. Twenty-five percent

reported genital discharge in the previous 12 months, and 22 percent reported genital ulcers. As high as 80 percent of the FSWs-nbb knew that consistent condom use is a method for preventing HIV infection.

Local transport workers

A total of 1446 taxi/auto drivers/handcart pullers aged 20-49 years, approximately 360 at each study site, were interviewed during the survey. Only seven to ten percent of the LTWs reported sex with a commercial partner across the four study sites, with the majority of those reporting only one commercial partner during the previous 12 months before the survey. Between 11 percent and 16 percent of the LTWs reported sex with a non-regular partner during the previous 12 months. The majority had only one non-regular partner during that time period. Among those who reported sex with commercial partners, the majority (approximately 90 percent) reported using a condom on the previous time. Approximately 72 percent of the LTWs, who had commercial sex in the previous year, reported using condoms consistently with all their commercial partners during the previous 12 months. Consistent condom use with non-regular partners in the previous 12 months was only 27 percent. Approximately four percent of LTWs reported genital discharge and 9.2 percent reported a genital ulcer. Nearly 70 percent of the local transport workers correctly cited two or more methods of preventing HIV.

Men who have sex with men

A total of 626 MSM, 300 in Mumbai and Thane and 326 in Pune and Sangli, were interviewed during the survey. One-fourth of the MSM reported having anal sex (receptive/insertive) with a male partner in exchange for money. Most reported multiple male commercial sex partners in the previous one month before the survey. The mean number of male commercial partners in the previous month was 4.4 for the whole group. As high as 92 percent of MSM had more than one male anal sex partner (both commercial and non-regular partners included) during the previous one month before the survey. About 60 percent of the MSM, who had anal sex with a commercial

partner in the previous month, reported using a condom on their last sexual contact but only one-third of them used a condom consistently with all male commercial partners during the previous six months. The condom use patterns with non-regular partners were very similar to the patterns with commercial partners. Nearly 19 percent of MSM in Mumbai and Thane reported anal ulcer/sore in the previous six months.

Unmarried slum youth aged 15-19 years

A total of 1761 single male slum youth aged 15-19 years, about 440 at each study site, were interviewed during the survey. Overall, only 15 percent of the youth aged 15-19 had ever had sexual intercourse. Only eight percent of the 15-19 year old youth reported having sex during the previous 12 months before the survey. Fewer than two percent of the youth aged 15-19 years reported more than one sexual partner (of any type) in the previous 12 months. Seventy-one percent reported consistent condom use during commercial sex, but only 33 percent with non-commercial partners. Nearly 60 percent of them could identify at least two of the three primary HIV prevention methods.

Unmarried slum youth aged 20-24 years

A total of 2238 single male slum youth aged 20-24 years, approximately 560 at each study site, were interviewed during the survey. Overall, only one-third of the youth aged 20-24 years reported ever having sexual intercourse. Only 15 percent of the 20-24 year old youth reported having sex during the previous 12 months before the survey. Approximately five percent of the youth aged 20-24 years reported more than one sexual partner (of any type) in the previous 12 months. Sixty-six percent reported consistent condom use during commercial sex, but only 30 percent with non-commercial partners. However nearly 70 percent of them could identify at least two of the three primary HIV prevention methods.

Conclusions

- Brothel based FSWs were very vulnerable because of their high partner turnover (mean of nine to 13 clients per week, with more in Mumbai), and high reported levels of STIs. Nearly 22 percent of brothel based sex workers reported genital discharge in the previous 12 months, and 15 percent reported genital ulcers in the previous 12 months. These percentages were considerably higher in Mumbai than in other sites.
- Non-brothel based FSWs were also vulnerable because they were less likely to be reached by interventions, and they had less access to condoms or STI treatment. They were less likely to use condoms with non paying partners which put them and their partners at greater risk.
- Although condom use among sex workers and their clients was relatively high, indicating some success of intervention projects, between one-quarter and one-third of sex workers did not use condoms consistently. The levels were even lower with non-paying partners. This left considerable opportunity for HIV transmission.
- MSM reported extremely high levels of commercial sex, partner exchange and unprotected anal sex. More than a quarter of the men surveyed had multiple commercial partners in the previous one month, and over 90 percent had multiple anal sex partners within the previous one month.
- Consistent condom use in the previous six months among MSM was only around 30 percent, indicating high vulnerability to HIV infection.
- MSM appeared to have low levels of knowledge about HIV and did not appear to have much exposure to HIV interventions.
- Nearly 20 percent of MSM reported anal ulcers/sores in the previous 12 months. Genital ulcers are known to greatly enhance the possibility of HIV transmission. Thus, these potentially high levels

of ulcerative STIs represented a high-risk situation for MSM and their partners.

- Approximately eight percent of male LTWs reported sex with a commercial partner in the previous 12 months and 11 percent reported sex with a non-regular partner during the previous 12 months (exclusive of commercial partners).
- Consistent condom use between male transportation workers and their commercial partners was 70 percent, but with non-regular partners it was only 30 percent, indicating potential risk of HIV transmission.
- Fewer than three percent of 15-19 year old male youth reported sex with a commercial partner in the previous 12 months; however, approximately six percent of 20-24 year olds had sex with a commercial partner in the previous 12 months. A greater percentage (eight percent of 15-19 year olds and 15 percent of 20-24 year olds) had multiple sexual partners in the previous 12 months. Only two-thirds reported consistent condom use with commercial partners and 30 percent with non-commercial partners, making those who were sexually active particularly vulnerable to HIV infection.
- The fact that six percent of brothel-based sex workers in Mumbai reported having injected illicit drugs within the previous 12 months was cause for concern. This represented a potential threat, not only to the sex workers, but to the network of injecting drug users and their sexual partners.
- A surprisingly high percentage of all target groups knew someone who was infected with HIV, and also knew someone who had died of AIDS. Among transportation workers, 35 percent (overall) knew someone who was infected with HIV. In Pune and Sangli, 16 percent of MSM reported having a close friend or relative who had died of AIDS. This provided strong evidence that the HIV epidemic in Maharashtra was already very widespread.

Maharashtra has reported the most HIV and AIDS cases in India and has the highest documented HIV prevalence level in numerous population groups. According to National AIDS Control Organization (NACO), as far as the AIDS epidemic is concerned the state is labelled as Concentrated – Stage I with an ANC/HIV prevalence rate of more than one percent (2.4 percent).

United States Agency for International Development (USAID), in collaboration with Maharashtra State AIDS Control Society (MSACS) and Mumbai District AIDS Control Society (MDACS), initiated a sexual health project (AVERT) in selected areas of the state of Maharashtra. USAID is supporting MSACS and MDACS to further develop and expand their interventions to reduce the transmission of HIV/STI and mitigate the impact of HIV infection based on the guiding principles laid down by NACO. USAID supported a Behavioral Surveillance Survey (BSS) and other preparatory research studies in Maharashtra. The purpose of the BSS was to provide repeated measures in behavioral indicators for observing trends in high-risk behaviors among specific sub-populations.

USAID engaged Family Health International (FHI) to conduct the Maharashtra preparatory research studies, and FHI in turn contracted ORG Centre for Social Research (ORG CSR) to implement the BSS in Maharashtra.

Objectives

The basic objectives of the BSS were:

1. To provide information about the level of HIV related risk behavior in the selected population.
2. To identify specific behaviors in need of change.
3. To provide evidence of the potential for epidemic spread through different pathways.
4. To provide indicators to evaluate specific programmatic areas.
5. To provide data for advocacy and policy development.

Study population

The population groups selected for the survey included brothel based female sex workers (FSWs-bb); non-brothel based female sex workers (FSWs-nbb); men who have sex with men (MSM); local transport workers aged 20-49 years (LTWs); single male slum youth aged 15-19 years (youth 15-19) and single male slum youth aged 20-24 years (youth 20-24). Target groups FSWs-bb, FSWs-nbb and MSM were chosen as the most high-risk groups because of the likelihood of high sexual partner exchange. Population groups LTWs, youth 15-19 and youth 20-24 were considered as likely clients of sex workers, and therefore as a potential “bridge” between high-risk groups and the general population.

Table 1

Population Groups Studied in the BSS
<p><u>Female sex workers (FSWs)</u></p> <p>Women engaged in selling sex, full time or part time, as a means of earning a living, sampled from brothel as well as non-brothel settings. Non-brothel sex workers sampled from among women soliciting sex at various pick-up points on the streets (such as bus stops, parks, cinema halls, markets) and those working in dance bars.</p>
<p><u>Men who have sex with men (MSM)</u></p> <p>Men who have had oral, manual or anal sex with other men in the previous six months. The survey included only those men who were accessible through the exercise that mapped locations where MSM congregate (such as MSM pick-up points). These do not represent all MSM.</p>
<p><u>Local transport workers (LTWs)</u></p> <p>LTWS are defined as taxi/auto-rickshaw drivers and handcart pullers aged 20-49 years. The sample was predominantly taxi drivers.</p>
<p><u>Single slum youth aged 15-19 years and 20-24 years</u></p> <p>Slum male youth aged 15-19 years and 20-24 years who had never married or lived with any sexual partner sampled from households in slum locations.</p>

Study area

The study was conducted in the following areas of Maharashtra

- Urban area of Mumbai
- Urban area of Thane
- Urban area of Pune
- Entire district of Sangli

Sample size and design

The required sample sizes for all the target groups were calculated based on the standard formula. The sample sizes were large enough to detect a 15 percent change in behavioral indicators among all target groups except youth, where the sample size was set to measure a five percent change. Calculation of sample sizes for each target group was based on a 95 percent level of significance, with 80 percent power assuming a design effect of two. A two-stage cluster sampling approach was adopted for each target group.

A mapping exercise was undertaken across all study sites to generate a sampling frame for each target group. The ORG CSR team collected mapping information for youth and transport workers whereas for the remaining target groups the information was obtained from another research agency.

Table 2 presents details of sample sizes achieved for different target groups during the preparatory BSS in Maharashtra.

Training of interviewers and pilot survey

A total of 32 interviewers and eight team supervisors were recruited to conduct the fieldwork of the first round of BSS in Maharashtra. Nearly all of them had previous experience working on similar research projects with ORG CSR in the recent past. A 10-day intensive training workshop was organized by the ORG CSR research team to train them thoroughly on scientific interview techniques and appropriate recording of responses. A

Table 2

Sl. No	Achieved Sample Sizes for Different Target Groups											
	Mumbai		Thane		Pune		Sangli		Total			
Target groups	Target sample size	Achieved sample size	Target sample size	Achieved sample size	Target sample size	Achieved sample size	Target sample size	Achieved sample size	Target sample size	Achieved sample size	Target sample size	Achieved sample size
1 FSW-bb	267	268	267	268	267	268	267	268	1068	1072		
2 FSW-nbb	Target sample size: 267		Target sample size: 267		Target sample size: 267		Target sample size: 267		534		542	
	Achieved sample size: 270		Achieved sample size: 272		Achieved sample size: 272		Achieved sample size: 272					
3 MSM	Target sample size: 300		Target sample size: 300		Target sample size: 300		Target sample size: 300		600		626	
	Achieved sample size: 300		Achieved sample size: 326		Achieved sample size: 326		Achieved sample size: 326					
4 LTW	355	360	355	360	355	366	355	360	1420	1446		
5 Youth 15-19 yrs.	430	440	430	440	430	440	430	441	1721	1761		
	Achieved sample size: 440		Achieved sample size: 440		Achieved sample size: 440		Achieved sample size: 440					
6 Youth 20-24 yrs.	541	560	541	559	541	560	541	559	2165	2238		
TOTAL												7685

sensitization workshop was carried out on sex and sexuality by a leading social scientist in Maharashtra. Some experts were invited as resource people to lead discussions on issues such as HIV/AIDS, STIs and on-going prevention activities.

Once the training workshop was completed, a pilot exercise was undertaken to test the entire survey process. It involved a thorough examination of survey instruments, sampling designs, interviewer's guide, fieldwork plans and roles of supervisors in quality control.

NGO networking

It was very important to carry out an intensive networking exercise with all the key NGOs who were working among the target groups (particularly among FSWs and MSM) so as to gain access to these communities that were otherwise difficult to reach. FHI/USAID formed a BSS Task Force Group representing senior professionals of some of the main NGOs working among FSWs and MSM. The ORG CSR research team along with the task force members identified key NGOs across the four survey sites and devised a detailed plan for the networking exercise.

Fieldwork

Fieldwork was initiated in early May 2000 and was completed by mid-October 2000. Overall, eight field teams (two each for youth, LTWs, FSWs and MSM), each consisting of four interviewers and one supervisor, carried out the fieldwork across four study sites. The project coordinator as well as the core research team of ORG CSR made several field visits to ensure the quality of survey data. Supervisors made at least 25 percent spot checks to ensure completeness and accuracy of the questionnaires. Detailed scrutiny (checking) of the completed questionnaires and coding of the questionnaires was initiated by the city supervisors during the fieldwork itself.

The data collection process adhered to strict ethical standards. The purpose of the study was explained to the respondents. The interview commenced

after obtaining informed consent from the respondent. If in the middle of an interview the respondent refused to answer further, a replacement was made for the incomplete call.

Data management and data analysis

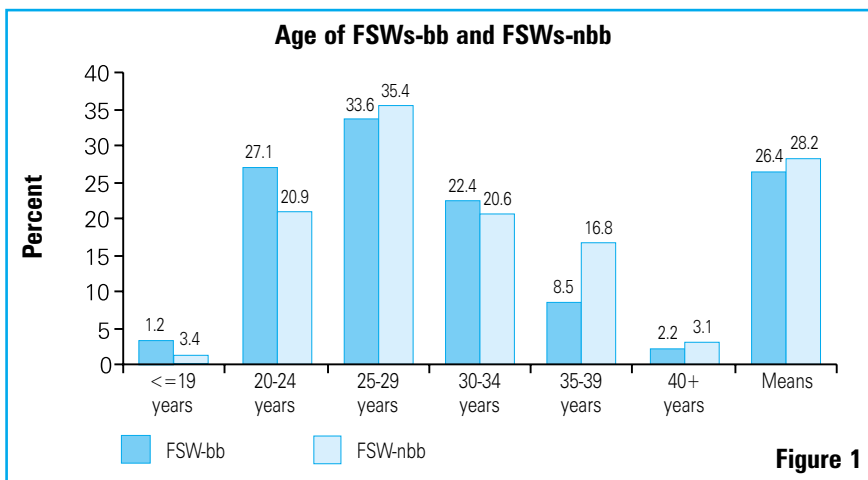
Data were entered in the Integrated System for Survey Analysis (ISSA) package. Care was taken to check errors and inconsistencies to avoid any difficulty at the stage of data analysis. First, verifying a sample of filled-in questionnaires checked the accuracy of the data entry. Then, range and consistency checks were carried out for values of all the variables. Data were also checked for “missing items” prior to commencement of the data analysis.

Data were analyzed using the STATA Inter-Cooled (6.0) package. The advantage of this statistical package was that cluster and weighted analysis could be done quickly.

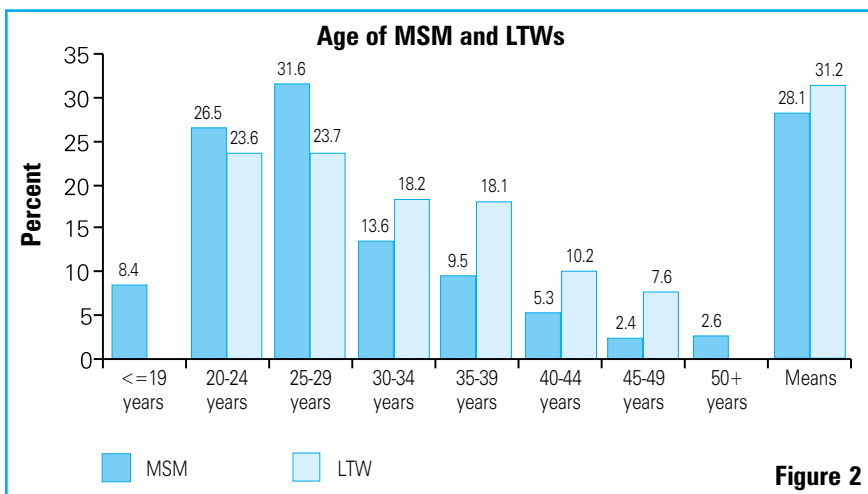
Demographic and social characteristics of respondents

Age

Overall, nearly three-fifths of FSWs-bb and about 56 percent of FSWs-nbb were between 20-29 years of age. The overall mean age of FSWs-bb and FSWs-nbb was 26.4 and 28.1 years respectively, indicating a fairly young age structure for brothel based sex workers (Figure 1).

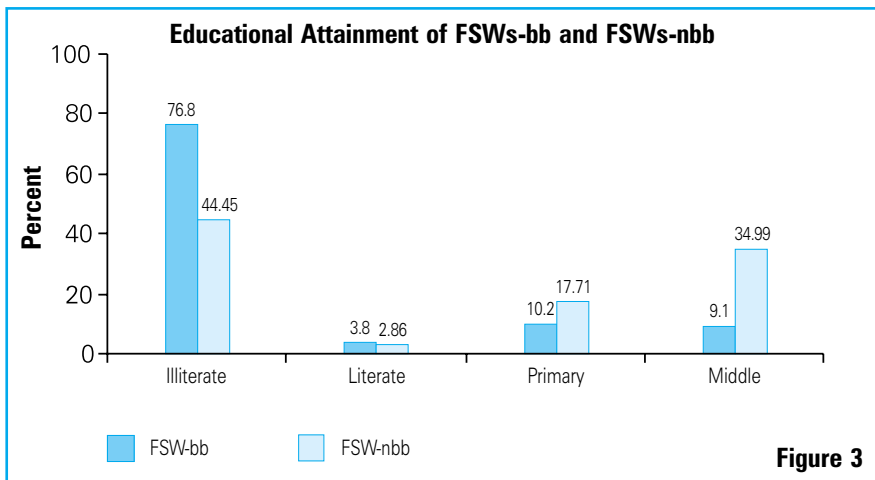


Most MSM (58 percent) and nearly half of the LTWs were between the ages of 20 and 29. The mean ages of the MSM and LTWs were 28 years and 31.2 years respectively (Figure 2).



Education

More than three-fourths of the FSWs-bb (77 percent) and nearly 45 percent of the FSWs-nbb were found to be completely illiterate. Approximately four percent of the FSWs-bb reported that they could read and write but had no formal education and approximately three percent FSWs-nbb reported the same (Figure 3).



The education level of the MSM was found to be fairly high. Forty-four percent of the MSM interviewed during the survey reported education beyond the secondary level. Nearly three-fourths of the LTWs (72 percent) had studied beyond middle school level (beyond grade VII). Approximately four percent of LTWs reported being illiterate. Most of the youth aged 15-19 years were found to be educated beyond the middle school level. Very few youth aged 15-19 years (< one percent) reported having received any technical education. Most of the youth aged 20-24 were found to be educated beyond the middle school level. Very few youth aged 20-24 years (two percent) reported to be graduates and above (Figure 4).

Educational Attainment of MSM, LTWs, Youth Aged 15-19 & 20-24 Years

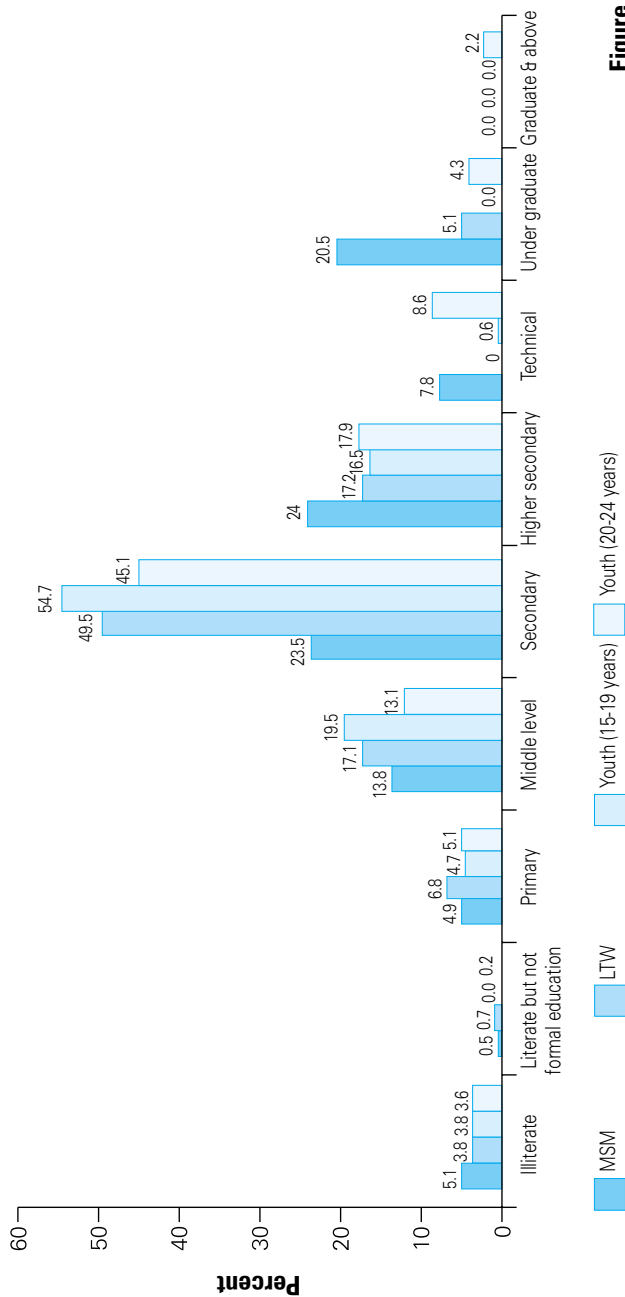
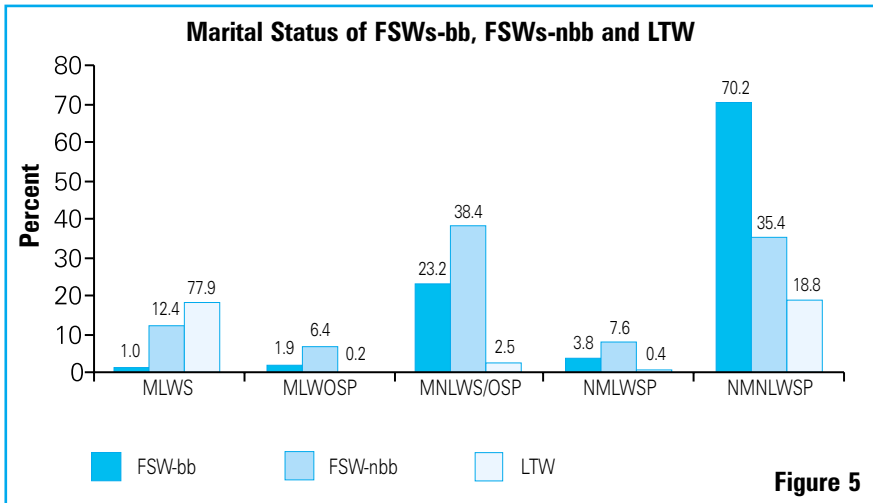


Figure 4

Current marital status

Seventy percent of the FSWs-bb and 35 percent of the FSWs-nbb reported being 'not currently married and not living with a sexual partner' (NMNLWSP). Approximately 23 percent of the FSWs-bb and 38 percent of FSWs-nbb reported being currently 'married but not living with spouse or any other sexual partner' (MNLWS/OSP). Most of the LTWs reported being currently married and living with their spouse (78 percent). A small but significant proportion of LTWs (19 percent) were currently unmarried and not living with a sexual partner (Figure 5).



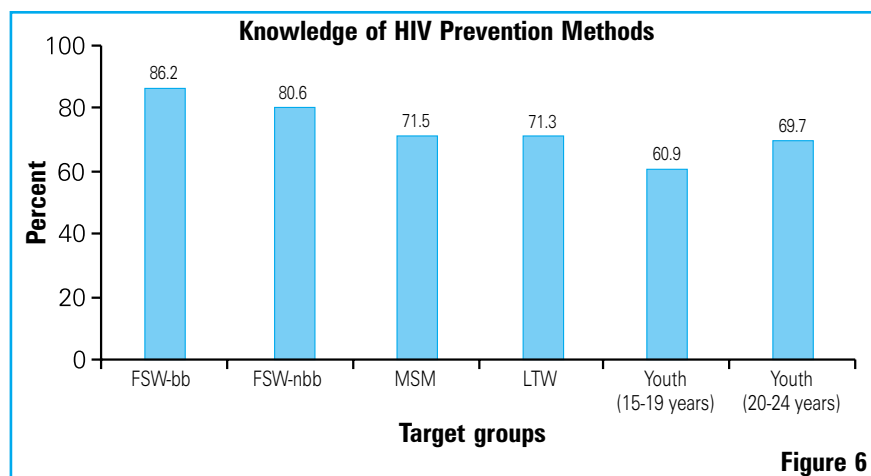
Knowledge indicators

Knowledge indicators measured the respondents' knowledge with regard to prevention of STI/HIV/AIDS and also obtained information on misconceptions about prevention. For the male groups (LTWS and youth), knowledge was measured in terms of awareness of consistent condom use, mutual monogamy between non infected partners and abstaining from sex as methods of reducing the risk of contracting HIV. The brothel and non-brothel based female sex workers were expected to be aware of consistent condom use as the main mode of prevention. For measuring information on misconceptions about the spread of HIV/AIDS, three

questions, two about common local misconceptions about AIDS and one about whether a healthy looking person can transmit HIV, were asked of each respondent in all target groups. The two local misconceptions were that HIV transmission can take place through mosquito bites and sharing meals with any infected person.

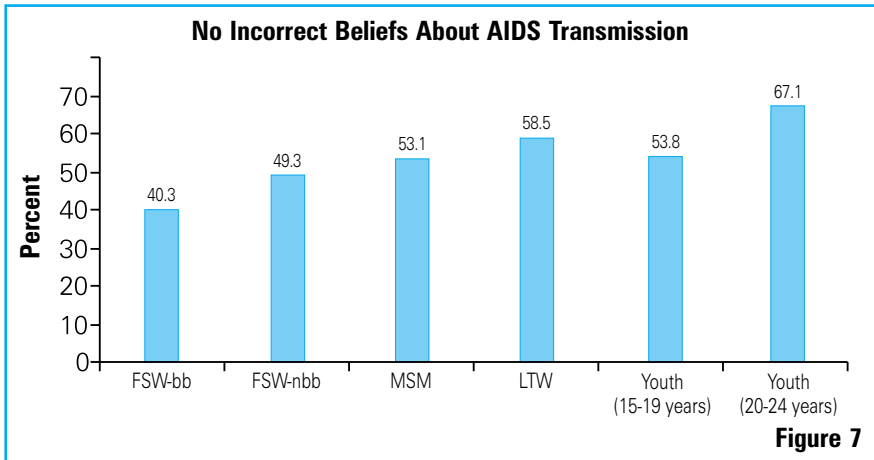
Knowledge of HIV prevention methods

More than 80 percent of the brothel and non-brothel based FSWs could identify correct use of condoms with every sex act as a method of reducing the risk of contracting HIV. Among MSM and LTWs, approximately 71 percent of respondents had correct knowledge about HIV prevention methods. Among the youth the knowledge level was approximately 60 percent for the 15-19 year old group and 69 percent for the 20-24 year old group (Figure 6).



No incorrect beliefs about AIDS transmission

Overall, approximately two-fifths of the brothel based FSWs and about half of the non-brothel based FSWs rejected the two most common misconceptions and accepted that a healthy looking person can transmit HIV to others. The corresponding proportion was 53 percent for MSM, approximately 58 percent for LTWs, approximately 54 percent for unmarried slum youth aged 15-19 years and approximately 70 percent for unmarried slum youth aged 20-24 years (Figure 7).



Behavioral indicators

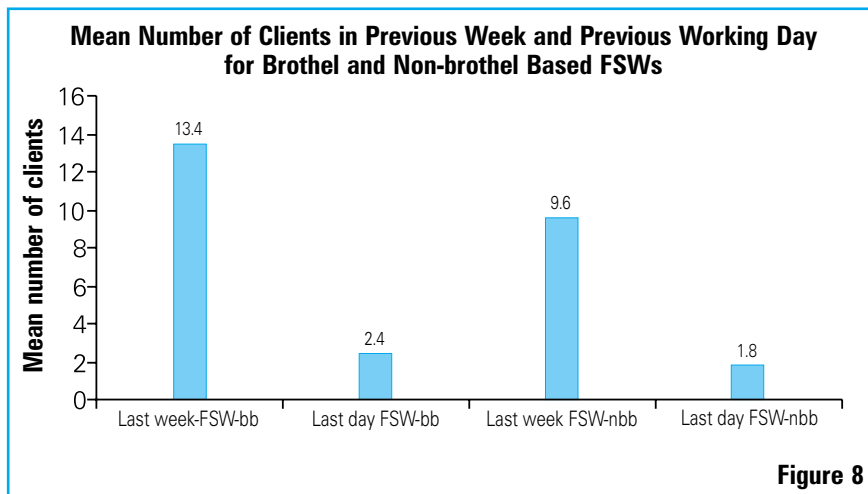
For each of the different target groups, partner types were defined differently. For sex workers, partner types were defined as 1) paying clients (male partners with whom they had sex in exchange for money), and 2) non-paying partners (male partners with whom they had sex without exchange of money). For LTWs, there were three partner types, 1) regular partners (spouse or live-in sexual partner), 2) commercial partners (partners who were paid money in exchange for sex), and 3) non-regular partners (sexual partners other than regular or commercial partners). For unmarried male youth, the concept of a regular partner was not clearly defined, so for the purposes of the BSS, partners were classified as either commercial or non-commercial partners, but there was no “regular” partner category. Finally, for men who have sex with men, they were asked only about male sexual partners, the partner types were 1) regular (spouse or live-in), 2) commercial (sex in exchange for money) and 3) non-regular (any partners other than commercial and regular partners).

Brothel and non-brothel-based FSWs

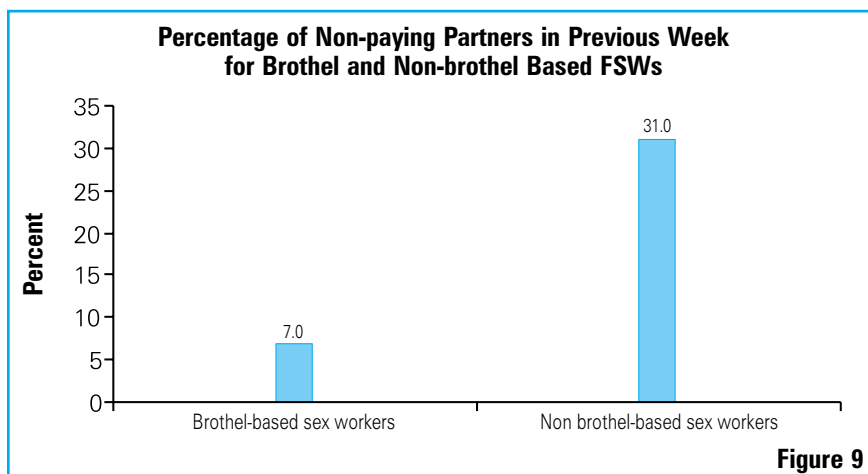
Sexual partners

Brothel-based sex workers reported to have, on an average, approximately 13 clients during the week before the survey. The mean number of clients

reported on the last working day was 2.4. Each non brothel-based sex worker reported to have, on average, approximately nine clients during the last week before the survey with a mean of 1.8 clients on the last working day (Figure 8).

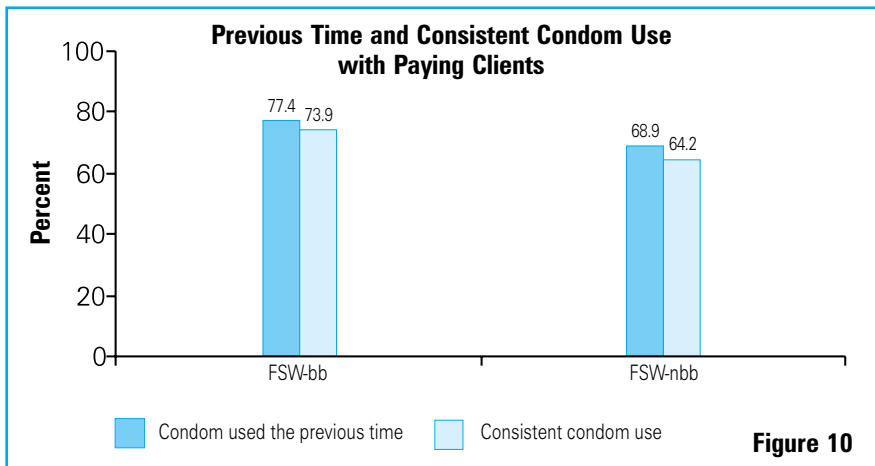


The majority of brothel based sex workers did not report non-paying partners in the previous week, however a significant proportion of non-brothel based sex workers (31.6 percent) did report non-paying partners in the previous week (Figure 9).

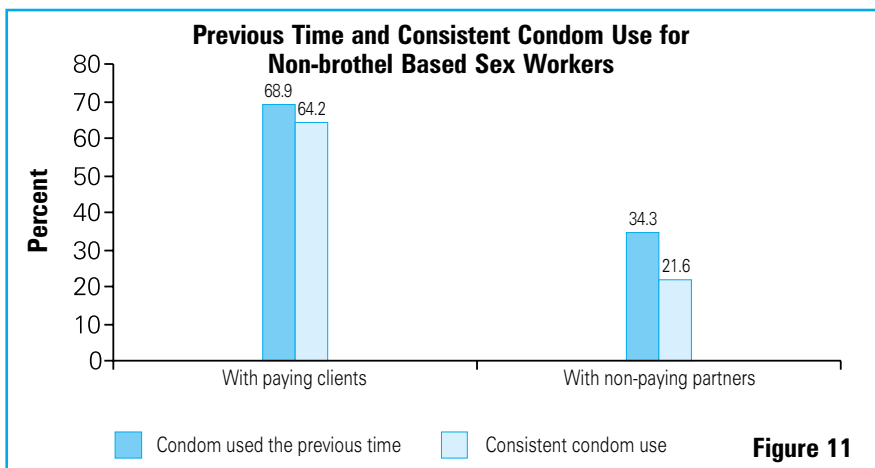


Condom use

Nearly 77 percent of the brothel-based FSWs reported having used a condom the last time they had sex with a client, and 74 percent reported consistent condom use (such as using a condom every time) with clients in the previous one month. Among non-brothel based sex workers, nearly 69 percent reported using a condom during the most recent sex act with a client, and 64 percent reported using condoms every time with clients during the previous one month (Figure 10).



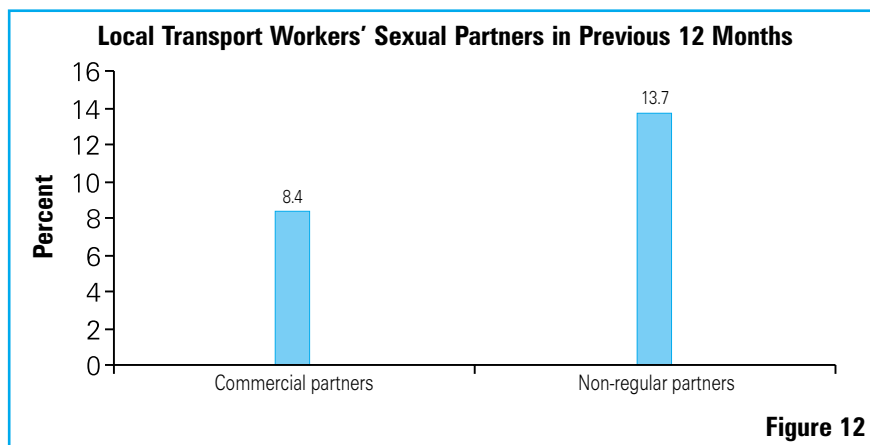
However, the proportion of non-brothel sex workers using condoms with non-paying partners (34 percent) was considerably lower (Figure 11).



Local transport workers

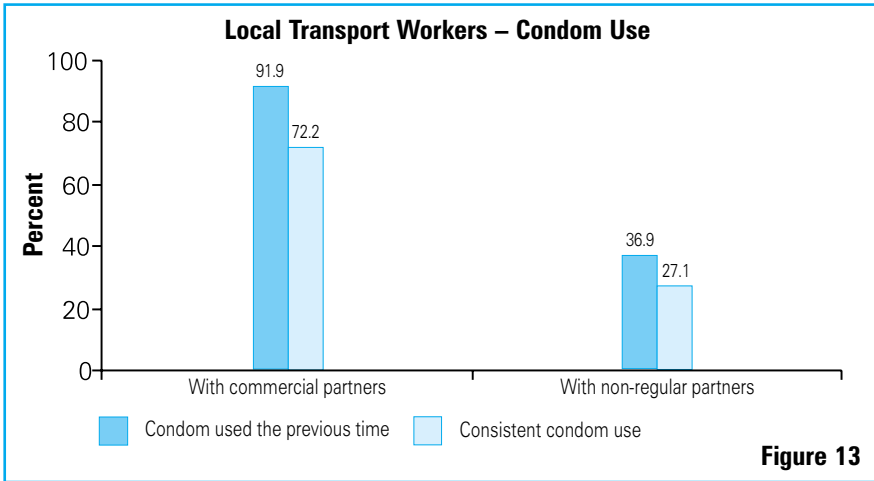
Sexual partners

A small proportion (eight percent) of local transport workers reported having female commercial partners in the previous 12 months, with a mean of less than one commercial partner in the previous year. The percent reporting non-regular partners was somewhat higher at 11 percent, but the majority of those had only one non-regular partner in the previous 12 months (Figure 12).



Condom use

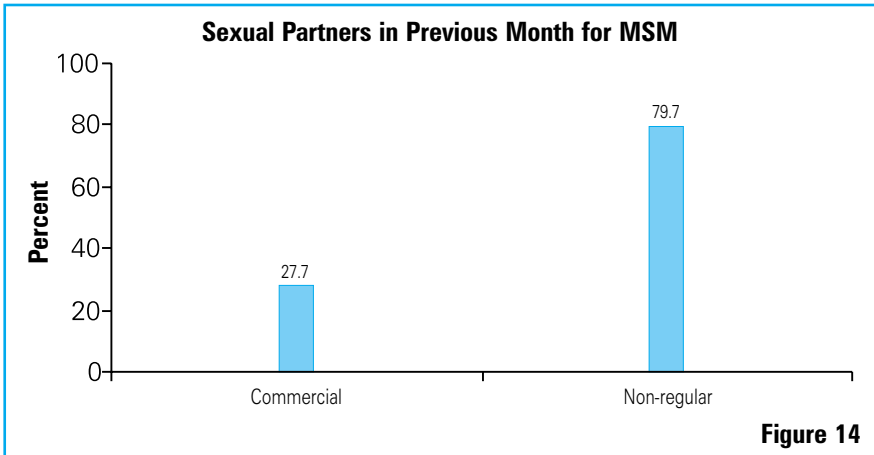
Local transport workers were more likely to use condoms with commercial partners than with non-regular partners. Approximately 70 percent of these men reported consistent condom use during commercial sex. However, only 27 percent reported using condoms with non-regular partners. This, depending on the nature of the non-regular partnerships, represented potential high risk, especially if the non-regular partners were sometimes non-brothel based sex workers. Thirty-two percent of the men indicated having non-paying partners (Figure 13).



Men who have sex with men

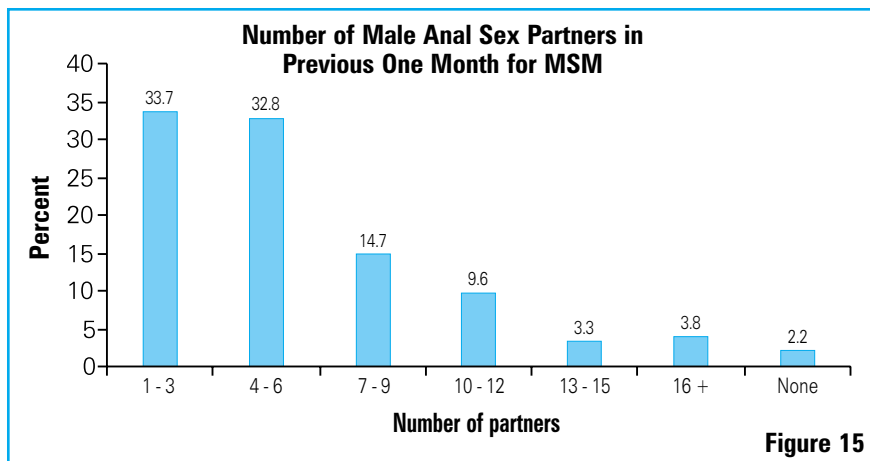
Sexual partners

Among MSM, 27 percent reported at least one commercial male partner in the previous one month, and 80 percent reported at least one non-regular male partner in the same time period (Figure 14).



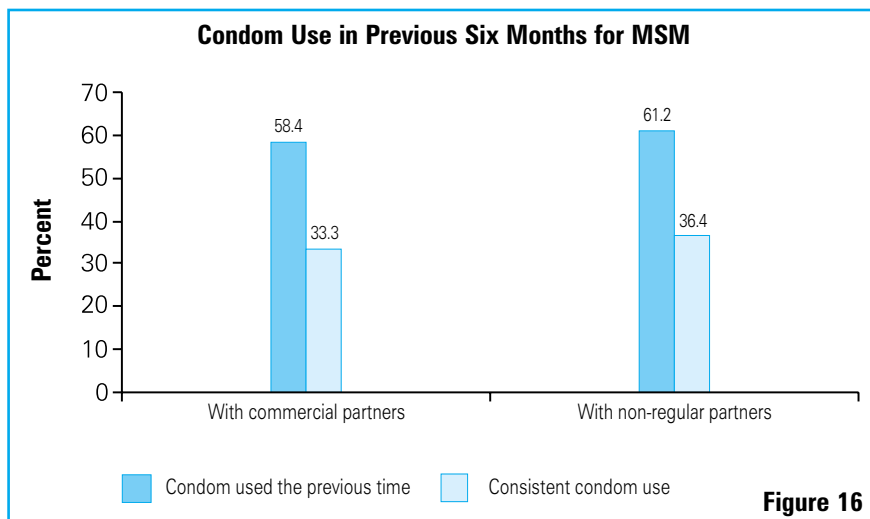
As many as 98 percent of MSM reported at least one male anal sex partner in the month before the survey, and most of them (92 percent), reported having multiple male anal sex partners during the month before the survey.

Nearly 63 percent of the respondents reported having more than three male anal sex partners in the month before the survey (Figure 15).



Condom use

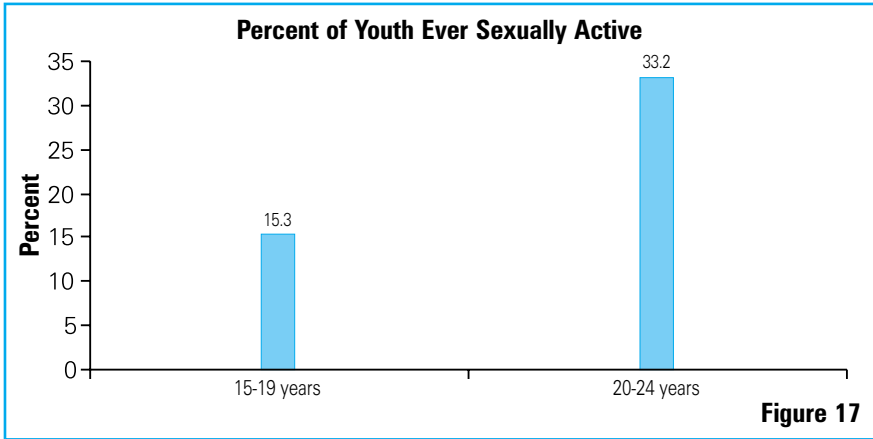
Condom use among MSM was not consistent, and was no different for commercial or non-regular partners. Only around one-third of MSM reported consistent condom use with non-regular partners or with commercial partners during the previous six months (Figure 16).



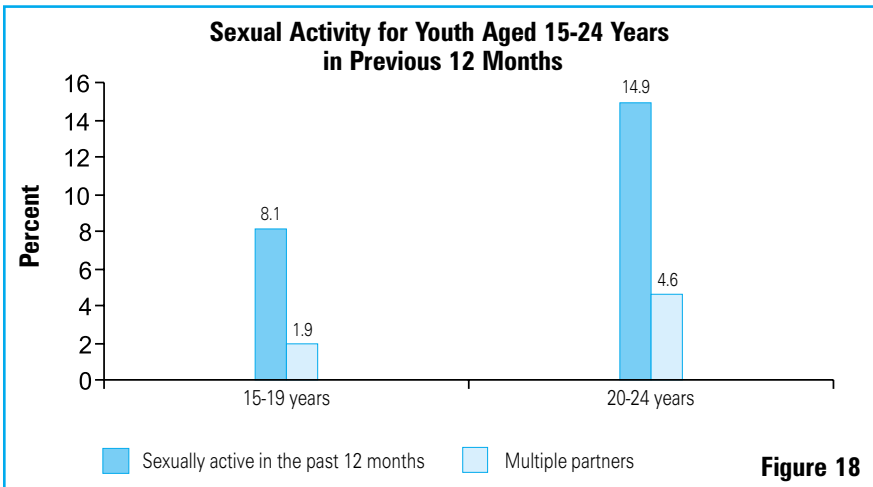
Youth

Sexual partners

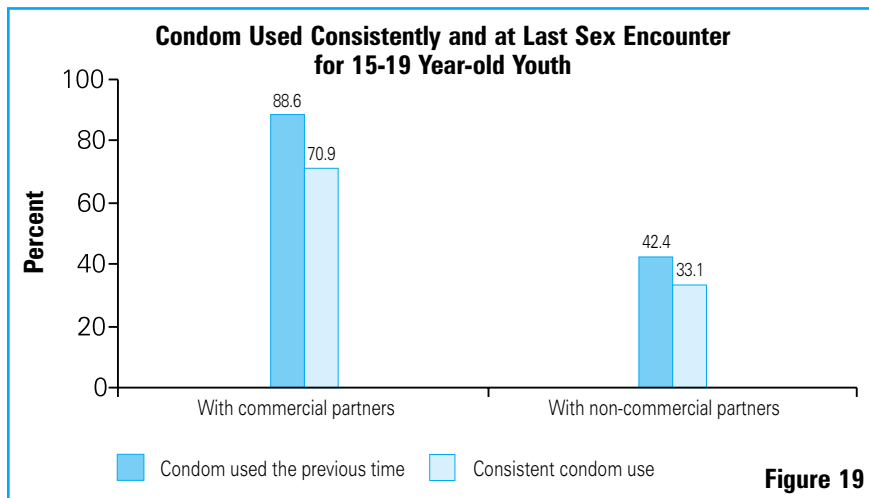
Overall, approximately 15 percent of unmarried male youth aged 15-19 years and 33 percent of male youth aged 20-24 years reported ever having had sexual intercourse (Figure 17).



Only eight percent of youth aged 15-19 years and 15 percent of youth aged 20-24 years reported being sexually active during the previous 12 months. As low as 1.9 percent of youth aged 15-19 years and 4.6 percent of youth aged 20-24 years reported having more than one sexual partner in the previous 12 months (Figure 18).

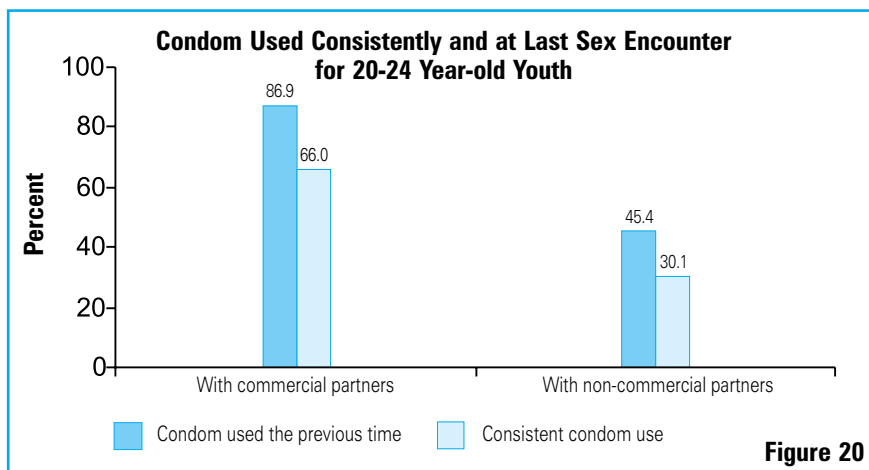


Among youth aged 15-19 years who had commercial sex in the previous 12 months, 71 percent reported always using condoms with commercial sex workers during that period, but only 33 percent used condoms consistently with non-commercial partners (Figure 19).



Condom use

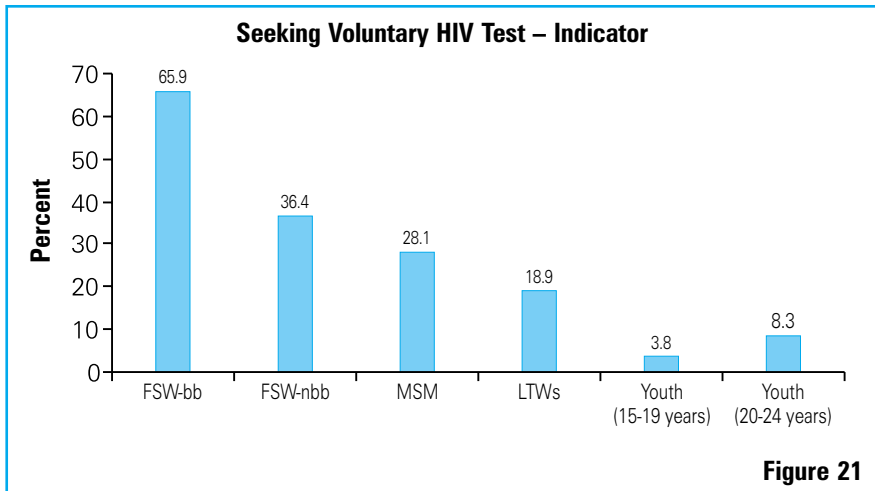
Among youth aged 20-24 years, 66 percent reported consistent condom use during commercial sex, but only 30 percent with non-commercial partners (Figure 20).



Other key indicators

Population seeking voluntary HIV tests

The proportion of brothel and non-brothel based FSWs who had voluntarily gone for an HIV test and received the result was about 66 percent and 36 percent respectively. The proportion of MSM voluntarily seeking an HIV test was 28 percent. Nearly 16 percent of LTWs reported having a voluntary HIV test. The corresponding proportion for youth aged 15-19 years and 20-24 years was about three percent and seven percent respectively (Figure 21).



Exposure to interventions in previous 12 months

More than 80 percent of respondents across all the target groups had seen any billboard/poster/leaflet on STI/HIV/AIDS during the previous one year. The majority of FSWs-bb reported that they were approached by someone who educated them on the spread of STI/HIV/AIDS during the previous 12 months (73 percent), but the proportion for the remaining target groups was low, ranging from approximately 28 percent of FSWs-nbb to 12 percent of LTWs. As many as 84 percent of FSWs-bb reported that someone had approached them to educate them on condom use as compared to 32 percent of FSWs-nbb, 20 percent of MSM, 10 percent of LTWs, seven percent of

Exposure to Interventions in Previous 12 Months

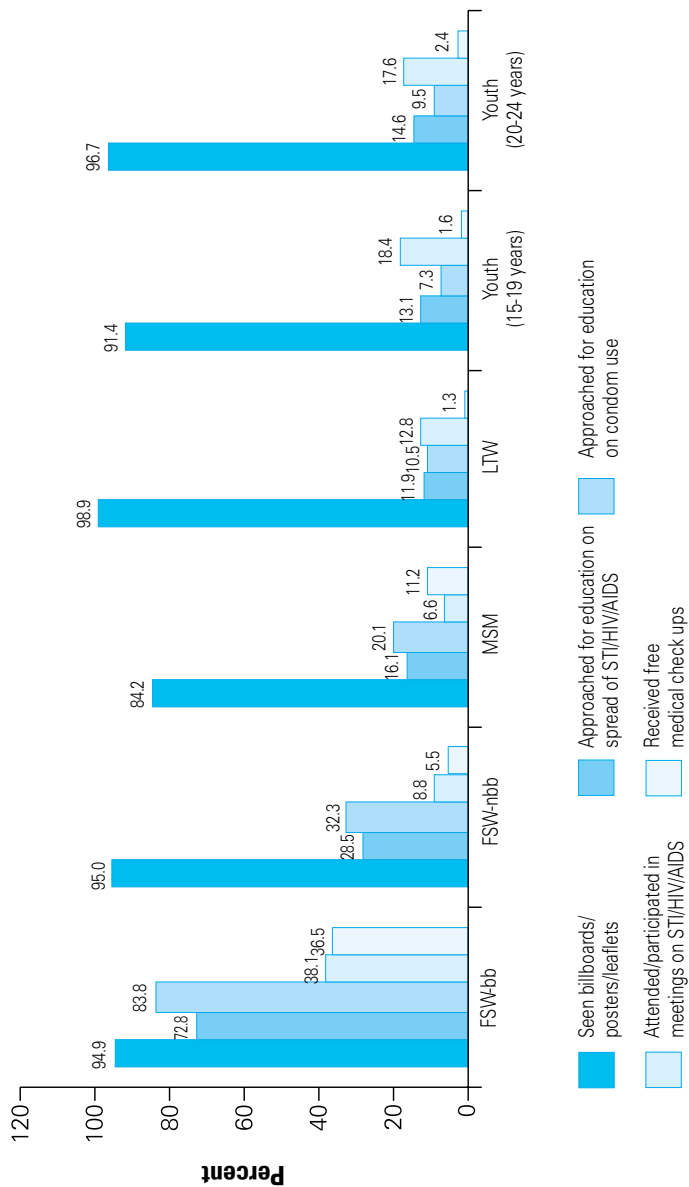
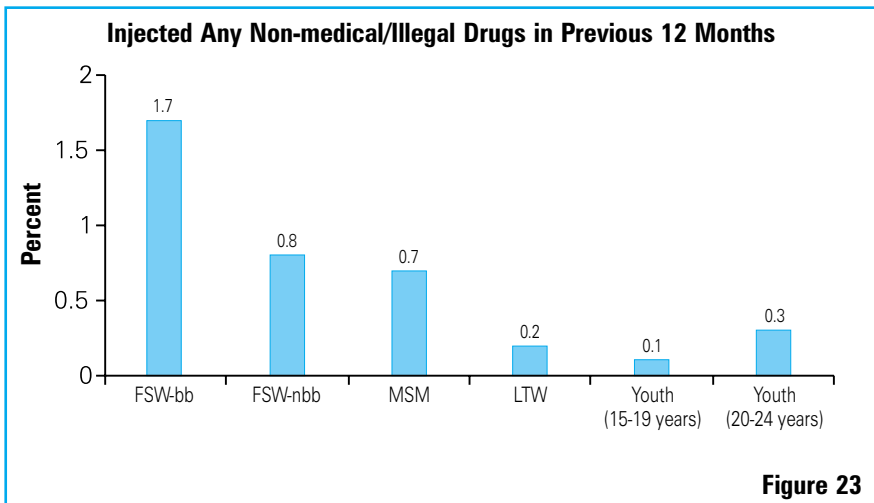


Figure 22

youth aged 15-19 years and nine percent of youth aged 20-24 years. Approximately 38 percent of FSWs-bb reportedly attended/participated in a campaign or meeting on STI/HIV/AIDS. In the remaining target groups, this proportion varied from six percent of MSM to 18 percent of youth aged 15-19 years. A very small proportion of respondents belonging to all the target groups except FSWs-bb reported having received a free medical check up for STI/HIV/AIDS. For FSWs-bb, this proportion was 36 percent (Figure 22).

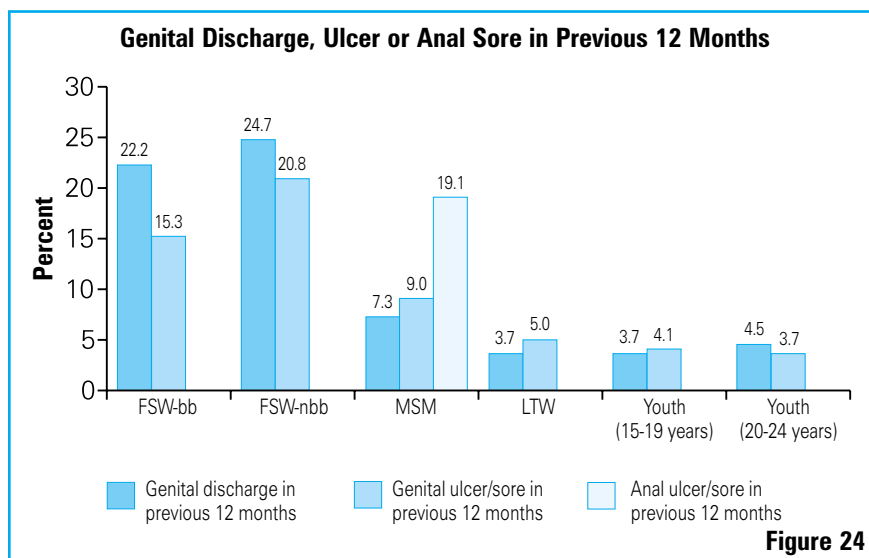
Injected any illegal/non-medical drugs in previous 12 months

Very few respondents across all target groups reported having injected illegal/non-medical drugs during the previous 12 months. However, a small but significant proportion (six percent) of the FSWs-bb interviewed in Mumbai did report injecting drugs in the previous 12 months before the survey (Figure 23).



Genital discharge and genital ulcer/sore in previous 12 months

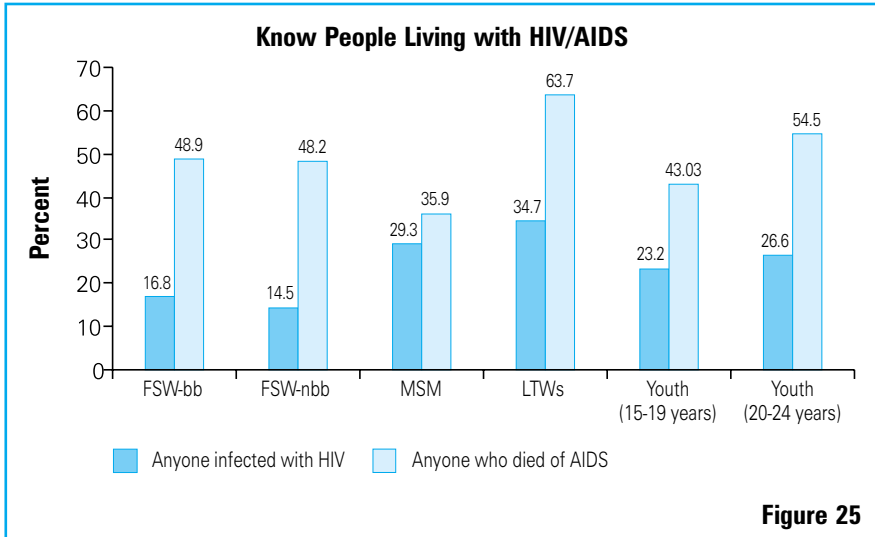
The proportion of FSWs-bb reporting genital discharge or genital ulcers in the previous 12 months was 22 percent and 15 percent respectively. The corresponding proportion among FSWs-nbb was about 25 percent and 21 percent. Among MSM, seven to nine percent of respondents reported genital discharge/ulcer in the previous 12 months. A significant proportion of MSM reported having anal ulcers or sores in the previous 12 months (19 percent). A small proportion of LTWs, youth aged 15-19 years and 20-24 years, ranging between three and five percent reported genital discharge/ulcer in the previous 12 months (Figure 24).



Know people living with HIV/AIDS

Approximately 17 percent of FSWs-bb and 14 percent of FSWs-nbb reported that they knew someone who was infected with HIV. The proportion of MSM and LTWs who knew someone infected with HIV was 29 percent and 35 percent respectively. The corresponding proportions for youth aged 15-19 years and 20-24 years were 23 percent and 26 percent respectively.

The proportion of the respondents who knew someone who had died of AIDS was 49 percent for FSWs-bb, 48 percent for FSWs-nbb, 36 percent for MSM, 64 percent for LTWs, 43 percent for youth aged 15-19 years and 54 percent for youth aged 20-24 years (Figure 25).



- Brothel based FSWs were very vulnerable because of their high partner turnover (mean of nine to 13 clients per week, with more in Mumbai), and high reported levels of STIs. Nearly 22 percent of brothel based sex workers reported genital discharge in the previous 12 months, and 15 percent reported genital ulcers in the previous 12 months. These percentages were considerably higher in Mumbai than in other sites.
- Non-brothel based FSWs were also vulnerable because they were less likely to be reached by interventions, and they had less access to condoms or STI treatment. Twenty-five percent reported genital discharge in the previous 12 months, and 22 percent reported genital ulcers. They were less likely to use condoms with non paying partners which put them and their partners at greater risk.
- Although condom use among sex workers and their clients was relatively high, indicating some success of the projects, between one-quarter and one-third of the sex workers still did not use condoms consistently, and with non-paying partners, the levels were even lower. This still left considerable opportunity for HIV transmission.
- MSM reported extremely high levels of commercial sex, partner exchange and unprotected anal sex. More than a quarter of the men surveyed had multiple commercial partners in the previous one month, and over 90 percent had multiple anal sex partners within the previous one month.
- Consistent condom use in the previous six months among MSM was only around 30 percent, indicating high vulnerability to HIV infection.
- MSM appeared to have low levels of knowledge about HIV and did not appear to have much exposure to HIV interventions.
- Nearly 20 percent of MSM reported anal ulcers/sores in the previous 12 months. Genital ulcers are known to greatly enhance the possibility of HIV transmission. Thus these potentially high levels

of ulcerative STIs represented a high-risk situation for MSM and their partners.

- Approximately eight percent of male local transportation workers reported sex with a commercial partner in the previous 12 months and 11 percent reported sex with a non-regular partner during the previous 12 months (exclusive of commercial partners).
- Consistent condom use between male transportation workers and their commercial partners was 70 percent, but with non-regular partners it was only 30 percent, indicating potential risk of HIV transmission.
- Fewer than three percent of 15-19 year old male youth reported sex with a commercial partner in the previous 12 months; however, approximately six percent of 20-24 year olds had sex with a commercial partner in the previous 12 months. A greater percentage (eight percent of 15-19 year olds and 15 percent of 20-24 year olds) had multiple sexual partners in the previous year. Only two-thirds reported consistent condom use with commercial partners and 30 percent with non-commercial partners, making those who were sexually active particularly vulnerable to HIV infection.
- The fact that six percent of brothel-based sex workers in Mumbai reported having injected illicit drugs within the past year was a cause for concern. This represented a potential threat, not only to the sex workers, but to the network of injecting drug users and their sexual partners.
- A surprisingly high percentage of all target groups knew someone who was infected with HIV, and also knew someone who had died of AIDS. Among transportation workers, 35 percent (overall) knew someone who was infected with HIV. In Pune/Sangli, 16 percent of MSM reported having a close friend or relative who had died of AIDS. This provided strong evidence that the HIV epidemic in Maharashtra was already very widespread.

BSS INDICATORS AT A GLANCE

Core Indicators

	FSWs-bb percent (95 percent CI)	FSWs-nbb percent (95 percent CI)	MSM percent (95 percent CI)	LTWs percent (95 percent CI)	Youth (15-19 years) percent (95 percent CI)	Youth (20-24 years) percent (95 percent CI)
Percent of respondents who identified consistent condom use as a method of reducing the risk of contracting HIV (Base : All respondents)	86.22 (81.6, 89.82)	80.55 (75.37, 84.86)	71.51 (66.32, 76.31)			
Percent of respondents who were able to identify consistent condom use, mutual monogamy between HIV negative partners and abstinence from sex as methods of reducing the risk of contracting HIV (Base : All respondents)	Information not collected			71.32 (66.94, 75.34)	60.91 (56.2, 64.43)	69.68 (65.31, 73.73)
Percent of respondents who rejected the two most common local misconceptions about AIDS transmission and who knew that a healthy looking person can transmit AIDS (Base : All respondents)	40.28 (35.72, 45.03)	49.30 (43.51, 55.11)	53.05 (48.07, 57.96)	58.49 (54.21, 62.64)	53.79 (49.79, 57.74)	67.05 (63.5, 70.43)
Percent of sex workers who reported using a condom with their most recent client (Base : All respondents)	77.4 (66.9, 85.3)	68.96 (62.16, 75.0)	Information not collected			
Percent of sex workers who reported always using a condom with every client during the previous month (Base : All respondents)	73.9 (63.7, 82.1)	64.17 (57.34, 70.46)				
Percent of sex workers who reported using a condom with their most recent non-paying partner (Base : Those who had at least one non-paying partner during previous seven days)	70.1 (54.8, 81.9)	34.32 (24.78, 45.32)				

	FSWs-bb percent (95 percent CI)	FSWs-nbb percent (95 percent CI)	MSM percent (95 percent CI)	LTWs percent (95 percent CI)	Youth (15-19 years) percent (95 percent CI)	Youth (20-24 years) percent (95 percent CI)
Percent of sex workers who reported always using a condom with every non paying partner in previous month (Base : Those who had at least one non-paying partner during previous seven days)	Nil	21.64 (14.56, 30.93)	Information not collected			
	1.7 (0.3, 7.7)	0.82 (0.35, 1.92)				
Percent of sex workers who reported having injected drugs at least once in previous 12 months (Base : All respondents)	22.15 (15.07, 31.34)	24.66 (19.90, 30.14)	7.33 (4.52, 11.65)	3.71 (2.16, 6.30)	3.67 (2.78, 4.83)	4.52 (3.41, 5.98)
Genital discharge in previous 12 months (Base : All respondents)	15.34 (9.08, 24.73)	20.78 (16.76, 25.48)	9.01 (6.03, 13.26)	5.04 (3.47, 7.28)	4.09 (3.12, 5.35)	3.72 (2.86, 4.82)
Anal ulcer/sore in previous 12 months (Base : All respondents)	Information not collected		19.14 (15.71, 23.11)	Information not collected		
Percent of respondents who reported anal sex with more than one other man in previous one month. (Base : All respondents)	Information not collected		92.31 (88.87, 94.75)	Information not collected		
	Information not collected		61.58 (52.24, 70.13)	Information not collected		
Percent of respondents who reported condom use at last anal sex with a non-regular male partner (Base : Those who had anal sex with at least one non-regular partner in previous one month)	Information not collected		36.37 (28.42, 45.15)	Information not collected		
Percent of respondents who used a condom every time they had anal sex with non-regular partners over previous six months (Base : Those who had anal sex with at least one non-commercial partner in previous one month)	Information not collected		Information not collected			

	FWSs-bb percent (95 percent CI)	FWSs-nbb percent (95 percent CI)	MSM percent (95 percent CI)	LTWs percent (95 percent CI)	Youth (15-19 years) percent (95 percent CI)	Youth (20-24 years) percent (95 percent CI)
Percent of respondents who reported condom use at previous anal sex with a commercial male partner (Base : Those who had anal sex with at least one commercial partner in last one month)			58.41 (41.26, 73.74)			
Percent of respondents who used a condom every time they had anal sex with commercial partners over previous six months (Base : Those who had anal sex with at least one commercial partner in previous one month)			33.32 (20.99, 48.46)			
Proportion having non-regular/non-commercial female partner in previous 12 months (Base : All respondents)	Information not collected	Information not collected	Information not collected	13.71 (10.50, 17.72)	6.23 (9.8, 8.05)	10.52 (8.89, 12.41)
Percent of respondents who reported condom use on the last occasion they had sex with non-regular/ female partner non-commercial (Base : Those who had sex with at least one non-regular female partner/ non-commercial in previous 12 months)				36.91 (29.23, 45.31)	42.39 (32.8, 52.59)	45.42 (38.23, 52.81)
Percent of respondents who used a condom every time they had sex with non-regular female partners/ non-commercial over previous 12 months (Base : Those who had sex with at least one non-regular female partner/ non-commercial in previous 12 months)				27.06 (19.24, 36.61)	33.07 (23.44, 44.35)	30.12 (23.21, 38.05)
Percent of respondents who had sex with a female sex worker in previous 12 months (Base : All respondents)				8.35 (6.06, 11.41)	2.54 (1.8, 3.58)	5.92 (4.75, 7.36)

	FSWs-bb percent (95 percent CI)	FSWs-nbb percent (95 percent CI)	MSM percent (95 percent CI)	LTWs percent (95 percent CI)	Youth (15-19 years) percent (95 percent CI)	Youth (20-24 years) percent (95 percent CI)
Percent of respondents who reported condom use at last occasion they had sex with commercial partner (Base : Those who had sex with at least one commercial partner in previous 12 months)	Information not collected		Information not collected	91.89 (84.98, 95.77)	88.55 (73.88, 93.61)	86.93 (78.32, 92.45)
Percent of respondents who used a condom every time they had anal sex with commercial partners over previous 12 months (Base : Those who had sex with at least one commercial partner in previous 12 months)				72.17 (59.68, 81.95)	70.96 (52.18, 84.55)	66.01 (55.73, 74.97)
Percent of respondents who had ever voluntarily requested an HIV test, received the test and received their results (Base : All respondents)	65.92 (59.31, 71.96)	36.44 (31.17, 42.05)	28.06 (22.65, 31.19)	15.94 (13.04, 19.36)	3.21 (2.36, 4.35)	6.49 (5.3, 7.93)
Percent of respondents reporting having been exposed to specific prevention interventions (Base : All respondents)						
Seen billboards /posters/ leaflets on STI/HIV/AIDS in previous 12 months	94.89 (92.67, 96.47)	95.03 (91.82, 97.02)	84.19 (77.59, 89.12)	98.99 (98.27, 99.41)	91.39 (88.93, 93.34)	96.69 (95.5, 97.58)
Been approached for education on spread of STI/HIV/AIDS in previous 12 months	72.81 (60.45, 82.42)	28.48 (23.34, 33.62)	16.05 (11.92, 21.27)	11.96 (9.18, 15.43)	13.12 (10.7, 15.99)	14.57 (11.24, 18.68)
Been approached for education on condom use in previous 12 months	83.78 (69.95, 91.97)	32.25 (27.78, 37.07)	20.07 (14.62, 26.92)	10.53 (7.40, 14.77)	7.25 (5.35, 9.76)	9.46 (7.54, 11.80)
Attended/participated in campaigns or meetings on STI/HIV/AIDS in previous 12 months	38.07 (29.74, 47.11)	8.75 (6.17, 12.27)	6.58 (3.02, 13.74)	12.77 (9.48, 16.98)	18.37 (15.2, 22.01)	17.56 (14.77, 20.74)
Received free medical check ups for STI/HIV/AIDS in previous 12 months	36.53 (29.83, 43.79)	5.45 (3.29, 8.91)	11.19 (7.35, 16.68)	1.28 (0.77, 2.12)	1.64 (1.15, 2.33)	2.35 (1.64, 3.36)

Behavioral Surveillance Survey in Maharashtra Technical Working Group Members (TWG)*

1. **Dr. Latika Shivkar**
Medical Officer
ASHA Project
Mumbai Municipal Corporation
Gauribai Dispensary
13th Lane Stable Street
Kamathipura, Mumbai - 400 008
Tel (R): 022-409 0322
2. **Dr. Lakshmi Bai**
Specialist Monitoring
Evaluation & Research – APAC Project
Voluntary Health Services
Adayar, T.T.T.I. Post
Chennai - 600 113
Tel: 044-254 1048, 254 1965
Fax: 044-254 2018
3. **Dr. M.R. Jagtap**
Assistant Director
Directorate of Health Services
4th Floor, Dental College Building
St. George Hospital Compound
P.D. Mello Road, Mumbai - 400 001
Tel: 022-262 0220
4. **Dr. Asha Bhende**
PURNIMA
D-12 Duttaguru Society
Deonar Village Road, Mumbai -400 088
Tel: 022-556 5143/556 9534
5. **Mr. C.R. Gunashekar**
Options for Development
26/2 Western Apartments
Anna Nagar West, Chennai - 600 101
Tel: 044-626 5094
Fax: 044- 626 8209
Email:development@vsnl.com,
crguna@hotmail.com
6. **Ms. Roopam Nangia**
Head - Social Work Department
Welfare Department, Larsen & Toubro Ltd.
Saki Vihar Road, Mumbai - 400 072
Tel: 022 -858 1401/858 1399
Res: 022-861 1323, 805 2383
7. **Mr. Luke Samson**
SHARAN
C-4/53, Safdarjung Development Area
Opposite IIT Gate
New Delhi - 110 016
Tel: 011-686 8350-54, 653 2377/
653 2378 Cell: 98111 19038
Email: sharanindia@vsnl.com
8. **Mr. Ashok Row Kavi**
Chairperson
The Humsafar Trust
2nd Floor
Vakola Municipal Market Building
Vakola Kaleena Main Road
Santa Cruz (East)
Mumbai - 400 055
Tel: 022-618 7476,
Res: 022-646 3590
9. **Dr. Shilpa Merchant**
National HIV/AIDS Coordinator
Population Services International
149/161, Raja Rammohan Roy Road
Behind Khadi Stores
Mumbai - 400 004
Tel: 022-387 0883/ 389 4375
Mobile: 98200 60349
10. **Dr. Subhash Salunke**
Director of Health Services
Directorate of Health Services
Government of Maharashtra
4th Floor, Dental College Building
St. George Hospital Compound
P.D. Mello Road, Mumbai - 400 001
11. **Tobi J. Saidel**
Senior Technical Officer
Family Health International
Asia Regional Office, Bangkok

*As in December 2000

