

BSS

BEHAVIORAL SURVEILLANCE SURVEY IN MAHARASHTRA

2004

WAVE II



USAID | **INDIA**
FROM THE AMERICAN PEOPLE



AVERT

HIV/AIDS Prevention and Control
Project for Maharashtra

WAVE II

Behavioral Surveillance Survey(BSS) in Maharashtra

Study conducted by
ORG Center for Social Research (ORG CSR),
A C Nielsen ORG MARG
with technical assistance from
Avert Society

Draft Summary Report

Funded by
United States Agency for International Development (USAID)

**Message from Hon. Minister,
Public Health & Family Welfare, Maharashtra State
Dr. Mrs. Vimaltai Mundada**



**MINISTER FOR
PUBLIC HEALTH AND
FAMILY WELFARE**

Government of Maharashtra
Mantralaya, Mumbai - 400 032.

Date : February 25, 2005

It gives me immense pleasure to pen a few lines on the report of Behavioral Surveillance Survey (BSS) Wave II in Maharashtra conducted by Avert Society under financial support from United States Agency for International Development (USAID). Maharashtra is always in the forefront of all the health related national programmes. The same is true for programmes related to HIV/AIDS.

This study report will provide useful insight into the existing scenario in the state in relation to different high risk groups under study. It will be very important to repeat this study at periodic intervals to assess the change in various key indicators over time.

The effort undertaken by the Avert Society in conducting this study is commendable. I am sure this report will be treasured and used by all those who are interested in the fight against HIV/AIDS in the state and also elsewhere in the country.

Dr. (Mrs.) Vimaltai Mundada

**Message from Additional Chief Secretary,
Public Health & Family Welfare Department &
Chairman of Avert Society.**



Navin Kumar (IAS)
Additional Chief Secretary
Public Health Department

PUBLIC HEALTH DEPARTMENT,
Mantrayalaya, Mumbai 400 032
Phone (Office) : 022-22873848
Fax : 022-22823501
Telegram : MAHAHEALTH
Mumbai

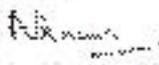


Date : February 25, 2005

Given the complexity of multidimensional 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.

I appreciate the great contributions made by Avert Society in implementing the Behavioural Surveillance Survey (BSS) Wave II in Maharashtra under financial support from United States Agency for International Development (USAID). I am sure this study will throw useful light into the existing scenario in the state in relation to risk behaviour of key target groups and the quality of STI/HIV health care facilities. I strongly recommend to carry out the future waves of BSS at regular periodical intervals to assess the change in various key project indicators over time.

Needless to say that this report will be very useful to the programme implementors in the state and also in the other parts of the country.


Navin Kumar, IAS

ACKNOWLEDGEMENT



We are happy to publish the summary report of the Behavioural Surveillance Survey (BSS) conducted by Avert Society. BSS as we know is a tracking study which will be undertaken every year during the project period of Avert Society. The findings of the study will help us to plan the activities and resources in the years to come. At the same time the findings will also help to evaluate the impact of the activities undertaken by the project prior to the study being conducted.

I take this opportunity to thank USAID, MSACS, MDACS, all our stakeholders/partners and NGOs, all the technical experts and the members of the Project Advisory Committee (PAC) and Research Advisory Group (RAG) for their technical support and involvement from time to time in the conduct of the study, reviewing the process of study and the findings.

I thank all the technical staff of Avert Society, in particular Jayanta Kumar Basu, Research Specialist of Avert Society for providing necessary technical support, monitoring the entire process of the study meticulously and bringing out this summary report. Thanks are also due to Vishwanath Koliwad, Associate Project Director, all financial, administrative and secretarial staff of Avert Society for their supports as and when required. My special thanks to the research team of M/s. A C Nielsen-ORG MARG for conducting the study as per the design and Dr. Shankar Talwar, Consultant for assisting in the preparation of this summary report.

Last but not the least; I thank different target groups/individuals who have provided relevant information in helping us to come to the conclusions.

Dr. N.J. Rathod
Interim Project Director
Avert Society

Avert Society - A joint project of NACO, Govt. of Maharashtra & USAID.

Regd. under the Societies Regn. Act. 1960, no. 88/MUM/2002/27/108830 (D. 21.09.2001) & under Mumbai Public Trust Act, 1950, no. P-2329 (Mumbai) D.24.09.2001
AcWorth Complex, R.A. Kidwai Marg, Wadala, Mumbai- 400 051, Maharashtra, INDIA. Ph.: 24164510/16/28. Fax:24133936
E-mail: info@avertsociety.org. Website: www.avertsociety.org

AVERT SOCIETY MAHARASHTRA

**A JOINT PROJECT OF NACO,
GOVERNMENT OF MAHARASHTRA AND USAID**

Avert Society was set up in November 2001 for managing the HIV/AIDS prevention project in Maharashtra. Avert Society, in close collaboration with the Maharashtra State AIDS Control Society (MSACS), Mumbai District AIDS Control Society (MDACS) and National AIDS Control Organization (NACO) aims to increase the use of effective and sustainable response to reduce transmission and mitigate the impact of Sexually Transmitted Diseases (STD), Human Immunodeficiency Virus (HIV), Acquired Immune Deficiency Syndrome (AIDS) and related infectious diseases.

A focused prevention program in Maharashtra, where the epidemic is grave, uses the approach and lessons learned in AIDS Prevention and Control Project (APAC) in TamilNadu and selected national level activities; including surveillance, research and demonstration activities, which will further the agenda of the National AIDS Control Program (NACP).

Project Goal

The overall goal of the Avert Project is to support the Government of India to reduce the negative impact of the HIV/AIDS epidemic on the social, economic and human development in India. This is in accordance with the NACP-2 dual goals of reducing the spread of HIV infection in the country and strengthening the country's response on a long-term basis.

Strategic Objective

The Strategic Objective of the project is increased use of effective and sustainable responses to reduce the transmission and mitigate the impact of HIV/AIDS/STD and related infectious diseases in Maharashtra.

Avert Society, Maharashtra. 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 to Avert Society 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 Avert Society or USAID over others of a similar nature that are not mentioned.

For more information on the different studies contact:

Avert Society
AcWorth Complex
R.A. Kidwai Marg
Wadala (West)
Mumbai- 400 031
Phone: 91 22 24164510 / 16 /28
Fax: 91 22 241 3996
info@avertsociety.org
Attn: Research Specialist

CONTENTS

Foreword	i
Introduction.....	iii
Abbreviations	v
Background	1
Methodology	2
Key Findings	7
Conclusions and Recommendations.....	29
Appendix I: BSS Indicators at a glance (Wave II).....	32
Appendix II: Project Advisory Committee members...	36



FOREWORD



USAID | INDIA
FROM THE AMERICAN PEOPLE

The United States Agency for International Development

The first Behavioral Surveillance Survey in India was conducted in Tamil Nadu in 1996, in coordination with the Tamil Nadu State AIDS Control Society (TNSACS), by the AIDS Prevention and Control Project (APAC). Now 9 rounds of surveys have been successfully completed. These surveys have helped guide the development of successful interventions to stem the HIV/AIDS epidemic. The Avert project conducted the first wave of Behavioral Surveillance Survey in the year 2000 in Maharashtra State. The second wave was conducted in 2003-2004. The survey is conducted in collaboration with the Maharashtra State AIDS Control Society (MSACS), Mumbai District AIDS Control Society (MDACS) and with support from the National AIDS Control Organization (NACO). The Behavioral Surveillance Surveys will guide the three AIDS societies and others for planning and implementing HIV prevention activities.

On behalf of USAID, I thank all those who made important contributions during the implementation of the study. I thank all the experts who have given their technical expertise for conducting the survey. I would like to specifically thank the men and women who participated in our survey.

I hope the readers of this document will find the observations and the recommendations of the study useful and will help them in their program planning.

Meri Sinnitt
Division Chief-HIV/AIDS, Infectious Diseases, Office of PHN
United States Agency for International Development

U.S. Agency for International Development
American Embassy
Chanakyapuri
New Delhi 110 021

Tel : 91-11-24196000
Fax : 91-11-24196612
www.usaid.gov/in

INTRODUCTION

DIRECTORATE GENERAL 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

E.mail : dir001@vsnl.net

dir1201@vsnl.com

Telegram : "HEALTH SERVICES" MUMBAI

Govt. Dental College Bldg., 4th Floor,

St. George's Hospital Compound,

P.D'Mello Road, Mumbai - 400 001.

Date : February 25, 2005

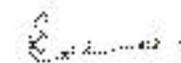
India has a population of one billion, around half of who are adults in the sexually active age group. As of December 2004, 92 percent of all nationally reported AIDS cases have been found in 10 of the 28 States and 7 Union Territories. The greatest numbers were in Maharashtra and Gujarat in the west; Tamil Nadu and Andhra Pradesh in the south; and Manipur in the northeast. The infections are mostly due to heterosexual contact except in case of injecting drug users of the northeast.

Maharashtra has the highest prevalence of HIV/AIDS among the Indian States today. In 1986, Maharashtra's first AIDS case was detected in Mumbai. The National AIDS Control Organization (NACO) considers Maharashtra "a high prevalence state," with an HIV prevalence rate of 1.25 percent in antenatal clinics (ANC). Among 49 high prevalence districts in India, 14 of them are in Maharashtra (Annual report of NACO, 2004). Seroprevalance among STD patients had increased from 1 percent in 1987 to 19 percent in the year 1999. HIV prevalence among STD patients was reported to be 10 percent in the year 2003. Although Mumbai is a major reservoir, smaller towns like Sangli, Kolhapur, Satara and Pune account for a larger proportion of the total AIDS cases in Maharashtra.

Given the complexity of the epidemic - including awareness about the disease, behavior change, vulnerability of women and girls, stigma and discrimination, migration, and poverty - there is a greater need for organized effort in the fight against the disease. HIV/AIDS need to be tackled not only as a public health problem, but also as one of the development issues in the State of Maharashtra. The Government of Maharashtra has been making efforts to minimize the impact of the epidemic through various programs being implemented by the Maharashtra State AIDS Control Society (MSACS) and Mumbai District AIDS Control Society (MDACS). Avert Society was established through a tripartite agreement between the Government of Maharashtra, National AIDS Control Organization (NACO) and USAID to work with MSACS and MDACS in HIV/AIDS prevention. Strategic objective of Avert Society is increased use of effective and sustainable responses to reduce the transmission and mitigate the impact of STD/HIV/AIDS and related infectious diseases in Maharashtra.

Avert Society is a USAID-funded HIV/AIDS prevention project established to assist NACO (National AIDS Control Organization) and the Government of Maharashtra in reducing the impact of HIV/AIDS in the State. The overall goal of the Avert Society is to reduce the impact of HIV/AIDS on the social, economic and human development in Maharashtra. Avert Society is involved in HIV/AIDS prevention, care and support, capacity building (of NGOs and health care providers through training), research, and media activities. About 43 NGOs have been funded by the Avert Society to implement various HIV/AIDS projects in Maharashtra.

In order to provide inputs to the program execution and expand the response to HIV/AIDS in the state, repeat studies were conducted by the Avert Society with the funding support from USAID. All these studies provide useful insights into the progress made in HIV/AIDS prevention in the state. These studies also provide behavioral trends on several indicators including, sexual partner exchange rates, knowledge of HIV transmission, condom use, reported STIs among high-risk groups, exposure to intervention, and quality of STI care. It is expected that these studies will be of use to Avert Society and other agencies involved in preventing the HIV/AIDS epidemic in the state and country as a whole.



Dr. S. R. Salunke
Director General, Directorate of Health Services, Mumbai and
Chairperson, Research Advisory Group (RAG), Avert Society

ABBREVIATIONS

AIDS	Acquired Immuno Deficiency Syndrome
Avert TSG-HLFPPT	Avert Technical Support Group – Hindustan Latex Family Planning Promotion Trust
BSS	Behavioral Surveillance Survey
CBO	Community Based Organization
CFP	Commercial Female Partner
FHI	Family Health International
FSW	Female Sex Workers
FSW-bb	Female Sex Workers – Brothel Based
FSW-nbb	Female Sex Workers – Non-brothel Based
HIV	Human Immune-Deficiency Virus
IDUs	Injecting Drug Users
ISSA	Integrated System for Survey Analysis
LTWs	Light Transport Workers
MSM	Men who have Sex with Men
MDACS	Mumbai Districts AIDS Control Society
MLWS	Married and Living with Spouse
MNLWS	Married but Not Living with Spouse
MSACS	Maharashtra State AIDS Control Society
NMNLWS	Not married and not Living with Spouse
NACO	National AIDS Control Organization
OSP	Other Sexual Partner
STI	Sexually Transmitted Infection
USAID	United States Agency for International Development

BACKGROUND

According to National AIDS Control Organization (NACO), Maharashtra is one of the high HIV/AIDS prevalence states in India with 1.25 percent ANC rate. Maharashtra also has the highest number (14 of them) of high prevalence districts in the country where the prevalence among high-risk groups exceeded 5 percent and ANC rates higher than one percent.

United States Agency for International Development (USAID), in collaboration with Government of Maharashtra and National AIDS Control Organization (NACO), initiated a project on HIV/AIDS in the state of Maharashtra (Avert Society). USAID is supporting Avert project to further develop and expand interventions to reduce the transmission of HIV/STI and mitigate the impact of HIV infection based on the guiding principles laid down by NACO.

The present summary report provides the key findings and conclusions of the Wave II of HIV/AIDS Behavioral Surveillance Survey (BSS), which was funded by the United States Agency for International Development (USAID), and implemented by Avert Society. ORG Centre for Social Research of AC Nielsen ORG-MARG was contracted to conduct the study. Although the preparatory works including rapid mapping of target groups and networking with NGOs, started much earlier, the main fieldwork of the study in the selected districts of Maharashtra (Mumbai, Thane, Sangli, Satara, Solapur, Aurangabad and Nagpur) was conducted during January to March 2004. The main objective of the Behavioral Surveillance Survey (BSS) was to obtain data on HIV/AIDS related behaviors among the selected population groups.

Objective

The objective of the current BSS (Wave II) was to provide trends of behavioral indicators so as to inform program development for the expansion of interventions aimed at reduction in the transmission of HIV/AIDS and Sexually Transmitted Infections (STIs) in the selected districts of Maharashtra.

METHODOLOGY

Study population

The study population groups selected for the survey included brothel based female sex workers (FSW-bb); non-brothel based female sex workers (FSW-nbb); men who have sex with men (MSM); male slum youth aged 15-19 years (Youth 15-19) and youth 20-24 years (Youth 20-24); male unmarried college students (Students); light transport workers (LTWs); truckers (Truckers); and injecting drug users (IDUs). In the current BSS (Wave II), three new groups with potential high-risk behavior (truckers, male college students and injecting drug users) were included. Sex workers (FWS-bb and FSW-nbb) and MSM were chosen because of the likelihood of high sexual partner exchange. Population groups LTWs, youth 15-19 and 20-24 were considered as likely clients of sex workers, and therefore as a potential "bridge" between high-risk groups and the general population. All the groups are defined in the following table (Table 1).

Table 1: Population groups studied in the BSS, Wave II

<p>Brothel based female sex worker (FSW-bb) Female identified to have been paid for sex in cash by their paying clients at least once in the past one month, who operates from a brothel / red light area.</p>
<p>Non-brothel based female sex worker (FSW-nbb) Female identified to have been paid for sex in cash by their paying clients at least once in the past one month, who does not affiliate to a permanent place of operation.</p>
<p>Men who have sex with Men (MSM) Men who have had manual, oral or anal sex with another men in the past 12 months and can be identified at the places of aggregation for cruising, soliciting or having sex or hanging out.</p>
<p>Single male slum youth aged 15-19 and 20-24 years Never married male youth aged between 15-19 and 20-24 years residing in the government notified slums.</p>
<p>Male unmarried college students Male Students in degree colleges studying in first year, second year and third year who have never been married or staying with any sexual partner.</p>
<p>Light transport workers (LTWs) Male taxi and autorikshaw drivers in Mumbai district, aged between 20 -49 years.</p>
<p>Truckers Male truck drivers aged above 18 years who are associated with the present occupation for a period not less than 2 years and the trucks they drive have national permits. Male helpers and cleaners aged below 50 years, working for not less than one year for trucks having national permit.</p>
<p>Injecting drug users (IDUs) Male or female identified to have injected drugs in the past six months for intoxication without medical advice.</p>

Study Area

Seven districts namely, Mumbai, Thane, Sangli, Satara, Solapur, Aurangabad and Nagpur were covered in the current BSS (Wave II) in Maharashtra. Avert Society had decided to exclude Pune in the present round of BSS, and include Satara, Solapur, Aurangabad and Nagpur as the new program districts.

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, light transport workers, and college students, where the sample sizes were 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. Different types of cluster sampling approaches were used in the study (Table 2).

Table 2: Sampling strategies adopted for different target group population

	Population groups	Sampling Strategies
1.	Brothel Based Sex Workers	Conventional Three Stage Cluster Sampling
2.	Non-brothel Based Sex Workers	Two Stage Time-Location Cluster Sampling
3.	Injecting Drug Users	Two Stage Time-Location Cluster Sampling
4.	Men who have sex with Men	Two Stage Time-Location Cluster Sampling
5.	Unmarried Male Slum Youth Aged 15-19 years	Conventional Three Stage Cluster Sampling
6.	Unmarried Male Slum Youth Aged 20-24 years	Conventional Three Stage Cluster Sampling
7.	Truckers	Two Stage Time-Location Cluster Sampling
8.	Light Transport Workers	Two Stage Time-Location Cluster Sampling
9.	Male College Student	Conventional Two Stage Cluster Sampling

A rapid mapping exercise was undertaken across all the study sites to generate a sampling frame for each target group. The details of sample sizes achieved for different target groups during the IInd Wave of BSS in Maharashtra are presented in Table 3.

Table 3: Proposed and achieved sample sizes for different target groups

Population Groups	Mumbai		Thane		Sangli		Satara		Solapur		Aurangabad		Nagpur		Total			
	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A		
BB_FSW	266	277	266	272	266	269	266	223	266	271	266	-	266	285	1,862	1,597		
NBB_FSW	266	270	266	273	266	267	266	243	266	223	266	280	266	-	1,862	1,556		
MSM	266	277	266	277	266	278	P: 266 A: 288		P: 266 A: 282						1,330	1,402		
IDU	266	298											266	298				
LTW	266	280											266	280				
Truckers															Combined		879	862
Slum youth 15-19															Combined		1,080	1,143
Slum youth 20-24															Combined		1,080	1,040
Students															Combined		1,080	1,090
Total															9,705	9,268		

Note : The Calculated sample size per domain for each population groups has been rounded off.
P stands for 'Calculated / proposed Sample Size' & **A** stands for 'achieved' sample size

Training of interviewers and pilot survey

Investigators were trained in three separate training programs conducted in Mumbai, Sangli and Nagpur. Each training program was conducted for a period of 4-5 days. Apart from research executives of AC Nielsen ORG-MARG, several other experts/resource persons were invited to provide training to the interviewers. Trainers dealt with various issues of the survey including, HIV/AIDS, STIs, truckers, sex workers, other high-risk groups, and data collection techniques. The active participation of the trainers/resource persons created the desired interactive ambiance in the training programs where investigators could freely ask questions and learn about the groups and issues involved in collecting data on sensitive matters.

NGO networking

A massive exercise of conducting behavioral survey among hard-to-reach and sexually high-risk groups would not have been possible without the active participation of local NGOs who are working with these groups. In order to elicit the cooperation of NGOs and other gatekeepers, recommendation letters from the Avert Society, MSACS, MDACS and DGHS were used. Further, continuous follow-up and dialogue with NGOs helped getting access to the target group respondents. Avert Society also formed a Project Advisory Committee (PAC) to steer the implementation of the study.

Fieldwork

A clear fieldwork strategy for implementing the IInd wave of BSS was designed well in advance. The fieldwork was first initiated in the districts where the first wave of BSS was conducted followed by the newly identified districts. Although the preparatory work, including rapid mapping of target groups and networking with NGOs, started much earlier, the main fieldwork of the study was conducted during January to March, 2004. The project coordinator and researchers of AC Nielsen ORG-MARG made several field visits and conducted spot checks to ensure the quality of data. The representative of the Avert Society also closely monitored the different stages of fieldwork. All the completed questionnaires were scrutinized in the

field itself. The data collection process adhered to strict ethical standards. The purpose of the study was explained to the respondents, and they were told about their right to discontinue participating in the study if they felt uncomfortable answering questions of sensitive nature. Interviews were conducted only after obtaining informed consent from the respondents.

Data management and data analysis

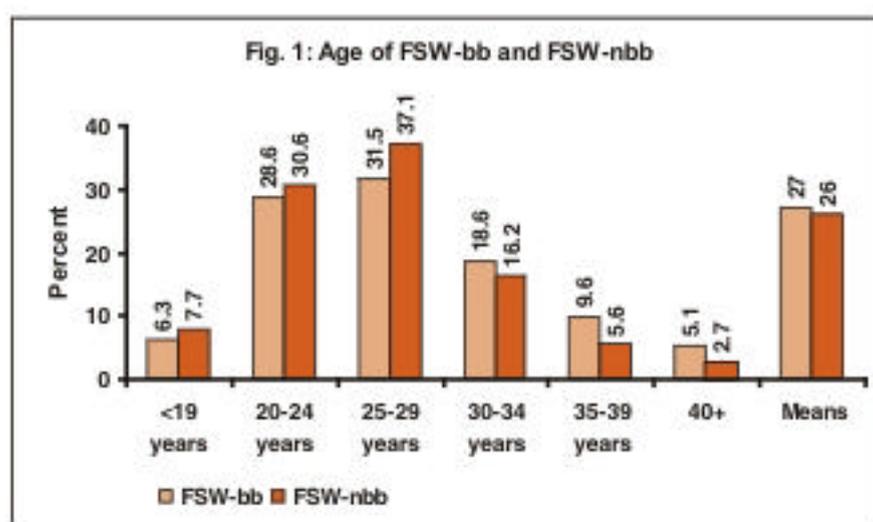
Data were entered in the Integrated System for Survey Analysis (ISSA) package. All possible care was taken in terms of errors and inconsistencies to avoid any difficulty at the stage of data analysis. Firstly, the accuracy of data entry was checked by verifying a sample of filled-in questionnaires. Range and consistency checks were carried out later for values of all the variables. Data were also checked for "missing items" prior to the beginning of data analysis. SPSS-11 package was used for conducting data analysis. In addition to the calculation of core behavioral indicators, tables were generated for other key variables. Most importantly, weighted analysis was carried out applying the sampling weights to the data.

KEY FINDINGS

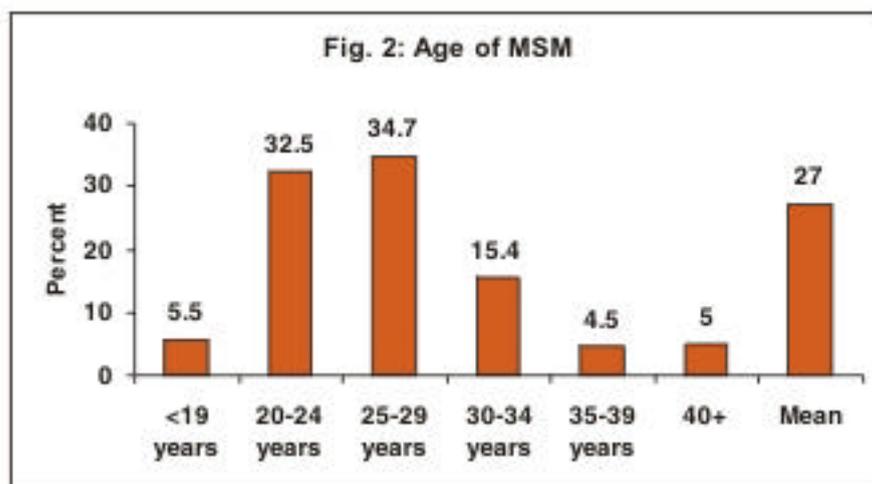
Socio-demographic profile of respondents

Age

Most of the brothel based sex workers (FSW-bb) (about 60 percent) and non-brothel based sex workers (FSW-nbb) (about 68 percent) were in the age group of 20-29 years. The overall mean age of FSW-bb and FSW-nbb was 27 and 26 years, respectively, indicating somewhat similar age structure between both brothel and non-brothel based sex workers (Fig. 1).

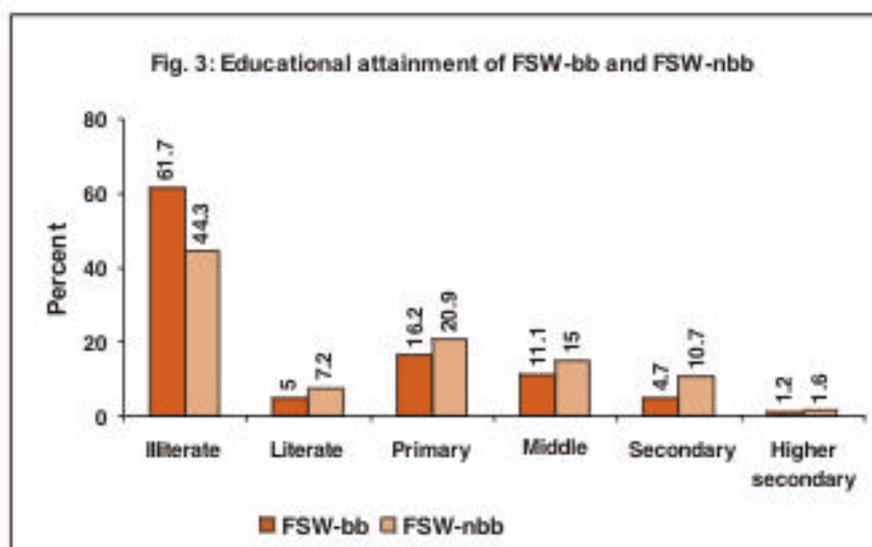


Most of the MSM respondents (about 67 percent) were also in the age group of 20-29 years, with the mean age of 27 years (Fig. 2). About half of the LTWs and truckers were in the age group of 20-29 years. About three quarters of the students and IDUs were in the age group of 20-24 and 19-35 years, respectively.

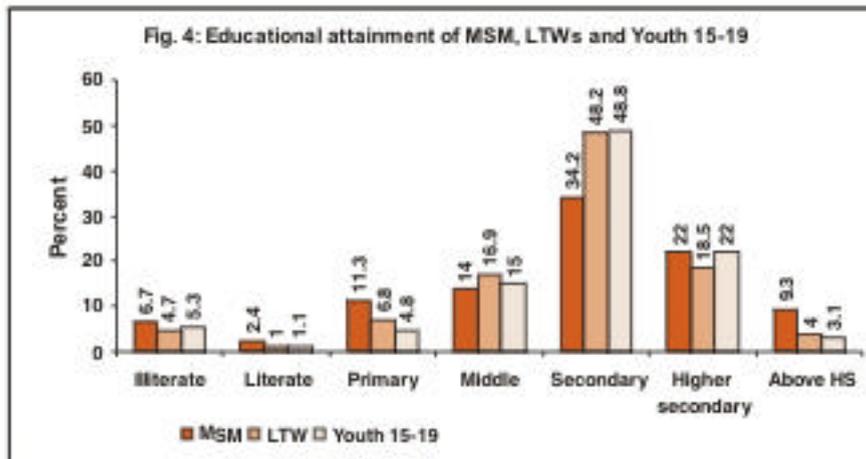


Education

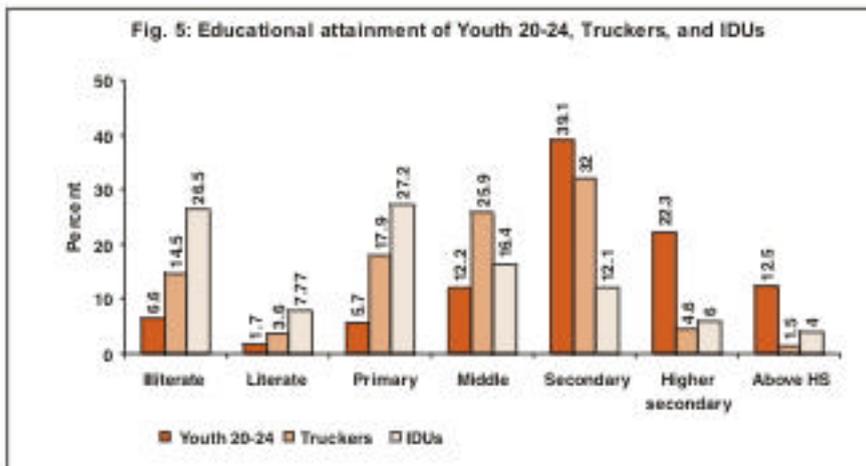
The educational level of sex workers was very low in general. Illiteracy was widespread among brothel based sex workers (about 62 percent) when compared to non-brothel based sex workers (44 percent). A relatively higher proportion of the non-brothel based sex workers had education up to the primary, middle and secondary level (Fig. 3).



About three-quarters of the respondents among MSM, LTWs and Youth 15-19 had studied from middle to higher secondary level. Compared to other group of respondents, a slightly higher proportion of MSM had education above the higher secondary level. Illiteracy was low (about 5 percent) among these three sub-groups as indicated in the chart below (Fig. 4).

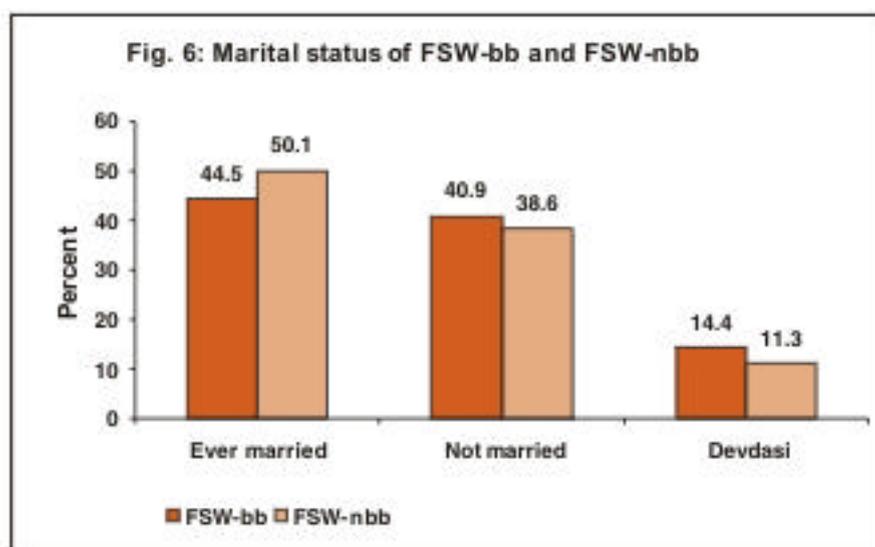


Illiteracy was higher among injecting drug users (26.5 percent) and truckers (14.5 percent). About a quarter of the IDUs had education up to the primary level. A high proportion of Youth 20-24 (74 percent) and truckers (62 percent) had studied from middle to higher secondary level (Fig. 5).

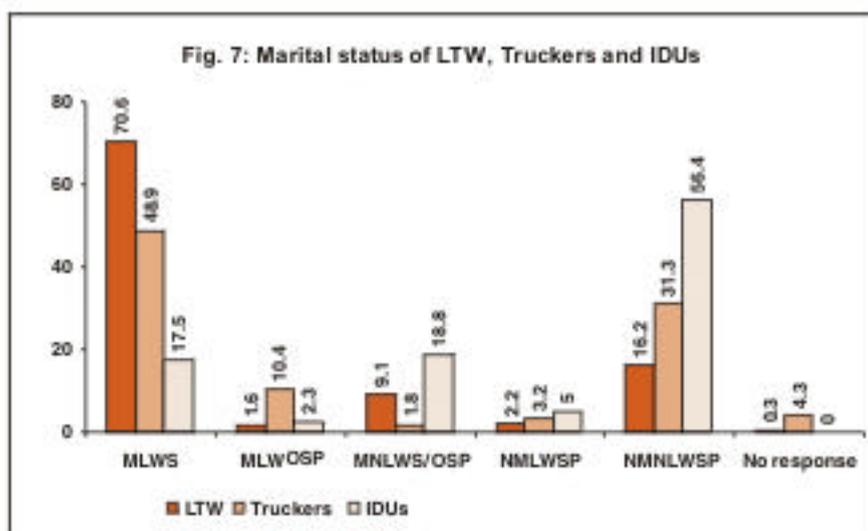


Marital status

About 41 percent of the FSW-bb and 39 percent of the FSW-nbb reported being not married currently. *Devdasis* (traditional sex workers) were higher among the brothel based sex workers (about 14 percent) compared to non-brothel based sex workers (about 11 percent) (Fig. 6).



A majority of the LTWs (70 percent) reported to be married and living with spouse (MLWS). About 9 percent of the LTWs and 19 percent of the IDUs claimed to be married but not living with their spouse or other sexual partners (MNLWS/OSP). A large proportion of IDUs (56 percent) and truckers (31 percent) reported that they were not married and not living with any sexual partners (NMNLSP) (Fig. 7).

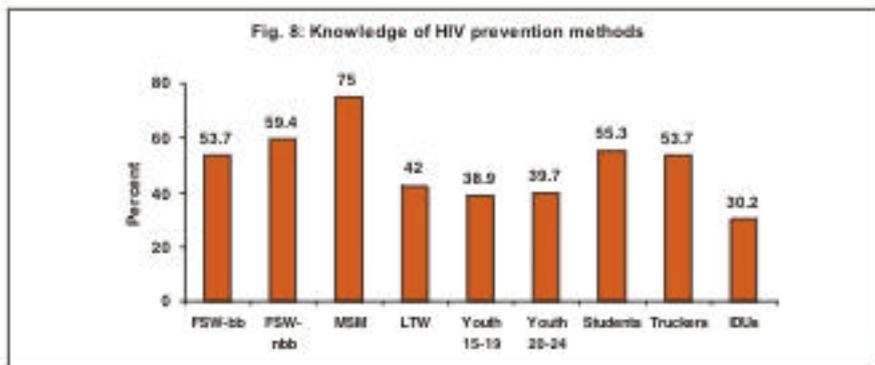


Knowledge Indicators

Knowledge indicators measured the respondents' knowledge with regard to prevention of STI/HIV/AIDS and misconceptions about prevention. Sex workers were expected to be aware of correct and consistent condom use as the main mode of prevention. Among the male respondent groups, knowledge was measured in terms of awareness of consistent condom use as a method of reducing the risk of contracting HIV, having uninfected faithful partner, and abstinence from sex. Misconception about HIV/AIDS (incorrect belief) was measured using two questions - HIV transmission through mosquito bites, and through sharing meal with HIV infected person. The respondents were also asked about other modes of HIV transmission (through the infected needle and syringe, mother to child at birth, mother to child through breast feeding).

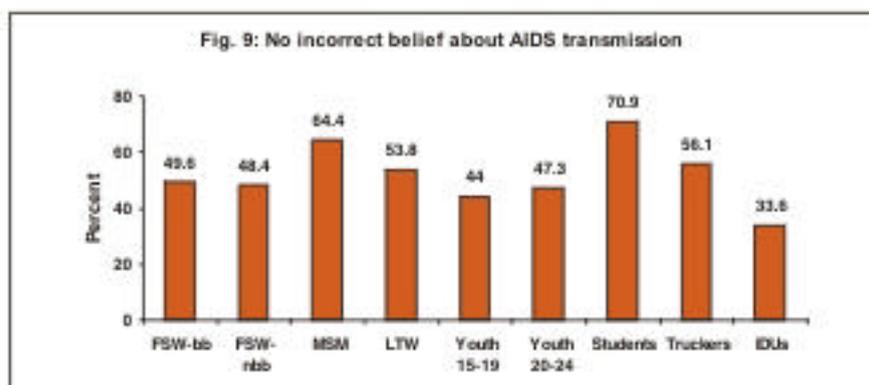
Knowledge of HIV prevention methods

More than half of the sex workers (about 54 percent of the FSW-bb, and 59 percent of the FSW-nbb) had correct knowledge of HIV prevention method (correct and consistent condom use at every sex act, having one uninfected faithful sexual partner and abstaining from sex). Among male respondents, about three-quarters of the MSM and more than half of the students and truckers had correct knowledge about HIV prevention methods. About 40 percent of the LTWs and youth knew the correct HIV prevention methods. Relatively fewer (30 percent) IDUs had correct knowledge of HIV prevention (Fig. 8).



No incorrect belief about HIV/AIDS transmission

About half of the sex workers (about 50 percent of the FSW-bb, and about 48 percent of the FSW-nbb) rejected the two most common misconceptions, and accepted that a healthy looking person can transmit HIV to others. Among the male respondents, a large proportion of students (about 71 percent) followed by MSM (64 percent) did not have incorrect belief about HIV transmission. About half of the LTWs (54 percent), youth 15-19 (44 percent), youth 20-24 (47 percent), and truckers (56 percent) also did not have incorrect belief about HIV transmission. Among IDUs, only about a third of them did not have incorrect belief about HIV transmission.



Behavioral indicators

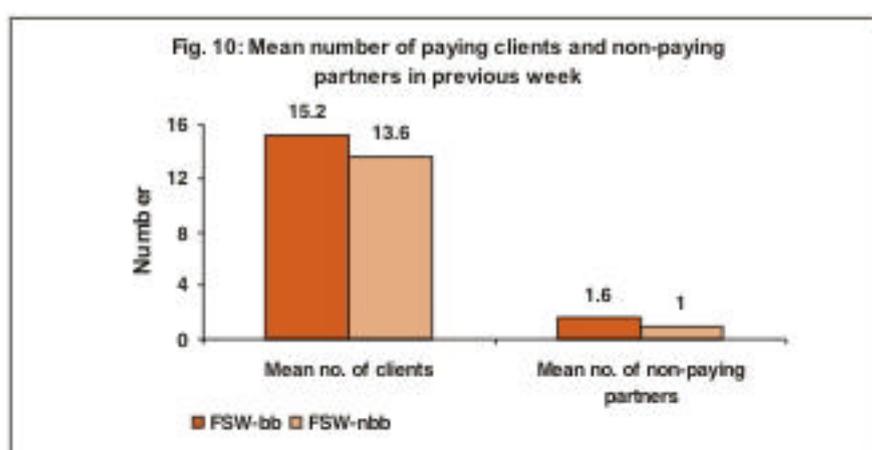
Sexual partners and condom use are important behavioral indicators measured in BSS. Partner types were defined for each of the target group population. For sex workers, partner types were defined as paying clients and non-paying partners. Paying clients were male partners with whom they had sex in exchange for money while non-paying partners were male partners with whom they had sex without the exchange of money. For MSM, sexual partners were defined as non-commercial partners (male partners who were not paid to have sex) and commercial partners (male partners with whom the respondent had sex in exchange for money). Sexual partners of LTWs, truckers and IDUs were defined as regular partners (spouse or live-in partner), non-regular partners (sexual partner whom the respondent never married, never lived with or paid for having sex), and commercial partners (partners with whom the respondent had sex in exchange for money). For slum youth (aged 15-19 and 20-24) and student, female sexual partners were defined as commercial partners (with whom they had sex in exchange for money) and non-commercial partners (with whom the respondents were not married to, never lived with and did not pay to have sex).

Brothel and non-brothel based FSWs

Sexual partners

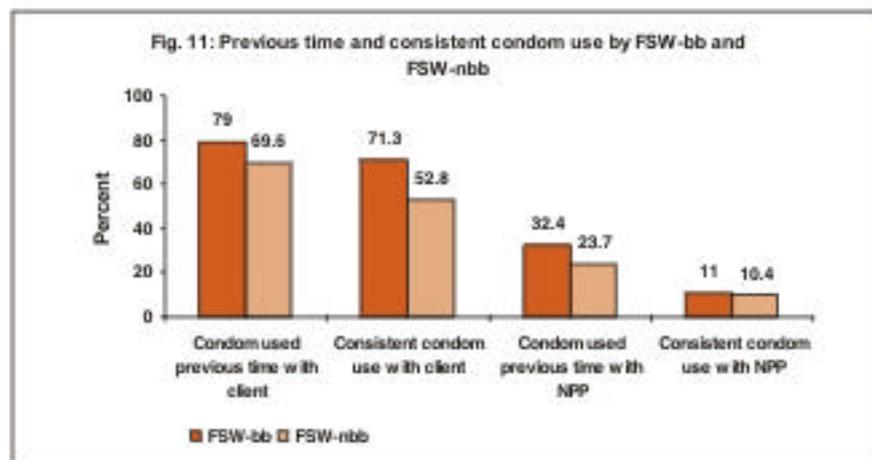
FWS-bb and FSW-nbb reported that they had provided sexual services to about 15 and 14 clients, respectively, during the week before the survey.

Brothel and non-brothel based sex workers indicated that they had also provided sex to one or more non-paying partners during the week before survey (Fig. 10). However, the proportion of FSW-bb (about 12 percent) and FSW-nbb (about 16 percent) providing sex to non-paying partners was low.



Condom use

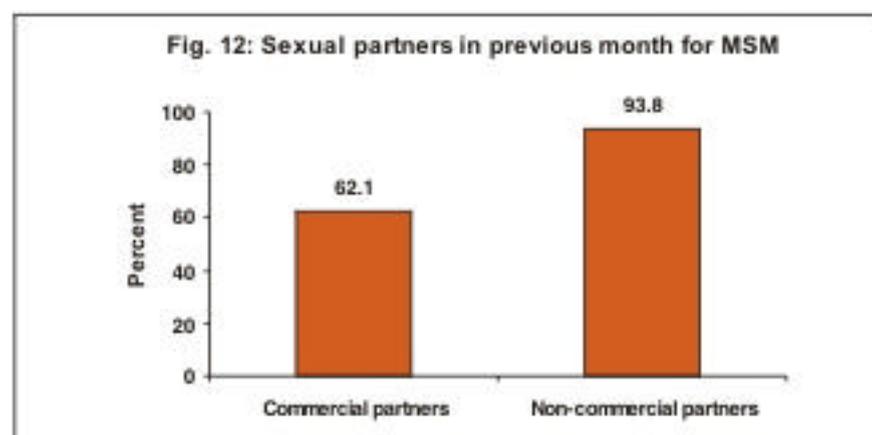
A large proportion of sex workers (79 percent of the FSW-bb, and about 70 percent of the FSW-nbb) reported having used condom the last time they had sex with a client. However, consistent condom use with paying clients was lower for both brothel based sex workers (71 percent), and non-brothel based sex workers (about 53 percent). Only about a third of the brothel based sex workers and a quarter of the non-brothel based sex workers used condom the previous time with non-paying partners. Consistent condom use with non-paying partners was very low among both brothel based sex workers (11 percent) and non-brothel based sex workers (10 percent) in the past one month (Fig. 11).



Men who have sex with men

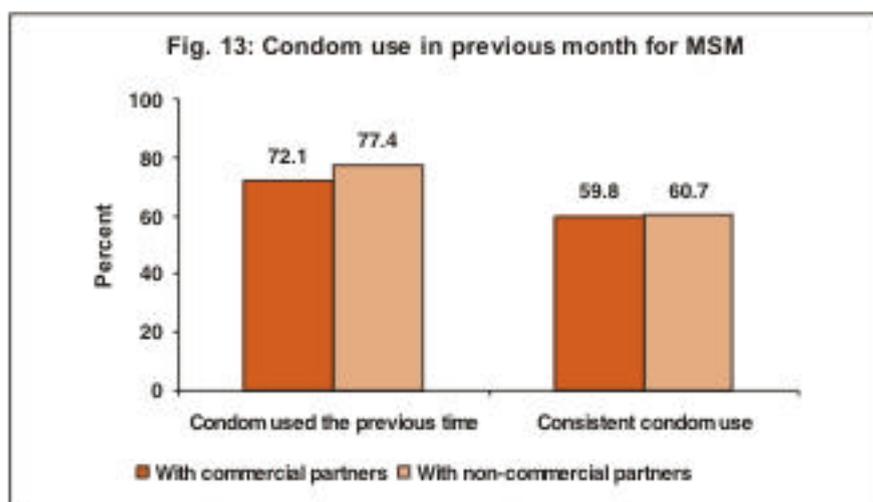
Sexual partners

About two-third of the MSM (about 62 percent) reported having at least one commercial male partner in the past one month. Most of the MSM respondents (about 94 percent) also reported having sex with a non-commercial partner in the past one month (Fig. 12). Further, MSM respondents indicated that they had about five anal sex partners in the past one month.



Condom use

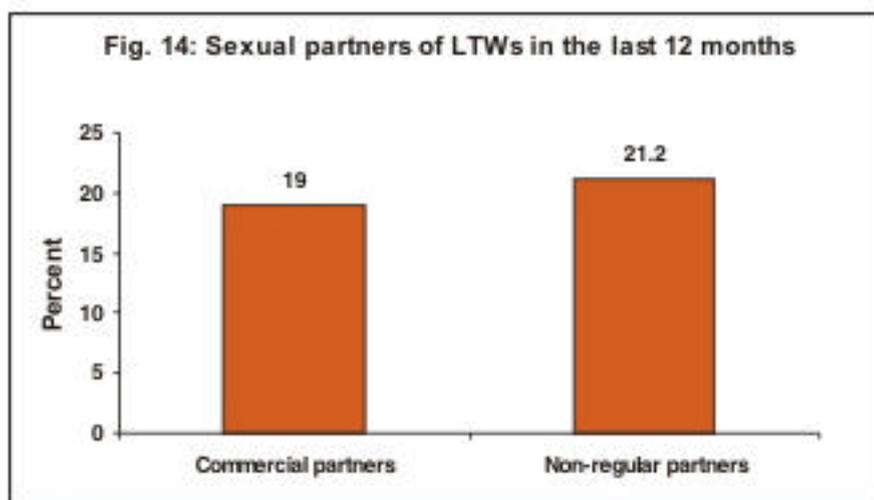
About 72 percent of the MSM respondents claimed to have used condom with their commercial partners when they had sex the previous time. Interestingly, a slightly higher proportion of MSM (77 percent) reported using condom with their non-commercial partners the previous time they had sex. Consistent condom usage (in the past one month) with their commercial and non-commercial partners was about 60 percent (Fig. 13).



Light transport workers (LTWs)

Sexual partners

About one-fifth of the light transport workers (19 percent) reported having sex with female sex workers in the previous 12 months. Almost a similar proportion of the LTWs (21 percent) indicated having non-regular partners in the past one year (Fig. 14).



Condom use

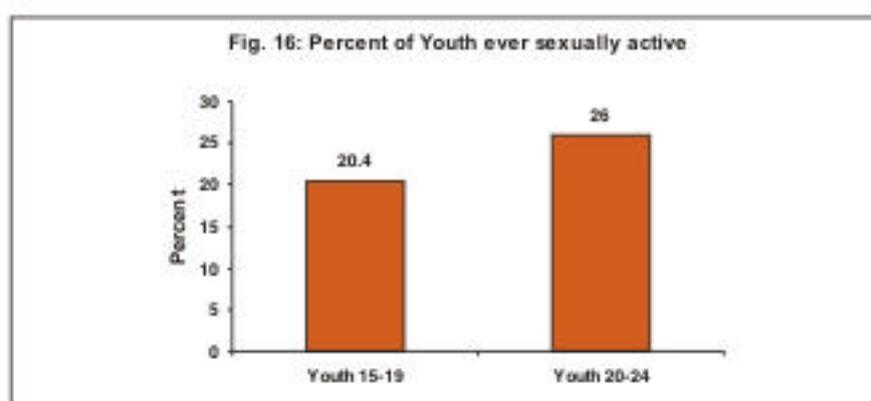
A majority of the LTWs (89 percent) claimed to have used condom the previous time they had sex with a commercial partner. About 77 percent of the LTWs reported consistent condom with commercial partners in the past one year. Condom usage with non-regular partners was found to be low. While 39 percent of the LTWs used condom the previous time they had sex with a non-regular partner, consistent condom usage was lower at 24 percent (Fig. 15).



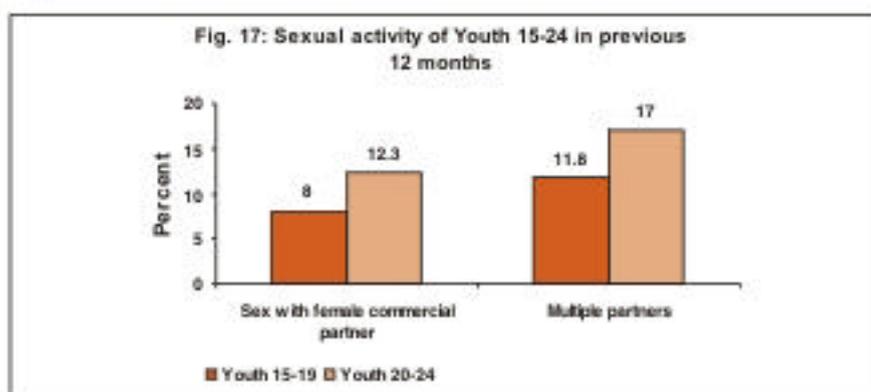
Slum youth (aged 15-19 and 20-24 years)

Sexual partners

About a fifth of the slum youth in the age group of 15-19 years, and about a quarter of the youth in the age group of 20-24 years reported ever having sexual intercourse (Fig. 16). The mean age of first penetrative sex was 16 for the youth aged 15-19, and 19 for the youth aged 20-24.

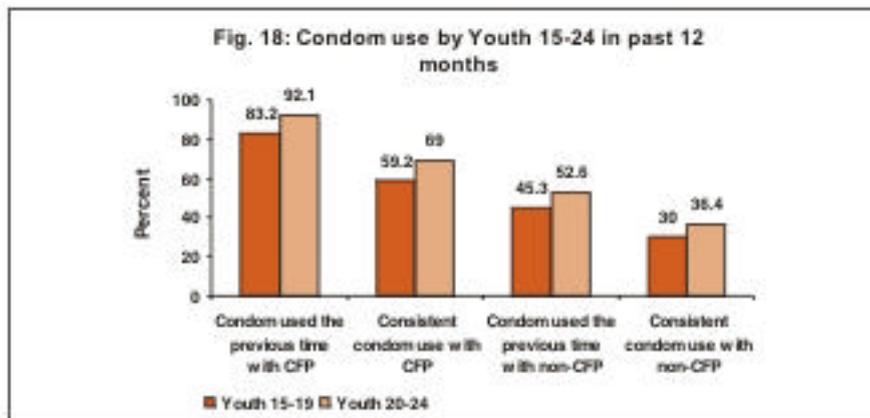


Only eight percent of the slum youth aged 15-19, and 12 percent of the youth aged 20-24 reported having sex with female commercial partners in the past one year. About 12 percent of the youth aged 15-19 years and 17 percent of the youth aged 20-24 years indicated having sex with multiple partners (Fig. 17).



Condom use

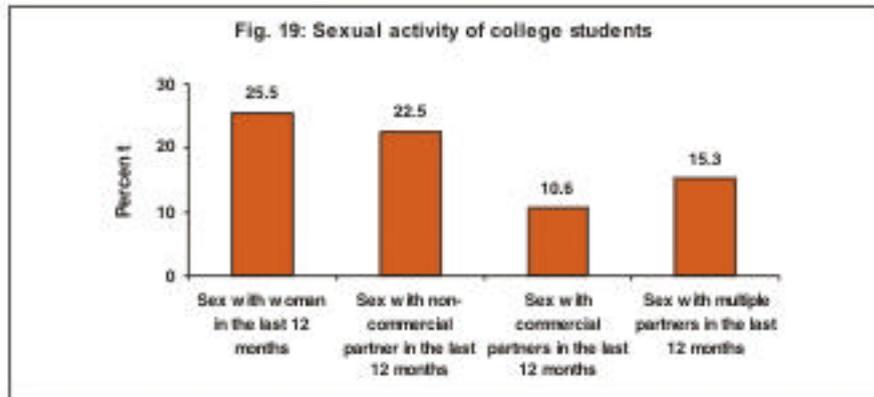
More than three quarters of the youth aged 15-19 (about 83 percent) and 20-24 years (92 percent) reported having used condom the previous time they had sex with commercial female partners (CFP). More than half of the youth (59 percent of youth 15-19, and 69 percent of youth 20-24 years) indicated that they used condom every time they had sex with their commercial female partner in the past 12 months. About half of the youth (45 percent of youth aged 15-19 years, and about 53 percent of youth aged 20-24 years) reported that they used condom the previous time they had sex with their non-commercial female partners (non-CFP). Consistent condom use (in the past one year) with non-commercial female partners was low in case of both the groups (30 percent among the youth aged 15-19 years, and 36 percent among the youth aged 20-24 years) (Fig. 18).



Male unmarried college students

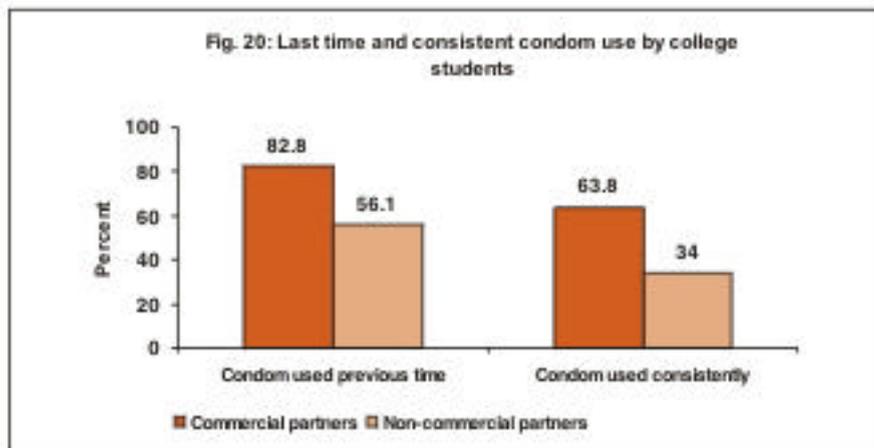
Sexual partners

A quarter of the students indicated that they were sexually active in the past one year. About 23 percent of the students reported having sex with non-commercial partners, and about 11 percent students indicated having sex with commercial partners in the past one year (Fig. 19).



Condom use

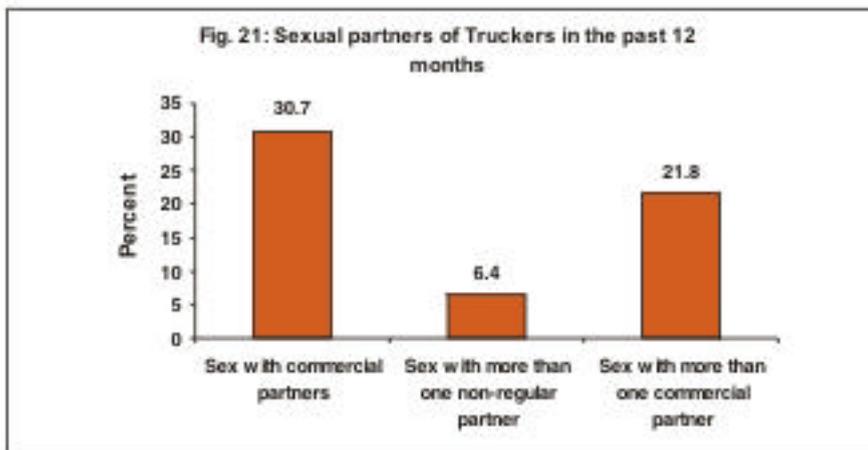
It is encouraging to note that a large proportion of students (83 percent) used condom the last time they had sex with a commercial partner. However, only about half of the students used condom the last time they had sex with a non-commercial partner. Only 34 percent of the students reported using condom consistently with non-commercial partners in the past one year (Fig. 20).



Truckers

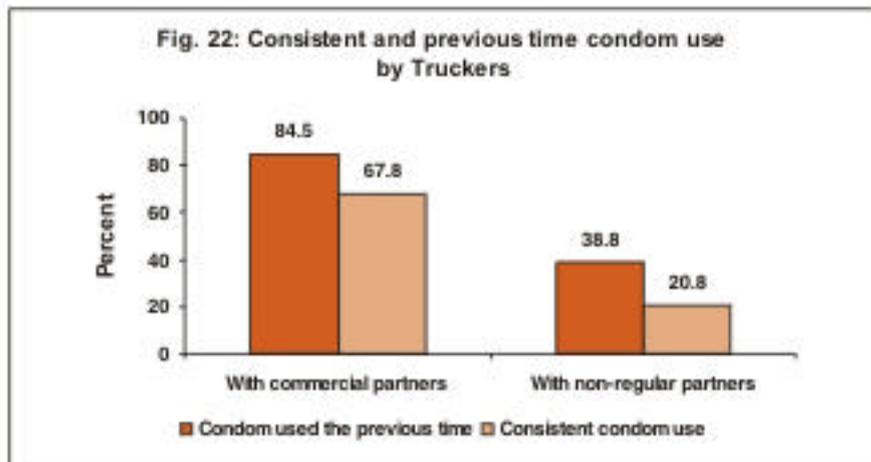
Sexual partners

About a third of all the truckers interviewed (31 percent) reported sex with commercial partners in the past 12 months. A small proportion of truckers (6 percent) indicated that they had sex with non-regular partners (partners never married to, never lived with or paid for having sex) in the past one year. Sex with more than one commercial partner was reported by about 22 percent of the truckers (Fig. 21).



Condom use

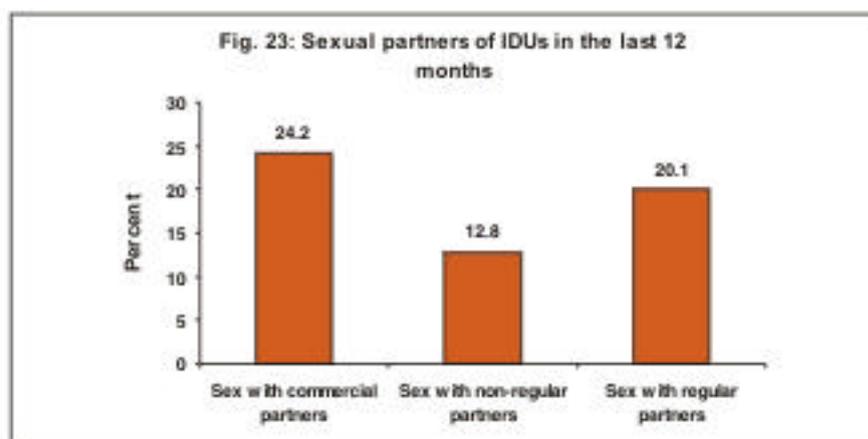
A large proportion of truckers (85 percent) reported using condom the previous time they had sex with a commercial partner. However, usage of condom during the last sex act was very low (about 39 percent) with non-regular partners. Almost 68 percent of the truckers reported using condom every time they had sex with commercial partners but the percentage was low with non-regular partners (about 21 percent) (Fig. 22).



Injecting drug users (IDUs)

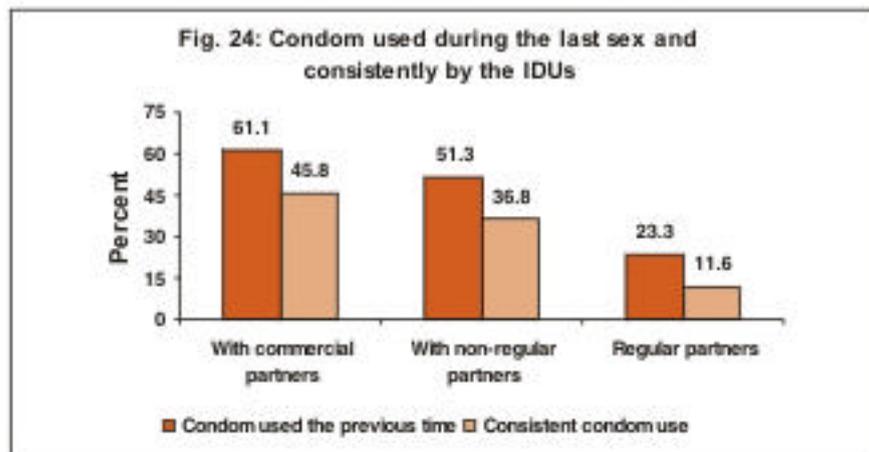
Sexual partners

About a quarter of the injecting drug users reported having sex with commercial partners in the last 12 months. They also reported having sex with non-regular partners (about 13 percent) and regular partners (20 percent) (Fig. 23).



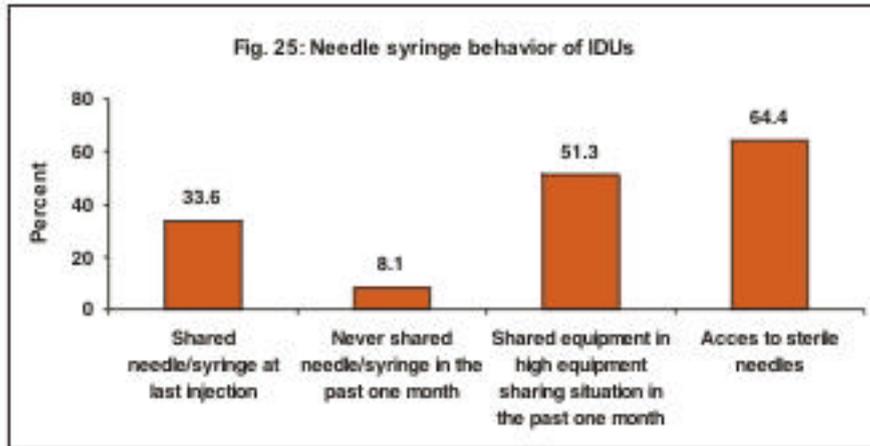
Condom use

About 61 percent of the injecting drug users reported that they used condom the previous time they had sex with a commercial partner. About a half (51 percent) and a quarter (about 23 percent) of IDUs used condom with non-regular and regular partners, respectively, during the last sexual encounter. Consistent condom use by the IDUs was relatively lower with commercial partners (about 46 percent), non-regular partners (about 37 percent), and regular partners (about 12 percent) (Fig. 24).



Needle Syringe Behavior

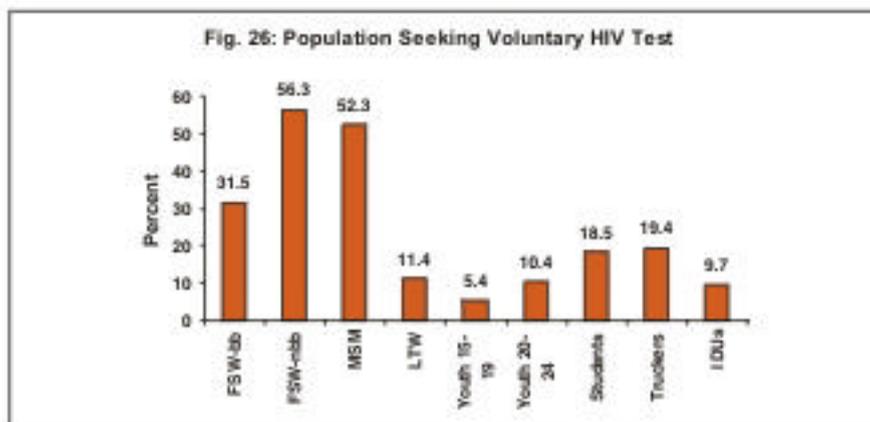
Although about 64 percent of the IDUs reported to have access to sterile needles, a high proportion of them shared needles in high equipment sharing situations (about 51 percent). About a third of IDUs indicated that they shared needle/syringe last time they injected. Only about 8 percent reported never sharing needle/syringe in the past one month (Fig. 25).



Other key Indicators

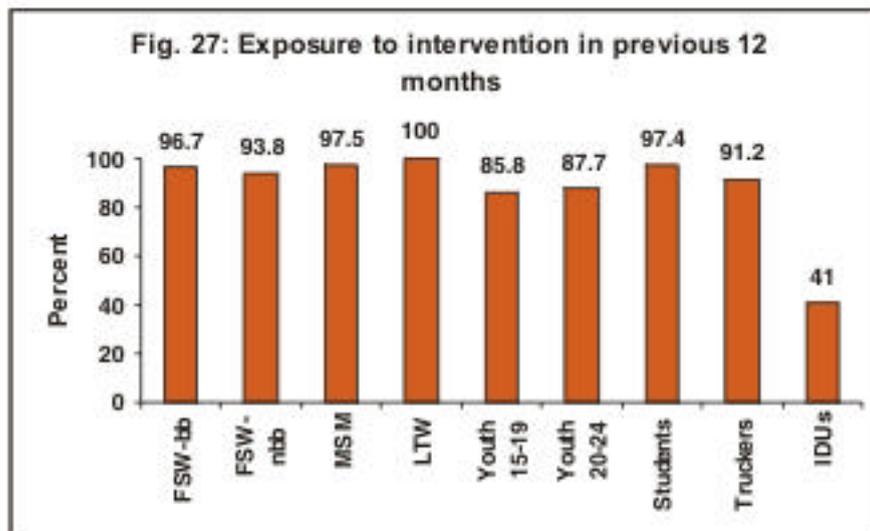
Population seeking voluntary HIV tests

Among all the population groups, a large proportion of non-brothel based sex workers (about 56 percent) and MSM (about 52 percent) reported having sought HIV test voluntarily. About a third of the brothel based sex workers (32 percent) claimed to have tested for HIV willingly. Less than a fifth of the students (18 percent) and truckers (19 percent) reported testing for HIV voluntarily. Voluntary testing for HIV was lower among other population groups (about 11 percent among LTWs, 5 percent among youth 15-19, 10 percent among youth 20-24 and IDUs) (Fig. 26).



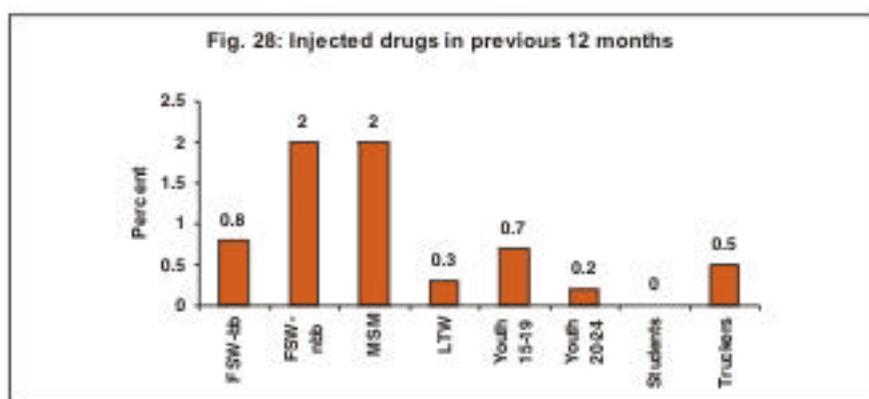
Exposure to interventions in previous 12 months

A majority of several population groups reported that they were exposed to some form of intervention in the previous 12 months. The exposure to intervention was somewhat lower among youth 15-19 (about 86 percent) and youth 20-24 (88 percent). However, the scenario was very bad among injecting drug users with less than half (41 percent) reporting exposure to intervention (Fig. 27). Although all the LTWs reported seeing billboards/posters, very few of them (16 percent) were approached for HIV/AIDS education, and given opportunity to participate in a campaign or meeting (about 20 percent).



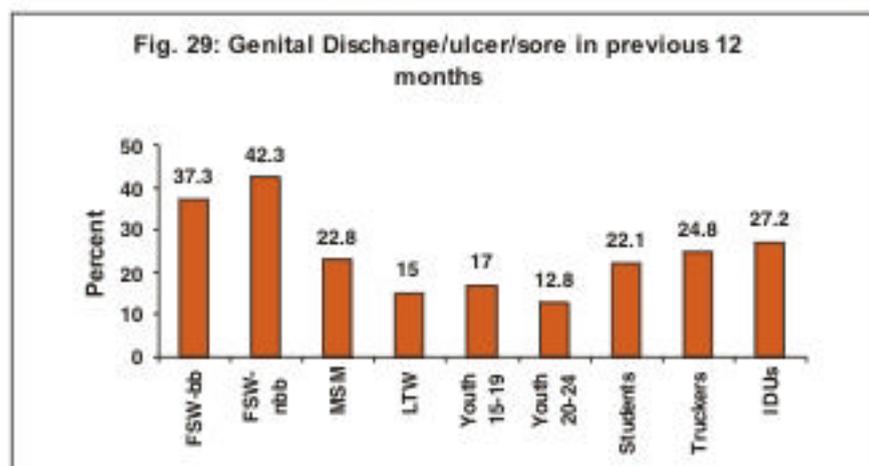
Injected any illegal/non-medical drugs in previous 12 months

Non-brothel based sex workers and MSM (2 percent each) reported that they injected drugs in the past 12 months. Less than one percent of the brothel based sex workers, light transport workers, youth, and truckers indicated having injected drugs in the past one year. None of the students reported injecting drugs (Fig. 28).



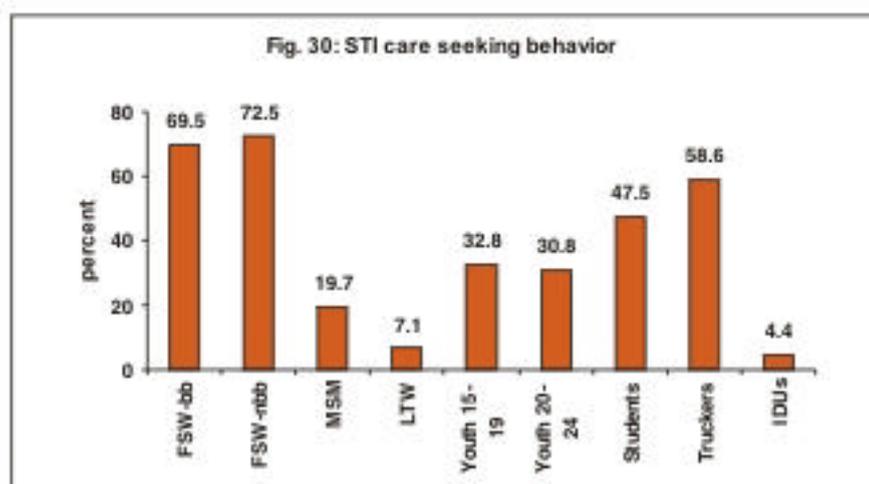
Genital discharge and genital ulcer/sore in previous 12 months

A large proportion of non-brothel based sex workers (42 percent) and brothel based sex workers (37 percent) reported at least one STI (including discharge, ulcer and sore) in the past 12 months. About a quarter of the truckers (25 percent) and IDUs (about 27 percent) reported that they were infected with at least one of the above-mentioned STIs. About 22 percent of the students and MSM, 17 percent of the youth 15-19 and 15 percent of the LTWs reported the incidence of any one of the STIs in the last one year (Fig. 29).



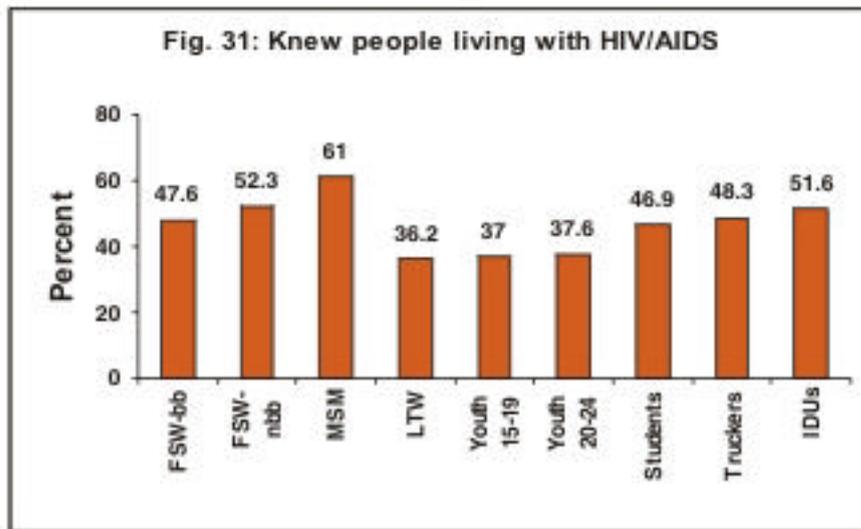
STI care seeking behavior

STI care seeking behavior was studied among those who reported any STI symptoms in the past 12 months. A large proportion of sex workers (about 70 percent of FSW-bb and 73 percent of FSW-nbb) indicated to have sought STI care from qualified allopathic practitioner. More than half of the truckers (about 59 percent) and about half of the students (about 48 percent) reported that they sought STI care from the qualified allopathic practitioner. STI care seeking from qualified allopathic practitioner was low among other target group respondents (about a third of the youth, about 20 percent of the MSM and 7 percent of the LTWs) (Fig. 30).



Know people living with HIV/AIDS

Sixty-one percent of the MSM reported knowing people living with HIV/AIDS. About half of the sex workers (about 48 percent of the FSW-bb, and 52 percent of the FSW-nbb), students (47 percent), truckers (48 percent) and IDUs (52 percent) also indicated that they knew people living with HIV/AIDS. More than a third of other respondent groups (36 percent of the LTWs, 37 percent of the youth 15-19 and 38 percent of the youth 20-24 reported knowing people living with HIV/AIDS (Table 31).



CONCLUSIONS

Female sex workers (brothel and non-brothel based)

- Sex workers were vulnerable to HIV because of their high partner turnover (15 and 14 clients/ week for FSW-bb and FSW-nbb, respectively).
- A large proportion of sex workers claimed to use condom with clients. However, they continued to be vulnerable to HIV infection because of low use of condom with their non-paying partners. Only about a third of the FSW-bb and a quarter of the FSW-nbb reported to have used condom the last time they had sex with their non-paying partners.
- While more than 70 percent of the FSW-bb used condom consistently with clients, only about half of the FSW-nbb did the same thing. Only about one-tenth of the sex workers used condom consistently with their non-paying clients.

Men having sex with Men (MSM)

- More than 70 percent of the MSM reported to have used condom during the last sex with commercial partner and non-commercial partner. Consistent condom use with non-commercial partners was reported by more than 60 percent MSM.
- More than 95 percent of the MSM claimed to have had anal sex with multiple partners in the past one month. Genital and anal ulcers were also high among the MSM population (16 percent). Only about 20 percent of the MSM reported to have sought STI care from qualified allopathic practitioner.

Light Transport Workers (LTWs)

- About 19 and 21 percent of the LTWs reported to have commercial and non-regular partners in the past 12 months.

- More than three-quarters of the LTWs used condom the last time they had sex and consistently with commercial sex workers. However, condom use with non-regular partners was low. Only about 7 percent of the LTWs sought care from qualified allopathic practitioner.

Male slum youth aged 15-19 and 20-24 years

- A higher proportion of youth in the age group of 20-24 years (about 12 percent) reported having sex with commercial partners in the past 12 months. About 12 and 17 percent of the youth 15-19 years and youth 20-24 years, respectively, claimed to have multiple partners in the past one year.
- Slum youth also reported low condom use during the last sex with non-commercial partner (about 45 percent of youth 15-19 years, and about 53 percent of youth 20-24 years) when compared to the commercial partners (about 83 percent of youth 15-19 years, and 92 percent of youth 20-24 years). Similarly, slum youth reported low consistent condom use with non-commercial partners (30 percent of youth 15-19 years, and about 36 percent of youth 20-24 years) when compared to commercial partners.
- Knowledge of HIV prevention methods was very low among the slum youth (39 percent of the youth 15-19, and 40 percent of the youth 20-24).

Male college students

- While about 11 percent of the students reported having commercial sex partners, about 15 percent had sex with multiple partners in the past 12 months. Condom use by the students (during the last sex and consistent use) was low with non-commercial partners.
- Although a high proportion of students (about 83 percent) indicated having used condom last time they had sex with commercial partner, it was low in case of sex with non-commercial partners (about 56 percent).

Truckers

- Among all the population groups, a high proportion of truckers had sex with commercial partners (about 31 percent).
- Truckers also reported having sex with non-regular partners (about 14 percent).
- Consistent condom use by truckers was high with commercial partners (about 68 percent) and low with non-regular partners (about 21 percent).

Injecting drug users (IDUs)

- Injecting drug users were the most vulnerable group due to high partner exchange, lack of knowledge about HIV transmission, low condom usage with commercial partners, lack of exposure to intervention, and relatively high needle sharing behavior.
- Although a high proportion of IDUs (64 percent) had access to sterile needles, more than half of them shared needles in high equipment sharing situations, and about a third of them during the last injection. Only about 8 percent of the IDUs reported not sharing needles in the past one month.

KEY RECOMMENDATIONS

- Effective intervention needs to focus on non-paying partners of sex workers among whom condom usage is low
- High vulnerability among non-brothel based sex workers needs more focused and specific approach
- As youth (slum youth and college students) are emerging as high risk groups, there is a need for specialized programs among these groups
- IDUs are the most vulnerable target group needing immediate programmatic attention
- Need for promoting STI care seeking behavior among the male clients of sex workers

APPENDIX - I

BSS Indicators (Wave II) at a glance (95 percent CI)

Core Indicators	FSW-bb	FSW-nbb	MSM	LTW	Youth 15-19	Youth 20-24	Students	Truckers	IDUs
Percent of respondents who identified consistent condom use as a method of reducing the risk of contracting HIV (Base: All respondents)	87.6 (85.6, 89.6)	88.9 (87.0, 90.8)	75.0 (72.4, 77.6)	76.3 (70.2, 82.4)	75.9 (72.9, 78.9)	78.1 (75.0, 81.2)	89.4 (87.2, 91.6)	84.5 (81.5, 87.5)	78.2 (72.4, 84.0)
Percent of respondents with correct knowledge of HIV prevention (consistent condom use, having uninfected faithful partner, and abstaining from sex) (Base: All respondents)	58.7 (50.36, 57.04)	59.4 (56.23, 62.57)	75.0 (72.38, 77.62)	42.0 (30.09, 50.91)	38.9 (34.37, 43.43)	39.7 (34.98, 44.42)	55.3 (51.33, 59.27)	53.7 (49.6, 58.54)	39.2 (20.71, 38.30)
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)	49.5 (46.12, 53.08)	48.4 (44.63, 51.87)	54.4 (51.25, 57.52)	53.8 (45.04, 60.96)	44 (39.66, 48.34)	47.3 (42.89, 51.71)	70.9 (67.70, 74.10)	56.1 (57.57, 60.63)	33.6 (24.34, 42.66)
Percent of sex workers who reported using a condom with their most recent client (Base: All respondents)	79 (76.75, 81.25)	69.6 (66.66, 72.34)							
Percent of sex workers who reported always using condom with every client during the previous month (Base: All respondents)	71.3 (68.67, 73.93)	52.8 (49.39, 56.21)							
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 the previous seven days)	32.4 (29.75, 43.65)	23.7 (12.65, 34.55)							
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 in the previous seven days)	11 (5.57, 16.43)	10.4 (0.0, 22.13)							
Percent of sex workers who reported having injected drugs at least once in previous 12 months (Base: All respondents)	0.8 (0.3, 1.3)	2 (1.1, 2.9)							

Genital discharge in the last 12 months (Base: All respondents)	10 (8.2, 11.8)	14.2 (12.1, 16.3)	16.6 (14.2, 19.0)	0.2 (0.0, 0.4)	3.1 (1.9, 4.3)	1.3 (0.5, 2.1)	2.7 (1.5, 3.9)	2.5 (1.2, 3.8)	6.4 (4.5, 12.3)
Genital ulcers/sores in previous 12 months (Base: All respondents)	12.1 (10.1, 14.1)	17.7 (15.4, 20.0)	19 (16.5, 21.5)	6.0 (2.6, 9.4)	5.2 (3.6, 6.8)	3.5 (2.1, 4.9)	4.9 (3.3, 6.5)	6.6 (4.8, 8.5)	10.4 (8.1, 14.7)
Proportion of respondents seeking STI care from qualified allopathic practitioner (Base: Those reported any STI in the past one year)	69.5 (64.3, 74.7)	72.5 (68.3, 76.7)	19.7 (14.3, 25.1)	7.1 (0.0, 17.0)	32.8 (24.6, 41.0)	35.8 (20.7, 40.9)	47.5 (39.7, 55.3)	56.6 (50.5, 66.7)	4.4 (0.0, 10.0)
Anal ulcers/sores in the last 12 months (Base: All respondents)			16 (13.6, 18.4)						
Percent respondents who reported anal sex with more than one other man in previous one month (Base: All respondents)			95.2 (94.39, 96.1)						
Percent 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)			77.4 (74.82, 79.98)						
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)			60.7 (57.3, 64.1)						
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)			72.1 (68.52, 75.68)						
Percent 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)			59.6 (55.5, 64.1)						

- Seen billboards/ posters/leaflets on STI/HIV/AIDS in previous 12 months	55.6 (34.5, 97.0)	93.1 (98.5, 99.7)	96 (94.7, 97.3)	100	83.5 (80.5, 86.1)	85.2 (82.6, 87.6)	96.6 (95.3, 97.9)	90.8 (88.4, 93.2)	
- Been approached for education on spread of STI/HIV/AIDS in previous 12 months	66.9 (67.0, 90.8)	74.2 (71.4, 77.6)	71.4 (68.5, 74.3)	16.1 (10.8, 21.4)	22.7 (19.7, 25.7)	23.8 (20.6, 27.0)	53.9 (50.3, 57.5)	58.3 (52.2, 60.4)	84.4 (79.3, 89.5)
- Attended/participated in campaigns or meetings on STI/HIV/AIDS in previous 12 months	50.2 (56.2, 62.2)	47.1 (44.0, 50.2)	61.4 (58.3, 64.5)	19.6 (13.9, 25.3)	20.4 (17.5, 23.3)	20.8 (17.8, 23.8)	51.9 (48.3, 55.5)	23.1 (19.6, 26.6)	38.5 (31.7, 45.3)
- Received free medical check ups for STI/HIV/AIDS in previous 12 months	55.6 (52.8, 58.8)	49.4 (46.3, 52.5)	67.7 (64.7, 70.7)	4.3 (1.4, 7.2)	12.1 (9.8, 14.4)	12.3 (9.9, 14.7)	15.3 (12.7, 17.9)	20.6 (17.3, 23.9)	26.2 (20.1, 32.3)
Proportion of respondents who reported sharing injecting equipment the last time they injected drugs (Base: All respondents)									33.6 (24.34, 42.86)
Proportion of respondents who reported never sharing injecting equipment during any episode of injection in the last month (Base: All respondents)									6.1 (4.98, 11.22)
Proportion of respondents who reported sharing equipment in any high equipment sharing situation at least once in last month (Base: All respondents)									51.3 (43.38, 59.22)
Proportion of respondents reported having access to sterile needles through pharmacies or needle exchange programs (Base: All respondents)									64.4 (57.63, 71.17)

APPENDIX - II

Members of Project Advisory Committee

<p>1) Director General 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 Phone: (022) 2262 1006</p>	<p>2) Project Director Mumbai District AIDS Control Society (MDACS) AcWorth Complex, R. A. Kidwai Marg, Wadala Mumbai – 400 031 Phone (022) 2410 0246</p>
<p>3) Project Director Maharashtra State AIDS Control Society (MSACS) AcWorth Complex, R. A. Kidwai Marg, Wadala Mumbai – 400 031 Phone: (022) 24113097</p>	<p>4) Christopher G. Barrett Infectious Diseases and HIV/AIDS Fellow US Agency for International Development (USAID) USAID/PHN – American Embassy, Shantipath, Chanakyapuri, New Delhi – 110 102 Phone: (011) 2419 8454</p>
<p>5) Rajatashuvra Adhikary Manager – Evaluation, Surveillance and Research Family Health International Ground Floor, Ashoka Hotel, Chanakyapuri New Delhi – 110 021 Phone: (011) 2687 3950</p>	<p>6) Ashok Row Kavi Chairperson, The Humsufar Trust 2nd Floor, Vakola Municipal Market Building Vakola Kaleena Main Road, Santa Cruz (East) Mumbai – 400 055 Phone: (022) 26187476</p>
<p>7) Virupax Ranebennur Research Specialist, Avert TSG-HLPPT Hindustan Latex Family Planning Promotion Trust 301-303, Shiv Ashish Commercial Complex, 3rd floor, 19th road, Chembur, Mumbai – 400 071 Phone: (022) 2523 3514</p>	<p>8) Jayanta Kumar Basu Research Specialist Avert Society, AcWorth Complex, R. A. Kidwai Marg, Wadala Mumbai – 400 031 Phone: (022) 24164510 / 16 / 28 E-mail : jayanta@avertsociety.org</p>



AVERT

100 AIDS Prevention and Control
Project for Maharashtra

Avert Society, AcWorth Complex, R. A. Kidwai Marg, Wadala (West), Mumbai - 400 031.
Info@avertsociety.org Website: www.avertsociety.org