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.

Avert Society is currently supporting over 75 projects on HIV/AIDS prevention and Care & Support in seven districts of Maharashtra through the five strategic inteventions like Targeted Interventions, Care & Support, Capacity Building, Communication and Research.

Project Goal

Develop sustainable responses to reduce the transmission of HIV/AIDS among high-risk groups and vulnerable populations and provide care and treatment services to people infected and affected by HIV/AIDS in the targeted areas of Maharashtra State.

Strategic Objective

To scale up prevention activities to saturate (85 to 90%) coverage of high-risk groups and vulnerable populations in selected core districts.

To develop a networked model to provide integrated prevention, care and treatment services to people living with HIV/AIDS in selected core districts.

To build the capacity of state AIDS Societies, NGOs, public and private health care institutions and other agencies for ensuring the sustainability of the program.

MK

Wave III

Behavioral Surveillance Survey (BSS) in Maharashtra

SUMMARY REPORT

Study conducted by TNS India Pvt. Ltd.

With technical assistance from

Avert Society

Avert
HIV-AIDS Prevention and Control Project for Maharashtra

USAID | INDIA
FROM THE AMERICAN PEOPLE

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.

It gives me immense pleasure to pen a few lines on the report on Behavioral Surveillance Survey (BSS) Wave III in Maharashtra conducted by Avert Society under financial support from United States Agency for International Development (USAID). Maharashtra is always in the forefront for 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.

Vimal

Dr. (Mrs.) Vimaltai Mundada

Message from Hon. Minister of State for Rural Development, Public Health & Family Welfare and Water Supply and Sanitation

MINISTER OF STATE FOR RURAL DEVELOPMENT, PUBLIC HEALTH AND FAMILY WELFARE AND WATER SUPPLY AND SANITATION

Government of Maharashtra
Mantralaya, Mumbai - 400 032.

I am happy to write a few lines on the study report on Behavioral Surveillance Survey (BSS) Wave III in Maharashtra conducted by Avert Society under financial support from United States Agency for International Development (USAID). We the people of Maharashtra are trying our best to arrest the growth of HIV / AIDS by different prevention and control programmes.

I am sure this report will be very useful for all agencies and individuals in the fight against STI / HIV / AIDS not only in the State of Maharashtra but also elsewhere in the country.

I greatly appreciate the role undertaken by Avert Society in conducting this study and bringing out this summary report.

Ranjit Kamble

Message from Secretary to Government of Maharashtra, Public Health & Family Welfare Department & Chairperson of Avert Society

Over the Years, Avert Society, Maharashtra State AIDS Control Society (MSACS) and Mumbai Districts AIDS Control Society (MDACS) implemented a number of activities as a part of National AIDS Control Program under the leadership of National AIDS Control Organization (NACO) for the prevention of HIV / AIDS. Activities include awareness generation, behavior change communication, condom promotion and management of Sexually Transmitted Infection (STIs) including training of Health Care Providers (HCPs). Behavioral Surveillance Survey (BSS) is required to be conducted periodically to provide trends of behavioral indicators so as to handle program development for the expansion of interventions and reduction in the transmission of HIV / AIDS and Sexually Transmitted Infections (STI).

I appreciate the efforts made by Avert Society in implementing the Behavioural Surveillance Survey (BSS) Wave III in the selected districts of Maharashtra under financial support from United States Agency for International Development (USAID) and brining out this summary report.

I am sure this report will be useful for all agencies and individuals for the fight against STI / HIV / AIDS not only in Maharashtra, but also elsewhere in the Country.

Ms. Chandra Iyengar, IAS

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FOREWORD

The Avert Project is conducting Behavioral Surveillance Survey (BSS) since 2000 in Maharashtra State. The third wave of BSS was conducted in 2005-06. 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 survey provides critical information for assessing behavior change indicating effectiveness of the programs and for evidence based planning in prevention, care and treatment activities.

On behalf of USAID. I thank all those who made important contribution 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 all 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.

Robert Clay
Director
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Health and Nutrition
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In 1986, Maharashtra's first AIDS case was detected in Mumbai. The National AIDS Control Organisation (NACO) considers Maharashtra "a high prevalence state," with an HIV prevalence rate of 1.00 percent in antenatal clinics (ANC). Among 35 districts of Maharashtra, 22 districts are high prevalent. 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. 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.

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

Dr. P. P. Doke.
Director of Health Services, Mumbai.

ACKNOWLEDGEMENT

We are happy to publish the summary report of the Behavioural Surveillance Survey (BSS) Wave III 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.

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

PREFACE

Avert Society conducts the Behavioural Surveillance Survey (BSS) periodically in the seven districts allotted to it for implementation in Maharashtra. BSS provides trends of Behavioural indicators which help in program development and expansion of various thematic need based interventions in the districts. The finding of the study will also help to evaluate the impact of the activities and areas that need to be scaled up for intervention.

On behalf of Avert Society, we take this opportunity to thank USAID for their constant technical support and guidance. I would like to thank MSACS, MDACS, FHI-India & all our stakeholders/partners for their much needed support while implementing the study.

We would like to place on record our appreciation to the sub-grantees of Avert Society and NGOs for their co-operations during the implementation of the study in the field.

We would like to thank the Project Advisory Committee and Research Advisory Group for their technical support and involvement regularly during the tenure of the study, review of the study process, design and findings.

This study would not have been possible without the initiative of Mr. Jayanta Kumar Basu, Research Specialist – Avert Society who provided necessary technical support, monitored the entire process of the study meticulously and brought out this summary report. I would like to thank all the Avert Staff - Technical, Financial, Administrative and Secretarial for their co-operation in the smooth completion of the study. Special thanks to Mr. Vishwanath Koliwad, ex-Associate Project Director of Avert Society for his able guidance while conducting this study.

My special thanks also to the research team of TNS India Private Limited for conducting the study as per the design.

Last but not the least, I would like to thank all the respondents in the field who provided important insights, relevant information and shared their experiences without whom this study would not have been possible.

Anna Joy
Associate Project Director

ABBREVIATIONS

AIDS	—	Acquired Immuno Deficiency Syndrome
BSS	—	Behavioral Surveillance Survey
CBO	—	Community Based Organization
CI	—	Confidence Interval
CP	—	Commercial Partner
CS	—	Cluster Sampling
CSW	—	Commercial Sex Worker
DGHS	—	Directorate General of Health Services
FGD	—	Focus Groups Discussion
FHI	—	Family Health International
FSW	—	Female Sex Worker
FSW-BB	—	Female Sex Worker-Brothel Based
FSW-NBB	—	Female Sex Worker-Non-Brothel Based
HIV	—	Human Immune-Deficiency Virus
IDI	—	In-depth Interview
IDUs	—	Injecting Drug Users
LTWs	—	Light Transport Workers
MSM	—	Men who have sex with Men
MDACS	—	Mumbai District AIDS Control Society
MLWS	—	Married and Living With Spouse
MNLWS	—	Married but Not Living With Spouse
MSACS	—	Maharashtra State AIDS Control Society
NGO	—	Non-Governmental Organization
NMNLWS	—	Not Married and Not Living With Spouse
NACO	—	National AIDS Control Organization
PAC	—	Project Advisory Committee
STI	—	Sexually Transmitted Infection
SPSS	—	Statistical Package for Social Sciences
UFCS	—	Unmarried Female College Student
UFSY	—	Unmarried Female Slum Youth
UMCS	—	Unmarried Male College Student
UMSY	—	Unmarried Male Slum Youth
USAID	—	United States Agency for International Development
TD/H	—	Truck Drivers and Helper
TNS	—	Taylor Nelson Sofres

CONTENTS

BACKGROUND

India has had a sharp increase in the estimated number of HIV infections, from a few thousand in the early 1990s to around 5.2 million children and adults living with HIV/AIDS in 2003[2] which further increased to 5.7 million in 2005[1]. Now India ranks first in terms of number of people having HIV/AIDS followed by South Africa (5.5 million).

Though the adult prevalence rate is 0.91%, in a country like India, with a population of over one billion, a small change in percentage will lead to considerable implications in terms of magnitude. Since India has a large population and population density, coupled with low literacy levels and consequently low levels of awareness, HIV/AIDS is one of the most challenging public health problems ever faced by the country.[3]

As per the HSS, (NACO, 2005)[2], 38% of adults living with HIV were females and 57% lived in rural areas. The UN Population Division projections indicate that India's adult HIV prevalence will reach 1.9% by 2019. UN estimates that there were 2.7 million AIDS deaths in India between 1980 and 2000. As per the UN projections, AIDS related deaths in India would be 12.3 million during 2000-2015 and 49.5 million during 2015-50[4].

Avert Society, a joint project of NACO and USAID, established in November 2001 to combat HIV / AIDS in the State of Maharashtra, aims to increase the use of effective and sustainable response to reduce the transmission and mitigate the impact of STI, HIV and related infectious diseases in Maharashtra. Conducting the Behavioral Surveillance Survey in the targeted intervention districts of Maharashtra is one of the key activities of the Avert society.

The conceptual premise of Behavioral Surveillance Survey (BSS) is based on the classical HIV and STI serologic surveillance methods that comprise of repeated cross-sectional sentinel surveys of key population groups that affect the spread of HIV. The purpose of the BSS is to systematically monitor trends in HIV / STI risk behavior over time. Thus, it is imperative to conduct BSS at certain periodicity to track the behavior change in a systematic way.

The BSS wave III covered the same 7 districts (viz., Mumbai, Thane, Sangli, Solapur, Satara, Aurangabad, and Nagpur), which were covered in the previous wave. The wave III covers three new groups in addition to the groups covered in the wave II namely, Unmarried Female College Students, Unmarried Female Slum Youth aged 15-19 years and Unmarried Female Slum Youth aged 20-24 years. It was decided in the first Project Advisory Committee (PAC) meeting to undertake qualitative exploratory study among the

1. *UNAIDS 2006 Report on the Global AIDS Epidemic*
2. *HIV Sentinel Surveillance Report (HSS 2005) National AIDS Control Organization*
3. *UNPAN (2003) National AIDS Prevention and Control Policy (India) www.unpan.org*
4. *USAID (2003) HIV/AIDS Country Profile- India*

Unmarried Female Slum Youth 15-19 years and 20-24 years to so as to understand whether these groups can be covered in the quantitative survey in the subsequent waves of BSS.

As the behavior change is the best remedy and the only way to change the scenario of the current HIV pandemic, it is very important to understand the trends of behavioral indicators. While the Behavioral Surveillance Survey (BSS) is basically evolved from the classical STI and HIV serologic surveillance, its methodology has been consolidated through the experience of conducting the survey in many developing countries during the past decade. The purpose of the BSS is to systematically monitor trends in behavioral indicators over time that helps the program implementers to understand the outcome of interventions being carried out among the select population sub-groups who are vulnerable to HIV / AIDS.

The basic premises of BSS are as follows:

(a) It is conducted for fixed behavioral parameters for comparative analysis over time
(b) It is carried out in the same sub-population groups in the same program districts over time, and
(c) It is carried out periodically

One of the most important characteristics of BSS is its consistency over time. It employs consistent sampling methodology and data collection methods for tracking a consistent set of behavioral indicators over time. The entire approach is designed to allow for reliable tracking of trends over time.

The prime aim of the BSS wave III is to assess current risk behavior in specific sub population groups in the selected high prevalence districts of Maharashtra and to develop a database so as to measure behavioral changes from BSS second wave to third wave.

Objective

The BSS provides trends of Behavioral (including Care and Support) indicators so as to inform the program managers for the expansion of interventions leading to reduction in the transmission of HIV / AIDS and Sexually Transmitted Infections (STI) in the selected districts of Maharashtra.

Project Advisory Committee (PAC)

As per the study protocol, Project Advisory Committee (PAC) was formed. The PAC was expected to review the progress, give feed back on performance and provide technical inputs during the course of the study. The PAC formed under the chairmanship of the Project Director, Avert Society, had the members representing the following institutions/ agencies/ organizations :

- Avert Society
- United States Agency for International Development (USAID)
- Maharashtra State Aids Control Society (MSACS)
- Mumbai District Aids Control Society (MDACS)
- Family Health International (FHI)
- International Institute for Population Sciences (IIPS)
- Tata Institute of Social Science (TISS)
- The Humsafar Trust

The PAC members provided inputs for the progress of the project periodically on the following aspects:

1. Research Instruments, Sampling design, Target Groups and Study Area
2. Top line findings and the qualitative follow up study
3. Validation of draft report

Important technical and operational decisions were taken in the three PAC meetings that took place at the following stages of the study:

Stage 1: Before launching the field work to provide inputs on research instruments, sampling design, target groups and the study area.

Stage 2: Just after the completion of quantitative field work to review the top line findings and to provide inputs for the follow up qualitative study.

Stage 3: At the end of the project, to review and validate the draft report.

METHODS

Study Population

The methods adopted for BSS wave III is similar to the one adopted in BSS waves I and II. This section gives a brief description of the technical aspects and the operational issues of the BSS.

Target Groups

The BSS wave I was conducted by FHI/USAID in the year 1999-2000, which covered only six Target Groups, viz.,

1. Brothel based Female Sex Workers (FSW-bb)
2. Non-brothel based Female Sex Workers (FSW-nbb)
3. Men who have sex with Men (MSM)
4. Single Male Slum Youth aged 15-19 years (UMSY 15-19)
5. Single Male Slum Youth aged 20-24 years (UMSY 20-24)
6. Light Transport Workers (LTW)

In the BSS wave II, commissioned by Avert Society, three new Target Groups were added, viz

7. Truckers (TD/H)
8. Injecting Drug Users (IDUs)
9. Unmarried Male College Students (UMCS)

Further, three more Target Groups were added in the current wave of BSS :

10. Unmarried Female Slum Youth aged 15-19 years (UFSY 15-19)
11. Unmarried Female Slum Youth aged 20-24 years (UFSY20-24)
12. Unmarried Female College Students (UFCS)

The operational definition of the target groups are given in Table 1a and the definition of type of clients of FSW are given in Table 1b.

Table 1a: Population Groups Covered in BSS, Wave III

Female Sex Workers – Brothel Based (FSW-BB) Women reporting to have been paid for sex in cash by their paying clients (i.e. selling sex) at least once in the past one month and who operate from a brothel / red light area.

Female Sex Workers – Non Brothel Based (FSW-NBB) Women reporting to have been paid for sex in cash by their paying clients (i.e. selling sex) at least once in the past one month at defined sex access points and who do not affiliate to a permanent place of operation.

Men who have Sex with Men (MSM) Men who have had manual, oral or anal sex with men in the past 12 months and can be identified at places of aggregation for cruising, soliciting or having sex or hanging out. The proposed age group for this target group is 18-49 years.

Truckers (TD/H) Truck drivers / helpers (men) aged 18-50 years, who are associated with the present occupation for a period of not less than 2 years (in case of drivers) and 1 year (in case of helpers/ cleaners) with national permits for the truck.

Light Transport Workers (LTWs) Men aged 20-49 years, who operate taxi and auto rickshaw in Mumbai district.

Unmarried Male Slum Youth (15-19 yrs) (UMSY 15-19 yrs) Unmarried male youth aged 15-19 years residing in the government notified urban slums.

Unmarried Male Slum Youth (20-24 yrs) (UMSY 20-24 yrs) Unmarried male youth aged 20-24 years residing in the government notified urban slums.

****Unmarried Female Slum Youth (15-19 yrs) (UFSY 15-19 yrs)*** Unmarried female youth aged 15-19 years residing in the government notified urban slums.

****Unmarried Female Slum Youth (20-24 yrs) (UFSY 20-24 yrs)*** Unmarried female youth aged 20-24 years residing in the government notified urban slums.

Unmarried Male College Students (UMCS) Male students in degree colleges studying in first, second or third year who have never been married or staying with any sexual partner.

****Unmarried Female College Students (UFCS)*** Female students in degree colleges studying in first, second or third year who have never been married or staying with any sexual partner.

Injecting Drug Users (IDU) Men or women identified to have injected addictive drugs in the past three months for intoxication without medical advice. The age group proposed for this group is 18-49 years.

* Newly added population groups in the wave III

Table 1b: Definition of type of clients of FSW
1. **Paying Partner**: Person with whom FSW had sex in exchange of money. 2. **Non-Paying Partner**: Person who is not a spouse or live-in sexual partner and with whom FSW had sex without exchange of money.

Study Districts

BSS wave III was carried out in the same seven priority districts (namely Mumbai, Thane, Sangli, Satara, Solapur, Aurangabad and Nagpur), which were covered in the BSS wave II.

Sample size and Sampling design

The required sample size for each of the target groups was arrived at using the standard formula. The sample size was sufficient to detect a 10 percent change in behavioral indicators among brothel based sex workers (FSW-BB), 15 percent change among non-brothel sex workers, men who have sex with men, injecting drug users, truckers and light transport workers and 5 percent change among the remaining population groups such as unmarried male slum youth, female slum youth, unmarried male college students and unmarried female college students. Calculation of sample size for each target group was based on a 95 percent level of significance, with 80 percent power, assuming a design effect of two.

It was decided in the first PAC meeting that a qualitative study will be carried out among the Unmarried Female Slum Youth aged 15-19 years and 20-24 years so as to understand how vulnerable they are and whether these groups can be covered in the subsequent waves of BSS.

The conventional BSS methodology suggests using probability sampling method due to the following reasons :

- In probability sample, every person in the defined universe may be selected into the sample with a known (non-zero) probability (equal probability of selection)
- With a probability sample, it is possible to use the data to estimate the sampling error, or the effect of random fluctuations in sample selection on the accuracy of the observed results
- Estimates of population characteristics derived from surveys based on the probability sampling methods may be expected to approximate the 'true' population value (i.e. the proportion or mean) within a specified margin of error with a known probability. Probability methods produce data that can be interpreted with much greater confidence

Majority of the sub-population groups of particular interest to BSS are not easily accessible through conventional household or institutional sampling techniques. The primary challenge of conducting BSS is to devise sampling plans that are both feasible and capable of producing unbiased estimates (or estimates with minimum levels of bias) for population sub groups that are easily captured in the household surveys. As a practical matter, this requires:

- The use of conventional, probability sampling approaches in non-conventional ways
- The use of different sampling strategies for different sub-populations

Table 2 depicts the sampling approaches that were adopted for different population sub groups covered in the wave III of BSS, in line with the probability sampling method.

Table 2 Summary of Sampling Strategies by Target Population

Sl. No.	Sub Population Group	Sampling Strategy
1.	Female Sex Workers (FSWs) (Brothel based)	Conventional Three Stage Cluster Sampling
2.	Female Sex Workers (FSWs) (Non-Brothel based)	Two Stage Time-Location Cluster Sampling
3.	Men who have sex with men (MSM)	Two Stage Time-Location Cluster Sampling
4.	Truckers (TD/H)	Two Stage Time-Location Cluster Sampling
5.	Light Transport Workers - Auto rickshaw / taxi drivers (LTWs)	Two Stage Time-Location Cluster Sampling
6.	Unmarried Male Slum Youth (UMSY) (15-19 years)	Conventional Three Stage Cluster Sampling
7.	Unmarried Male Slum Youth (UMSY) (20-24 years)	Conventional Three Stage Cluster Sampling
8.	Unmarried Female Slum Youth (UFSY) (15-19) *#	Qualitative Study
9.	Unmarried Female Slum Youth (UFSY) (20-24) *#	Qualitative Study
10.	Unmarried Male College Students (UMCS)	Conventional Two Stage Cluster Sampling
11.	Unmarried Female College Students (UFCS) *	Conventional Two Stage Cluster Sampling
12.	Injecting Drug Users (IDU)	Two Stage Time-Location Cluster Sampling

** New groups added in the current wave*

 # Only FGD/IDI conducted among these groups

Unlike the conventional cluster sampling, Time Location Cluster Sampling is ideally adopted to capture the maximum number of different individuals who may be visiting a particular geographical location at different points of time in a day / week. All the geographical locations identified for such mobile populations were divided into relevant 'time location clusters' for carrying out BSS among the non-brothel based sex workers (FSW-NBB), Men having sex with Men (MSM), Truckers, Light Transport Workers (LTW) and Injecting Drug Users (IDU).

A rapid mapping exercise was undertaken across all the study sites to generate the sampling frame for each target group. Subsequently, 100 percent validation was carried out in the selected sites and the data was updated accordingly. Table 3 gives the sample size (proposed and achieved) for each of the target groups by domain.

Table 3: Proposed and Achieved Sample Size by Target Group and District

Population Groups	Mumbai		Sangli		Thane		Satara		Solapur		Aurangabad		Nagpur		Total	
	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A
FSW-BB	450	459	450	455	450	453	450	450	450	456			450	454	2700	2727
FSW-NBB	265	265	265	283	265	266	265	266	265	265	265	271			1590	1616
MSM	265	269	265	271	265	269	P:265; A:281				P:265; A:264				1325	1354
TRUCKERS	Combined														675	698
LTWs	935	936													935	936
UMSY(15-19)	575	574	575	588	P:575; A:585										1725	1747
UMSY(20-24)	875	884	875	899	P:875; A:900										2625	2683
UFSY(15-19)	Qualitative Study (FGD / In-depth Interviews)														FGD:7; FGD:7;	IDI:13 IDI:12
UFSY(20-24)	Qualitative Study (FGD / In-depth Interviews)														FGD:7; FGD:6;	IDI:13 IDI:13
UMCS	Combined														730	745
UFCS	Combined														1085	1098
IDU	270	270													270	270
	Total														13660	13873

Note 1: The calculated sample size per domain for each population groups has been rounded off

Note 2: P =Proposed Calculated Sample Size; A =Achieved Sample Size

The distribution of sample size for the combined domains was in proportion to the respective population in consultation with the PAC members. It was decided in the 1st PAC meeting that in case of Unmarried Male Slum Youth aged 15-19 years and 20-24 years, three domains (viz., Mumbai, Sangli and the rest of the five districts) would be considered. As the scenario of slums in Sangli is comparable to that of Mumbai, Sangli is considered as a separate domain for the Male Slum Youth groups. However, in BSS wave II, all the districts were considered as a single domain for this target group. The sample size for the college students (male/female) was distributed equally across all the domains as was done in the wave II.

Table 4 gives the sample size allocated to each domain in case of Trucker.

Table 4: Truckers Sample size								
District	**Mumbai**	**Thane**	**Sangli**	**Satara**	**Solapur**	**Aurangabad**	**Nagpur**	**Total**
Sample size (Proportion)	135 (20%)	135 (20%)	68 (10%)	68 (10%)	67 (10%)	67 (10%)	135 (20%)	675

Similarly, in case of the Unmarried Male Slum Youth (15-19 years and 20-24 years), the sample size was distributed in proportion to the population in the respective domains as indicated in Table 5.

Table 5: UMSY Sample size								
Target Groups	**Mumbai**	**Sangli**	**Thane**	**Satara**	**Solapur**	**Aurangabad**	**Nagpur**	**Total**
UMSY (15-19)	575	575	144 (25%)	58 (10%)	173 (30%)	86 (15%)	115 (20%)	1725
UMSY (20-24)	875	875	219 (25%)	88 (10%)	263 (30%)	131 (15%)	175 (20%)	2625

Training of Field staff

'Training' for BSS does not merely let the participant understand the inquiry areas of the survey but it also ensured the right 'attitude and skills' of the field staff to work among the target population groups. Since the survey deals with sensitive issues of sex, sexuality and sexual health, it is imperative that the questionnaire alone cannot ensure best results irrespective of how they are being administered in the actual field situations. The training of field staff covered the following issues :

- Understanding the concepts of Sex and Sexuality, HIV / AIDS, Sexually Transmitted Infections etc.
- Understanding and familiarizing with the lifestyles of the target population groups
- Self introspection of ones own ability and attitude to work with the 'hard to reach population groups'
- Inquiry areas of the questionnaires and questionnaire administration techniques
- Approach and Probing techniques including : how to approach, language, non-verbal expressions, documentation techniques and skills to handle agitated situation / respondent etc.
- Selection of respondents and Sampling techniques
- Other fieldwork protocols

As per the field team composition and field plan, two separate training programs each enduring for a period of four days was arranged in Mumbai and Pune separately. The training was imparted by senior field and research professionals from TNS, senior officials from Avert Society, independent consultants and senior functionaries from NGOs working among the population sub groups covered in the BSS. The following aspects were covered by the resource persons in the training program:

- Sexually Transmitted Infections (STI) and Human Immunodeficiency Virus (HIV) by STI/HIV expert
- Truckers by NGOs working among Truckers
- Injecting Drugs Users (IDU) by NGO working among IDUs
- Overall process of BSS

The co-operation and active participation of the resource persons created the desired interactive ambiance in the training programs and the participants were helped to delve into the information areas and skills required to work in the BSS. The training methods used include lectures, discussions, explanation of questionnaires, mock interviews, demonstration and field practice interviews etc.

NGO Networking

As the BSS works with so-called hard-to-reach groups, networking with NGOs who work with these groups was the major strategy adopted. Most of these groups are apprehensive about divulging information about them. Instilling confidence in them and developing rapport with them is a time bound process, which this kind of survey cannot afford to spend. Hence handholding with the NGOs becomes the only feasible solution to reach out to the group by using their 'platform' of 'trust and 'mutual respect'. Hence the cooperation of NGOs does matter a lot in carrying out the BSS.

In the task of carrying out BSS in the seven districts of Maharashtra, NGOs did play a major role both directly and indirectly. In view of its strategic importance, two staff members were fully deployed to work on NGO networking related issues. The help of NGOs was sought during the sampling frame development for different study groups in the study districts.

List of NGOs including name and address was obtained from Avert Society, MSACS and MDACS. These NGOs were contacted by TNS and Avert Society with a request for cooperation for conducting the BSS. In the initial phase, response was very limited, but with continued interaction through telephone, written correspondence and meetings, the working relationship improved. Barring a few instances of non-co-operation on various grounds in some of the districts, the exercise of NGO net working yielded very positive response from the NGOs. Timely completion of the fieldwork can be attributed to effective NGO networking.

Fieldwork

Soon after the training in Mumbai, the field work was launched in Mumbai and Thane simultaneously while the field work in rest of the districts was launched after the training at Pune. The field work for the BSS wave III was carried out during December 11, 2005 to February 10, 2006. Separate teams were allocated for each of the three regions namely Mumbai and Thane; Sangli, Satara and Solapur; and Aurangabad and Nagpur.

"Follow up qualitative study" was carried out among all the target groups to address the gaps identified in the Top Line quantitative findings. As suggested in the Second PAC meeting (organised to review the top line findings and provide inputs for the follow up qualitative study) Mini FGDs (with 4 to 5 participants) were carried out among FSW-BB, FSW-NBB and Unmarried Female Slum Youth 15-19 years and 20-24 years. In case of rest of the target groups, normal FGDs or IDIs were carried out. Table 6 gives the coverage of the follow up qualitative study.

Table 6 Coverage for Qualitative Follow up Study

Type	Mumbai	Aurangabad	Sangli	Nagpur	Type of Quali	Total
FSW-BB	2		2	2	Mini FGD	6
FSW-NBB	2	2	2		Mini FGD	6
MSM	1	1	1	1	IDI	4
Trucker	1	1	1	1	FGD	4
LTW-Auto	2				FGD	2
LTW-Taxi	2				FGD	2
UMCS	1	1	1	1	FGD	4
UFCS	1	1	1	1	FGD	4
UMSY15-19	1	1	1	1	FGD	4
UMSY20-24	1	1	1		FGD	3
UFSY15-19	1	1	1		Mini FGD	3
UFSY20-24	1	1	1	1	Mini FGD	4
IDU	4				IDI	4
Mini FGD	**6**	**4**	**6**	**3**		**19**
FGD	**9**	**5**	**5**	**4**		**23**
IDI	**5**	**1**	**1**	**1**		**8**

Periodic field visits were made by senior field and research professionals from TNS and spot visits were made by Avert Society officials to monitor the quality of the data.

Data Management and Analysis

Data were entered using package with in-built features for inter-record checks and intra-record checks. All possible care was taken in terms of errors and inconsistencies to avoid any difficulty at the stage of data processing. Firstly, the accuracy of the 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 beginning of the data processing. The analysis was carried out using SPSS.

In addition to the calculation of core behavioral indicators, tables were generated for other key variables. Weighted analysis was carried out applying sampling weights to the data. Standardized weights were calculated based on the sampling probabilities generated from the cluster information sheets. To understand significance of the difference from wave II and III, relevant statistical tests of significance (Z-test) was carried out.

Process of weighting analysis

The process of weighting had the following steps:

Step1: Calculate the weights by deriving the sampling probability with the information from the Cluster Information Sheets

Step2: Standardization of the weight using the formula

The standardized weight was calculated and incorporated for each of the target groups in each district except in case of the target groups where "TAKE ALL" sampling approach was adopted. With the help of calculated weight, the analysis was carried out once again so that the sample represents the whole population.

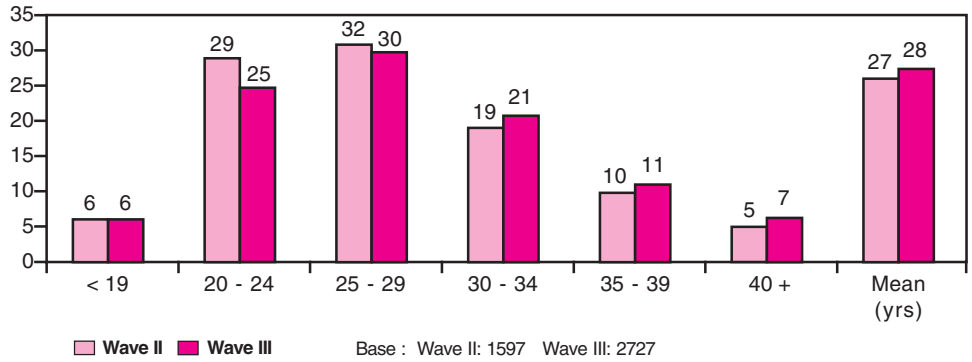
KEY FINDINGS

Socio-demographic profile

Age Distribution

The socio-demographic profile of each population group is illustrated below. The age distribution of FSW-BB and FSW-NBB is given in Fig1 and Fig 2 respectively.

Fig 1 : Age Distribution of FSW-bb



More than half of the brothel based sex workers (FSW-BB) (55%) are in the age group of 20-29 years. The mean age of FSW-BB increased by one year (from 27 years to 28 years) since wave II (Fig 1).

Fig 2 : Age Distribution of FSW-nbb

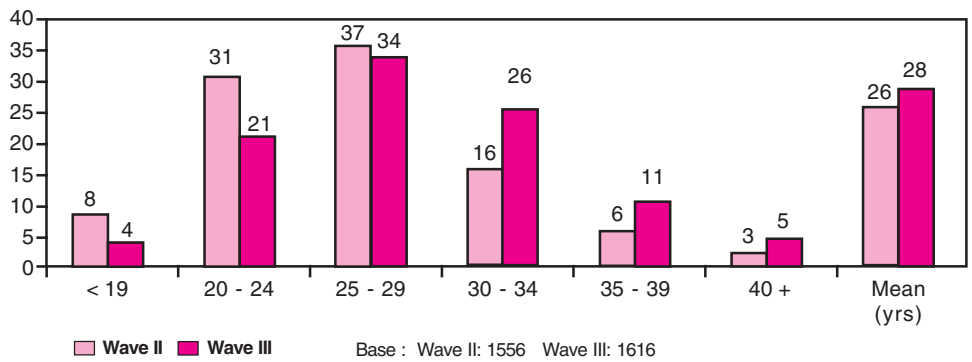
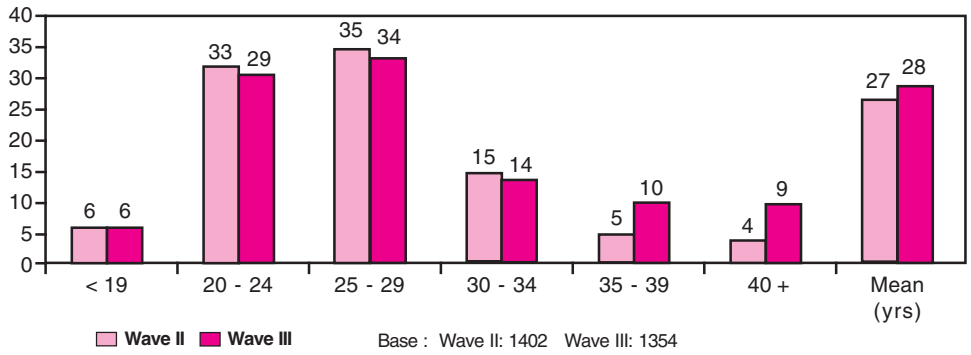
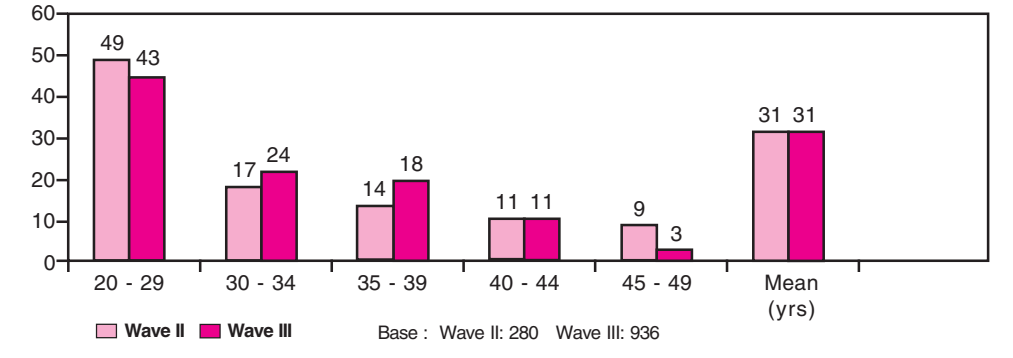


Fig 3 : Age Distribution of MSM



More than three fifth of the MSM (63%) are in the age group of 20-29 years and the proportion in the age group of 35-39 years slightly increased. The mean age of MSM also increased by 1 year (from 27 years to 28 years) (Fig 3).

Fig 4 : Age Distribution of LTW



The proportion of LTW in the age group of 20-24 years declined since the last wave but it increased in case of other age groups. There is no significant change in the mean age of the LTW (Fig 4).

Fig 5a : Age Distribution of UMSY 15-19 Years

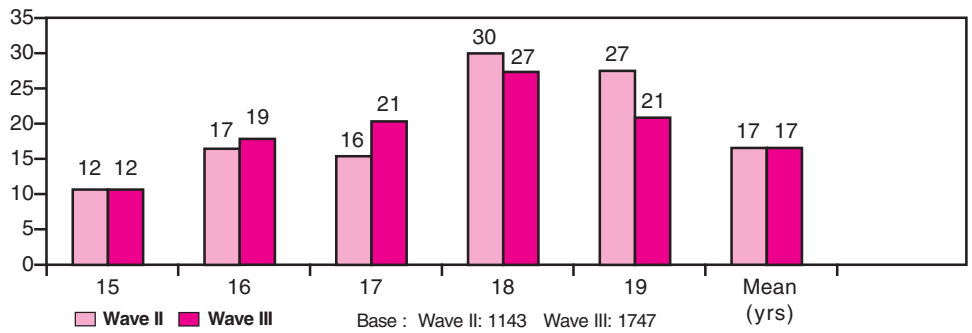
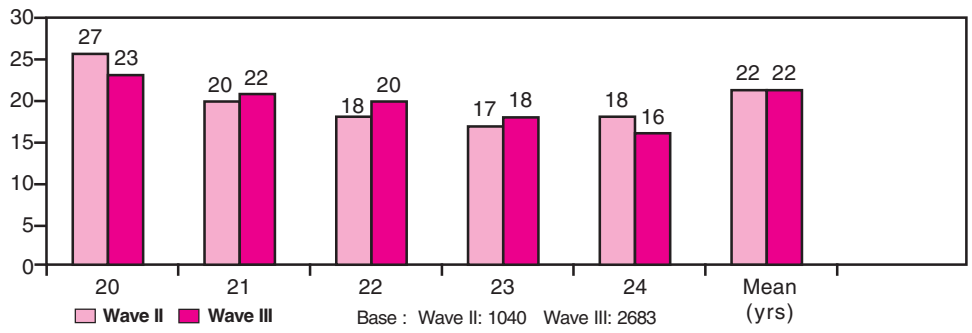
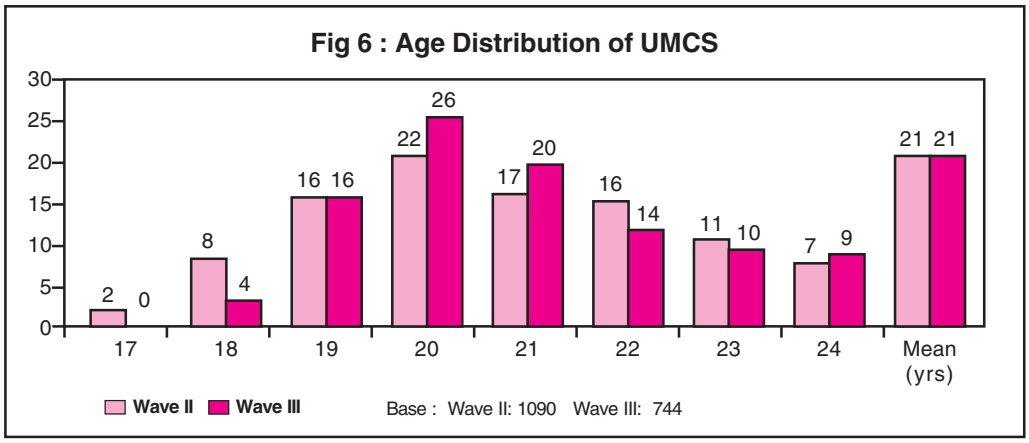


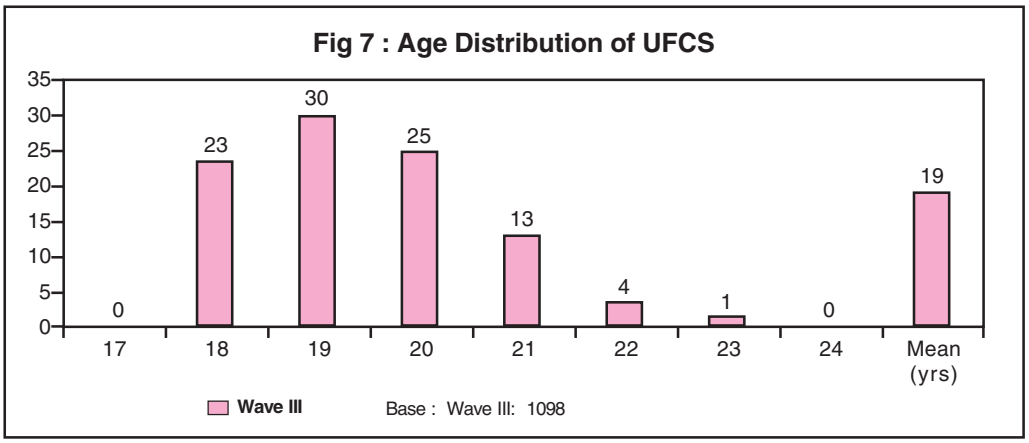
Fig 5b : Age Distribution of UMSY 20-24 Years



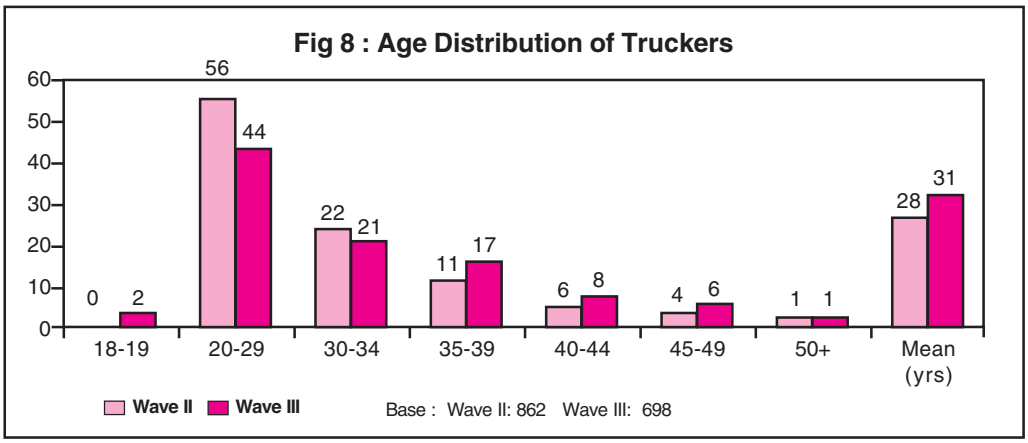
One fourth of the unmarried male slum youth of 15-19 years are aged 18 years with the mean age being 17 years (which is same as last wave). About one fourth of the unmarried male slum youth of 20-24 years are aged 20 years with the mean remaining same since the last wave (i.e. 22 years).



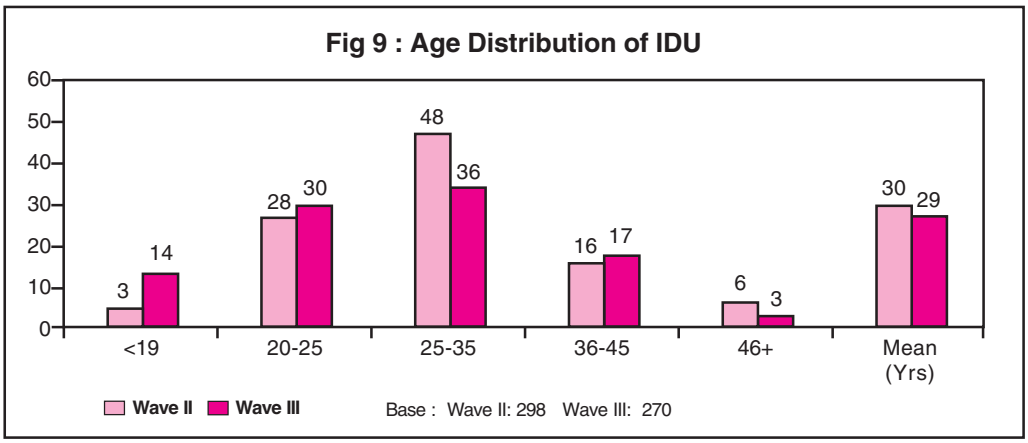
More than one fourth of the male college students are aged 20 years while one fourth are aged 21 years. The mean age for this group is not changed since the wave II (i.e. 21 years) (Fig 6).



More than one fourth of the female college students are of 19 years of age and the mean age is 19 years.



Though there is a decline in the proportion of truckers in the age group of 20-29 years since the last wave (from 56 % to 44%), majority of the truckers are from this group and the mean age increased since wave II (from 28 years to 31 years) (Fig 8).

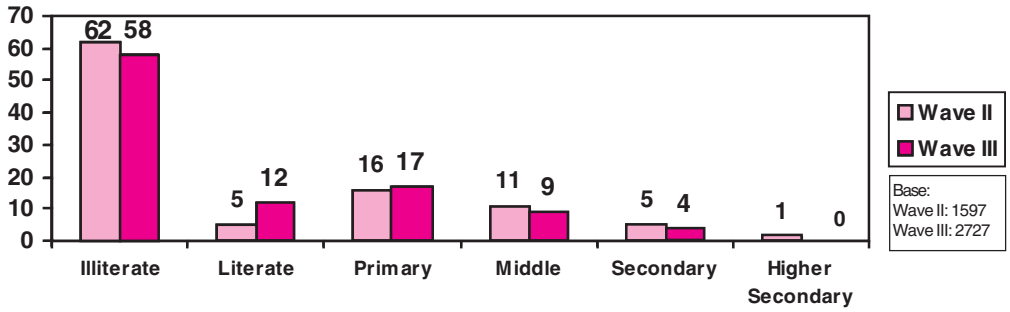


Most of the IDUs (97%) are males and only 3 percent are females. More than one third (36%) of the IDUs are in the age group of 25-35 years. The mean age of the IDUs decreased since the last wave (from 30 years to 29 years).

Education

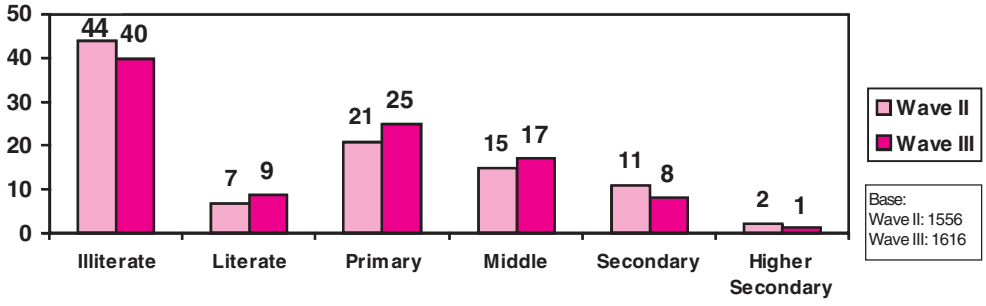
The educational level of the brothel based as well as the non brothel based sex workers is low. About three fifth of the brothel based sex workers and two fifth of the non-brothel based sex workers are illiterates (58% and 40% respectively). The literacy rate increased from 38% to 42% in case of brothel based sex workers and from 56% to 60% in case of non brothel based sex workers since the last wave. (Fig 10 and 11).

Fig 10: Educational Attainment of FSW-bb



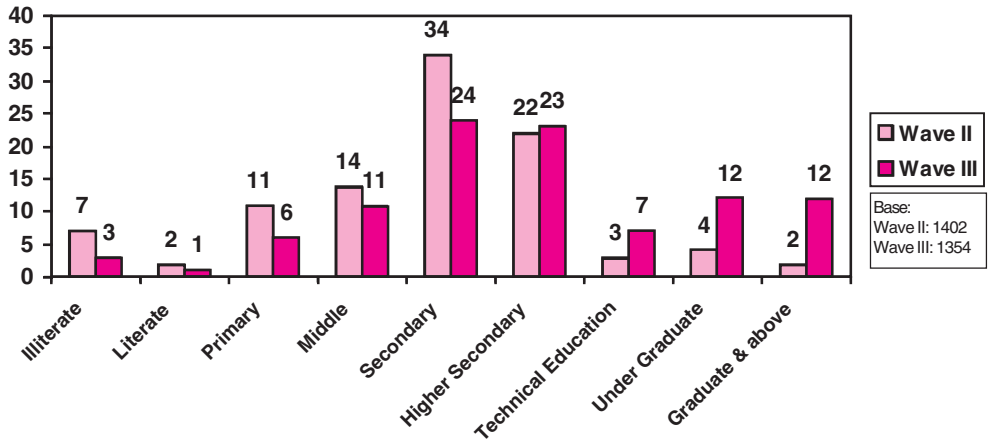
Literacy rate is higher among the non-brothel based sex workers compared to the brothel based sex workers (Fig 11).

Fig 11: Educational Attainment of FSW-nbb



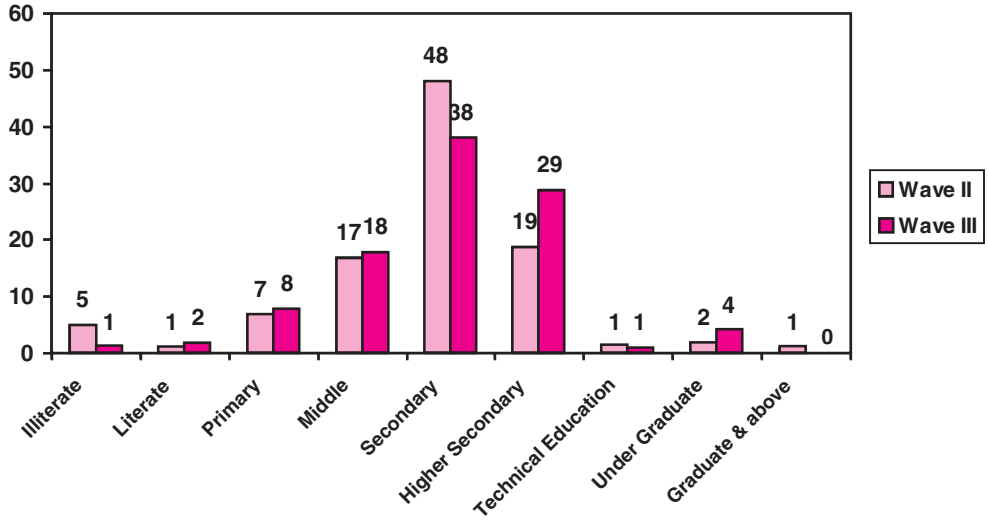
About one fifth each of the MSM had secondary and higher secondary level of education (24% and 23% respectively). The proportion of MSM who had secondary level education declined since wave II while this proportion increased in case of further higher education (Fig 12).

Fig 12: Educational Attainment of MSM



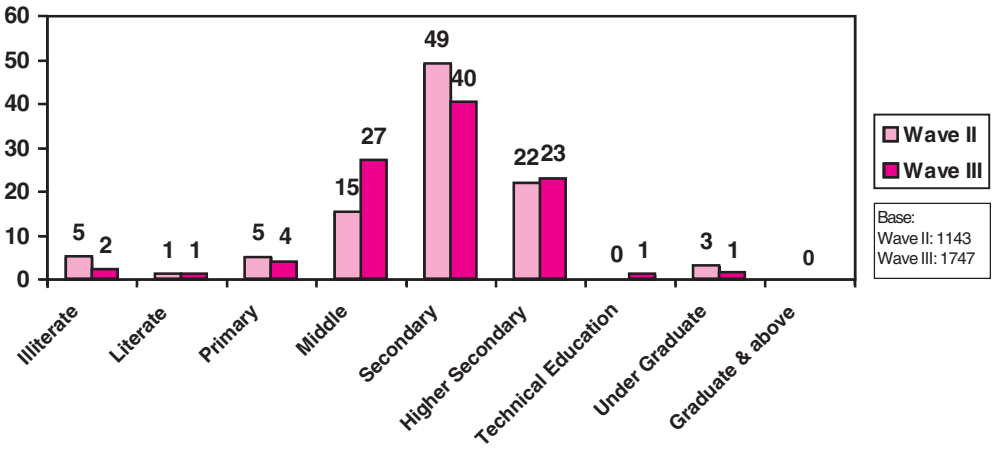
Two third of the LTWs had at least secondary level of education. Though this proportion remained same since the wave II, the proportion of LTWs with higher secondary education increased since wave II (Fig 13).

Fig 13: Educational Attainment of LTW



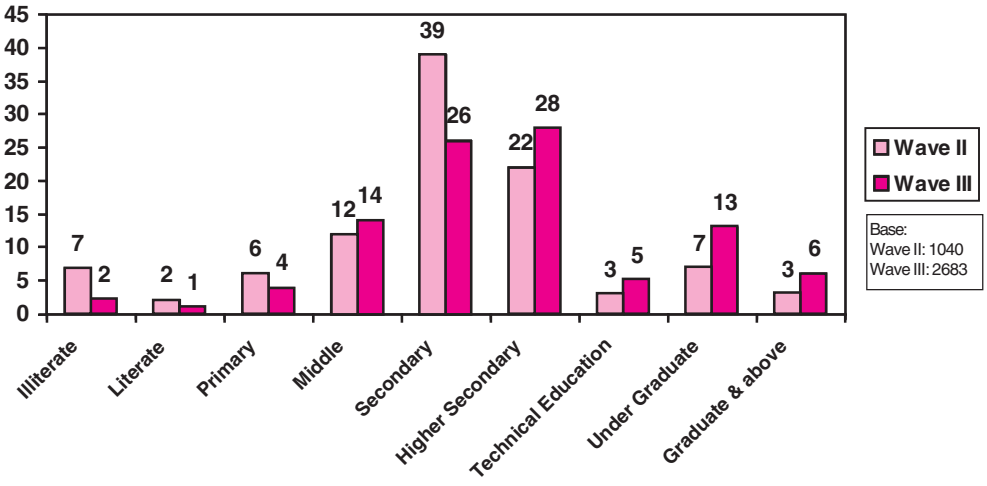
Two third of the UMSY of 15-19 years had secondary or higher secondary education (40% and 23% respectively). (Fig. 14).

Fig 14: Educational Attainment of UMSY15-19 Years



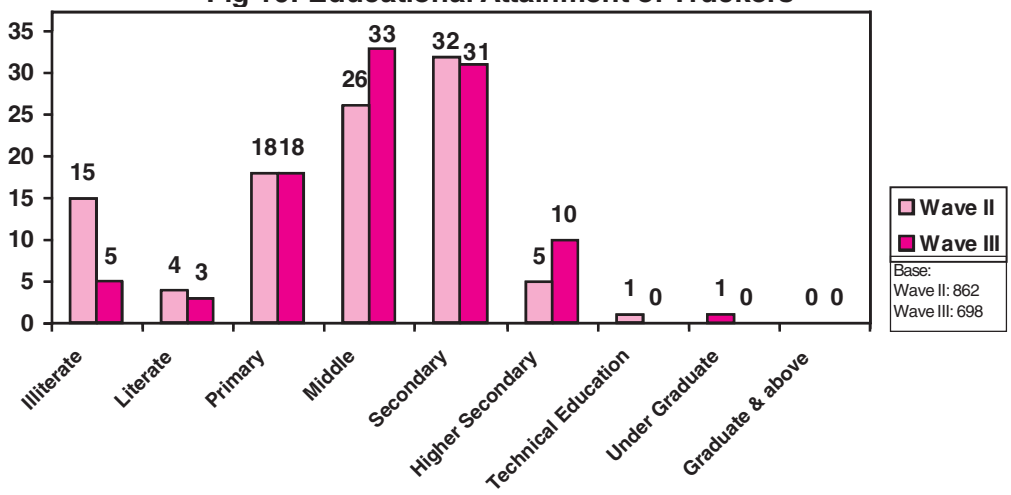
More than half of the UMSY of 20-24 years had secondary and higher secondary education. Since wave II, there is an improvement in the educational attainment of UMSY of 20-24 years in terms of higher secondary level of education (Fig. 15).

Fig 15: Educational Attainment of UMSY20-24 Years



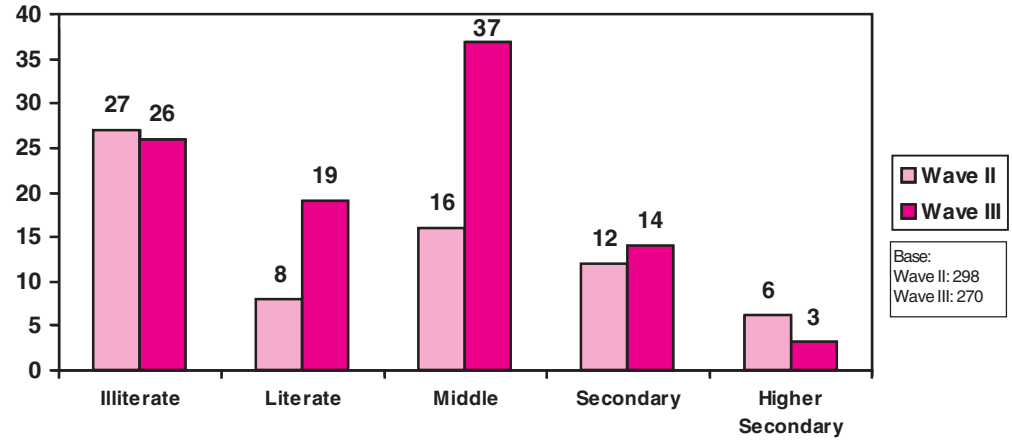
There is a decrease in illiteracy among the truckers since wave II. About one third of the truckers had middle and secondary level of education (Fig. 16).

Fig 16: Educational Attainment of Truckers



More than one third (37%) of the IDUs had middle level of education while one fourth are illiterates (26%). Since wave II, the proportion of IDUs with middle level education increased from 26% to 33% (Fig. 17).

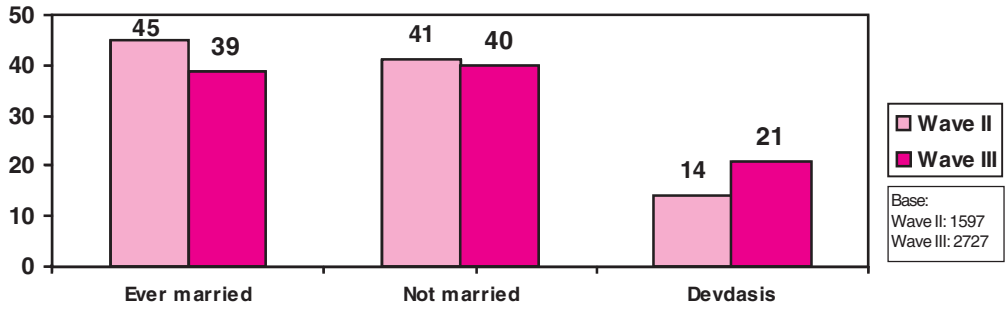
Fig 17: Educational Attainment of IDUs



Marital Status

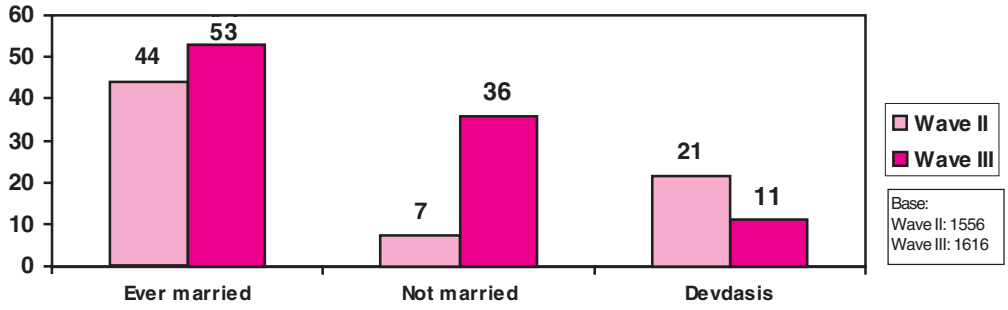
Marital status is one of the important socio-demographic variables. One fifth of the brothel based sex workers (21%) are devdasis and this proportion increased since wave II (from 14%). Rest of the sex workers are equally distributed among the married and never married category (Fig 18).

Fig 18: Marital Status of FSW-BB



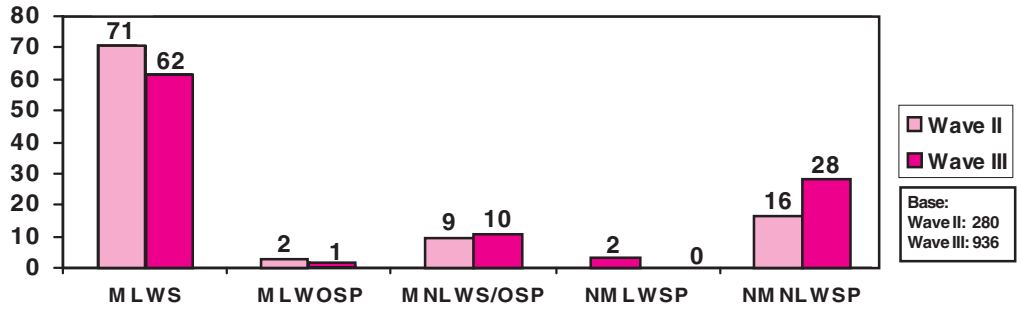
In case of the non-brothel based sex workers, proportion of devdasis declined from 21% in wave II to 11% in wave III. (Fig 19). More than one third (36%) of the non-brothel based sex workers are unmarried and this proportion increased since wave II. The proportion of married FSW-NBB also increased since wave II.

Fig 19: Marital Status of FSW-NBB



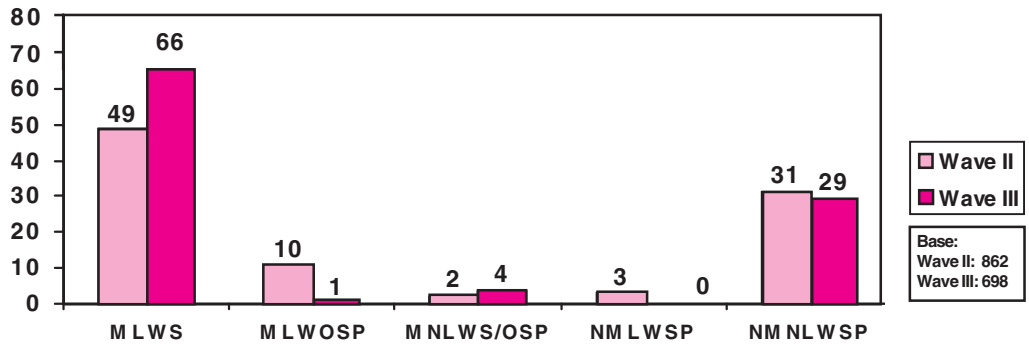
Majority of the LTWs are married and living with spouse while one fourth are not married and not living with any sex partner. The proportion of LTWs who are not married and not living with sex partner increased since wave II (Fig 20).

Fig 20: Marital Status of LTW



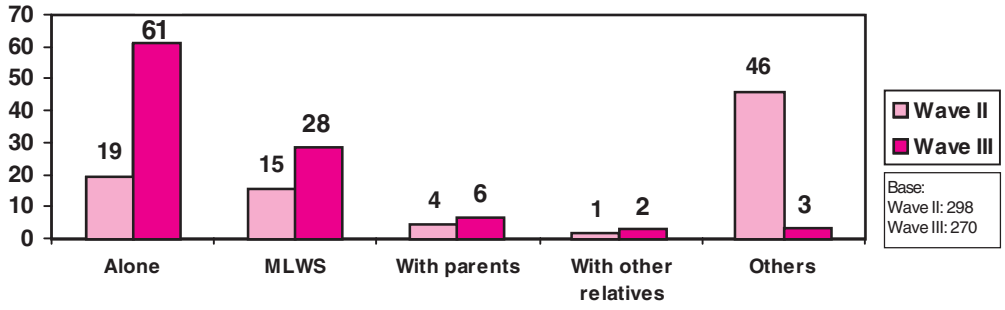
Majority of the truckers are married and living with spouse while more than one fourth are not married and not living with spouse. The proportion of truckers who are married and living with spouse increased since wave II. (Fig 21).

Fig 21: Marital Status of Truckers



The proportion of IDUs who are married and living with spouse increased since wave II (from 15% to 28%) while the proportion of single IDUs increased substantially since wave II (from 19% to 61%) (Fig. 22).

Fig 22: Marital Status of IDUs



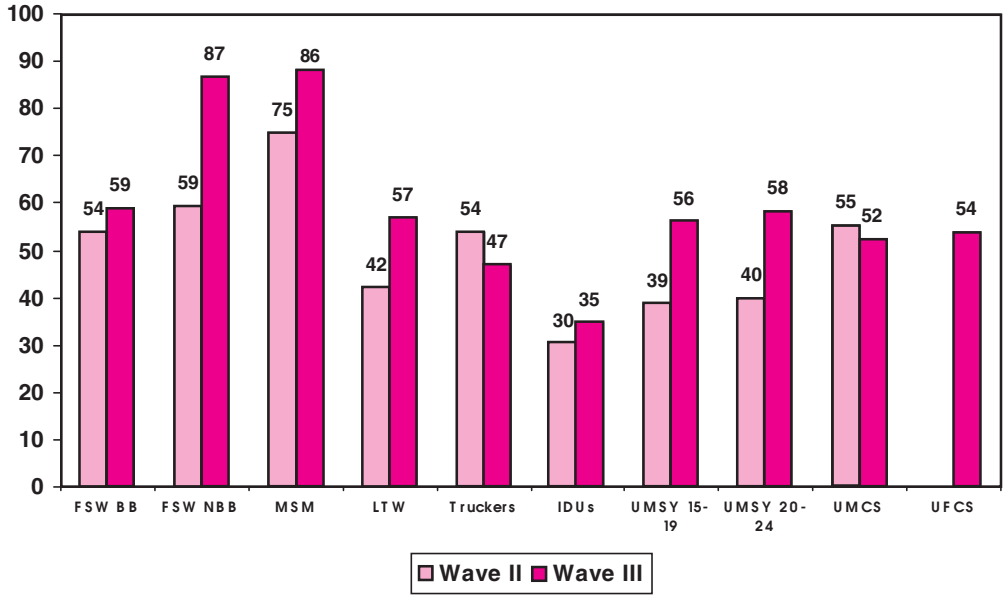
Knowledge Indicators

This indicator measures the knowledge of STI/HIV/AIDS prevention methods and the misconception about the prevention of the same. The knowledge of correct and consistent use of condom as the main method of prevention was measured. The composite index derived on the basis of awareness of HIV prevention through i) abstinence from sex ii) being faithful to one uninfected partner and iii) consistent use of condom was also used. Information on perceptions about HIV/AIDS transmission (incorrect belief) through mosquito bite and sharing meal with HIV infected person was captured to formulate the composite index on "No Incorrect Belief" as a knowledge indicator. Information on knowledge on HIV transmission through infected needle and syringe, vertical transmission and through breastfeeding was captured.

Knowledge of HIV prevention methods

About three fifth of the brothel based sex workers (59 %) and more than four fifth of the non brothel based sex workers (87%) have correct knowledge of HIV prevention method [Abstinence from sex, Be faithful to one uninfected sexual partner and Correct and Consistent use of condom every time one has sex (ABC)]. The knowledge of HIV prevention methods increased among the two types of the sex workers since wave II. The increase in knowledge is mainly observed among the non-brothel based sex workers (from 59% to 87%) and MSM (from 75% to 88%). Among the truckers and male college students, this proportion declined since wave II (from 54% to 47% and 55% to 52% respectively). More than half of the female college students know the HIV prevention methods (Fig 23).

Fi



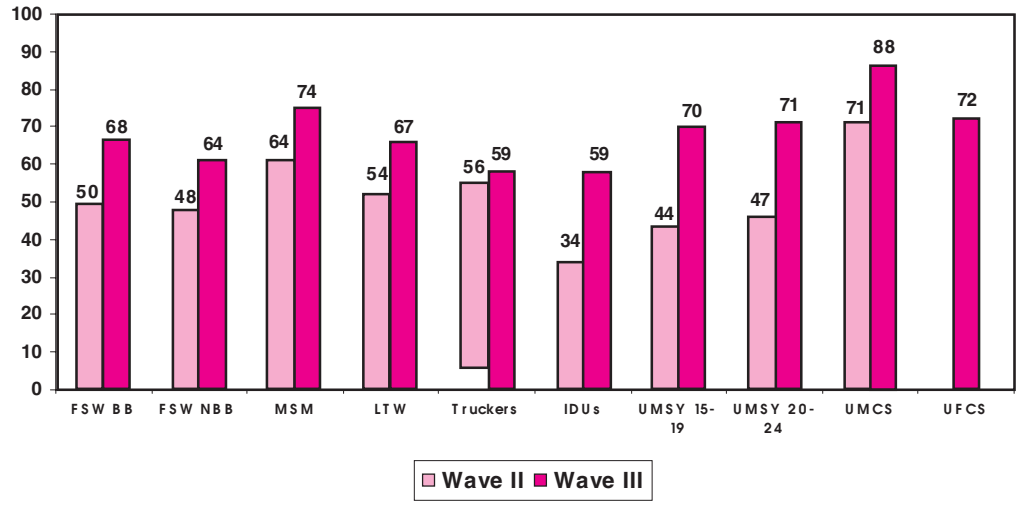
Base: (Wave II,III): FSW-BB(1597,2727); FSW-NBB(1156,1616); MSM(1402,1355); LTW(280,936); Trucker(862,698); IDU(298,270);UMSY 15-19 (1143,1747); UMSY20-24(1040,2683);UMCS(1090,744) and UFCS(1098)

Myths and Misconceptions about HIV/AIDS transmission

The composite index is measured in terms of the two most common misconceptions (whether mosquito bite leads to HIV transmission and sharing meals with HIV infected person can transmit HIV) and accepted that whether a healthy looking person can get HIV.

Figure 24 illustrates the scenario regarding knowledge on “No incorrect belief about HIV/AIDS transmission” among all the population groups covered in the BSS III wave. More than half of the respondents rejected the most common misconception and accepted that a healthy looking person can transmit the HIV. This proportion increased since wave II. Less than three fourth of the female college students rejected this misconception and know that a healthy looking person can get HIV. Interestingly, this proportion increased among the IDUs and male slum youth (59% and 70% respectively).

Fig 24: No incorrect belief about AIDS transmission



Base: (Wave II,III): FSW-BB(1597,2727); FSW-NBB(1156,1616); MSM(1402,1355); LTW(280,936); Trucker(862,698); IDU(298,270);UMSY 15-19 (1143,1747); UMSY20 24(1040,2683);UMCS(1090,744) and UFCS(1098)

Behavioral Indicators

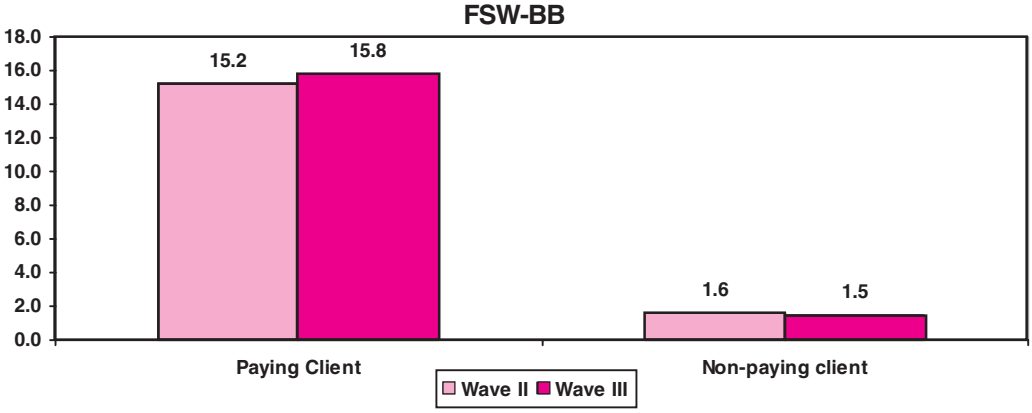
Number of sexual partners in the past 12 months and the pattern of condom use with various types of partners are the important Behavioral Indicators used in the Behavioral Surveillance Survey (BSS). Further, type of partner is defined for each of the target groups. In case of sex workers, paying clients are the male partners with whom they have had sex in exchange for money. Non-paying partners are the ones with whom they have had sex without exchange of money. In case of MSM, commercial partners are the male partners with whom they have had sex in exchange of money. Non-commercial partners are the ones with whom they have had sex without exchanging money. Sexual partners of LTWs, Truckers and IDUs are defined as commercial partners (with whom they have had sex in exchange for money), non-regular partners (to whom they are never married, never lived with or paid for having sex) and regular partners (spouse or live-in partner). For slum youth (aged 15-19 years and 20-24 years) and male/female college students, the sexual partners are defined as commercial (with whom they have had sex in exchange of money) and non-commercial partners (to whom they are never married, never lived with and did not pay to have sex).

Brothel based and non-brothel based sex workers

Sexual partners

On an average, the brothel based sex workers (FSW-BB), had sex with 16 paying clients and about 2 non paying partners in the past seven days and the mean value remained almost same since wave II (Fig 25).

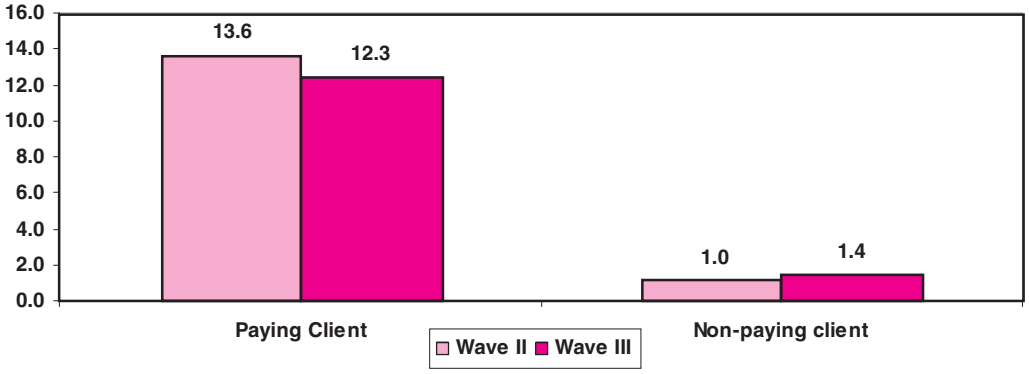
Fig 25: Mean number of paying and non-paying partners in previous week among FSW-BB



Base: (Wave II, III): FSW-BB(1597,2727); FSW-NBB(1156,1616)

The non-brothel based sex workers (FSW-NBB), had sex with 12 paying clients and 1 non paying partner in the past one week. Mean number of paying clients of non brothel based sex workers declined since wave II (Fig 26).

Fig 26: Mean number of paying and non-paying partners in previous week among FSW-NBB

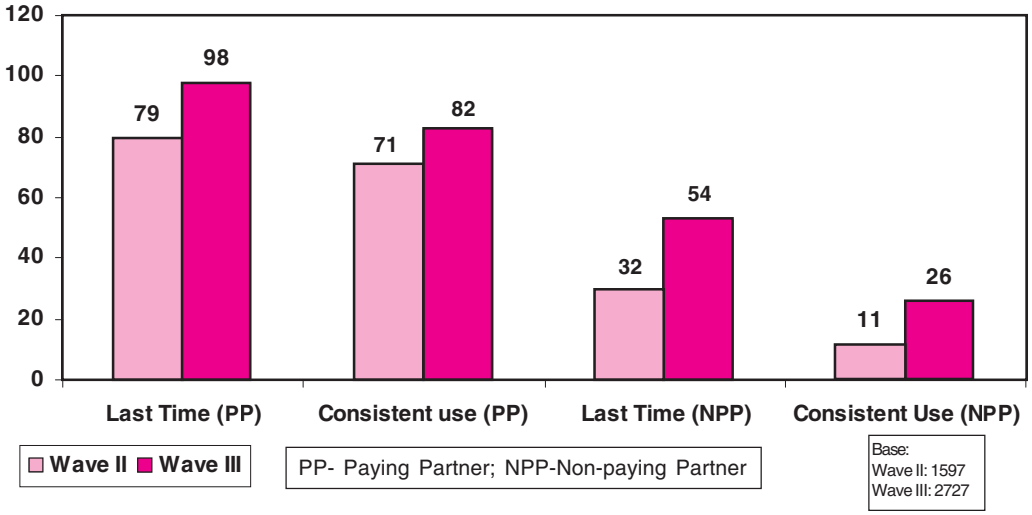


Base: (Wave II, III): FSW-BB(1597,2727); FSW-NBB(1156,1616)

Condom use

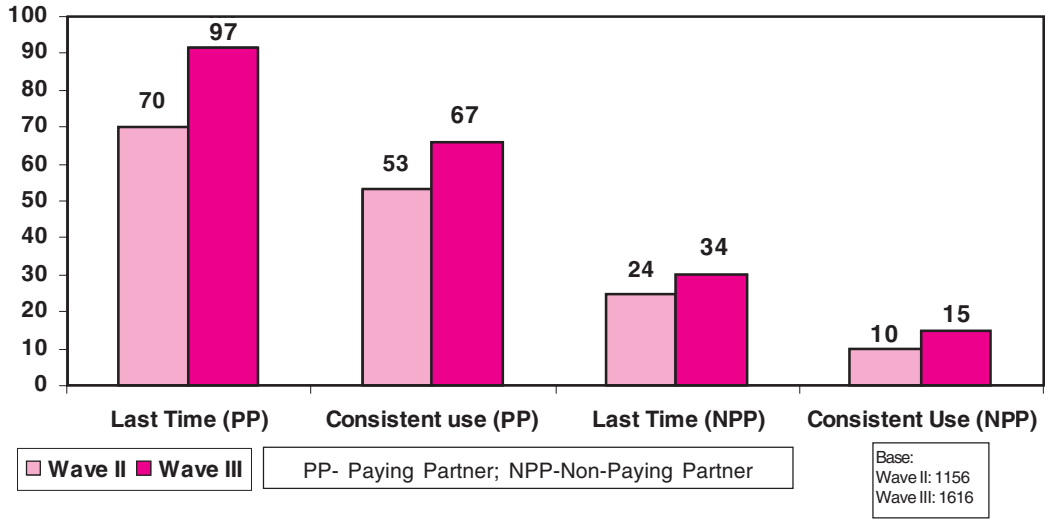
The extent of condom use at the last sex and consistent use of condom by brothel based sex workers with paying clients and non-paying partners is given in Fig 27. Almost all the brothel based sex workers (98%) used condom at the last sex with paying client while four fifth (82%) used condom consistently with paying clients. On the other hand, half of them used condom at last sex with non-paying partner and only one fourth used condom consistently with non-paying partners. The extent of condom use with both paying clients and non-paying partners increased since wave II.

Fig 27: Use of Condom at Last Sex and consistent condom use by FSW-BB



In case of non-brothel based sex workers (FSW-NBB), the extent of use of condom increased since wave II. Most of the non brothel based sex workers (97%) used condom at the last sex with paying partners and one third of them are at risk because of non use of condom consistently with paying partners. The condom use behavior among the non-brothel based sex workers with non-paying partners reveals that most of them are at risk as only 34 percent used condom at the last sex while more than one tenth (15%) used condom consistently with the non-paying partners (Fig 28).

Fig 28: Use of Condom at Last Sex and consistent condom use by FSW-NBB



Follow up qualitative Study

Low Condom use with Non Paying Partners among the brothel as well as non-brothel based sex workers is attributed to the faith / trust the FSWs have in these partners, the sympathy the partners have towards the FSWs and the aspects relating to pleasure of having sex without a condom.

" I trust my person completely, love him as he is taking care from the time my husband deserted me".

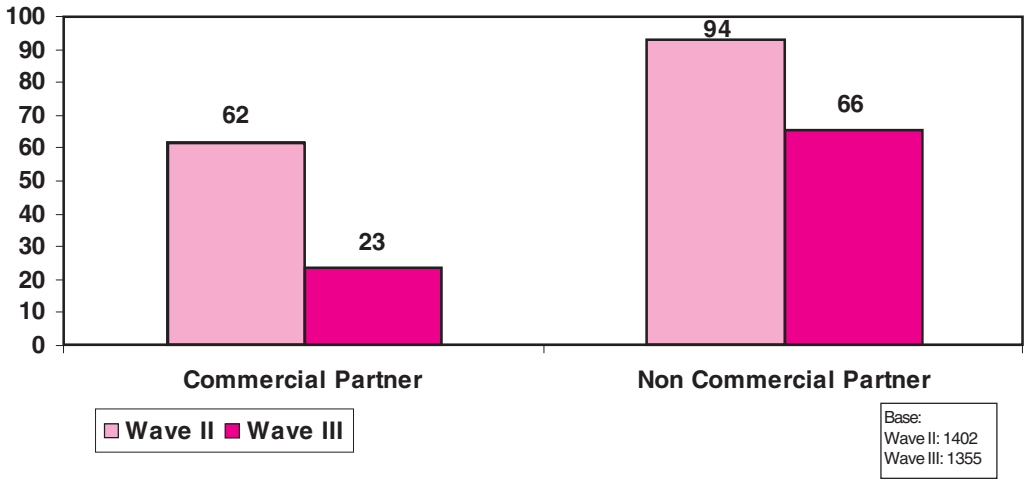
"My person told me to use condom with every client and he also will follow the same with other female sex workers. So I do not use condom with him"

Men who have sex with men (MSM)

Sexual partners

The proportion of MSM who had sex with a commercial sex partner in the past one month declined significantly (from 62% in wave II to 23% in wave III). There is also a significant decline in the proportion of MSM who had sex with a non commercial partner in the past 1 month. (Fig 29).

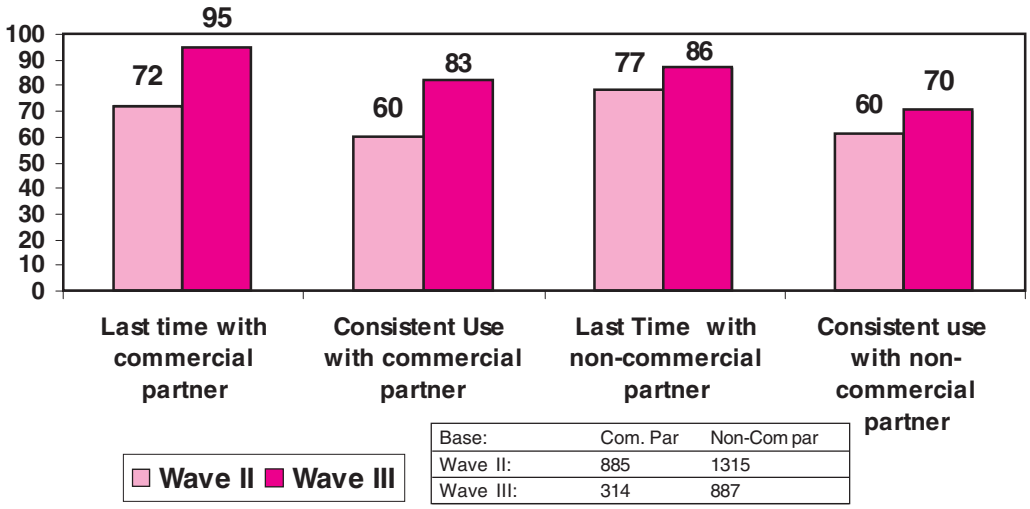
Fig 29: Percentage of MSM who had Commercial and Non Commercial partners in past 1 month



Condom use

Figure 30 indicates the positive change in condom use behavior among the MSM with commercial and non-commercial partners in the past one month. Almost all the MSM (95%) used condom at the last sex with commercial partners while more than four fifth (83%) used condom consistently with commercial partners and this proportion increased since wave II. Similar trend is observed in case of non-commercial partners. More than four fifth (86%) of the MSM used condom at the last sex and less than one third of the MSM are at risk because of in-consistent use of condom with non-commercial partners.

Fig 30: Condom use in previous month by MSM



Base:	Com. Par	Non-Com par
Wave II:	885	1315
Wave III:	314	887

Follow up qualitative Study

The MSM stated that their non-paying partners are usually friends and because of their personal relationship, there is an insistence on non-use of condoms.

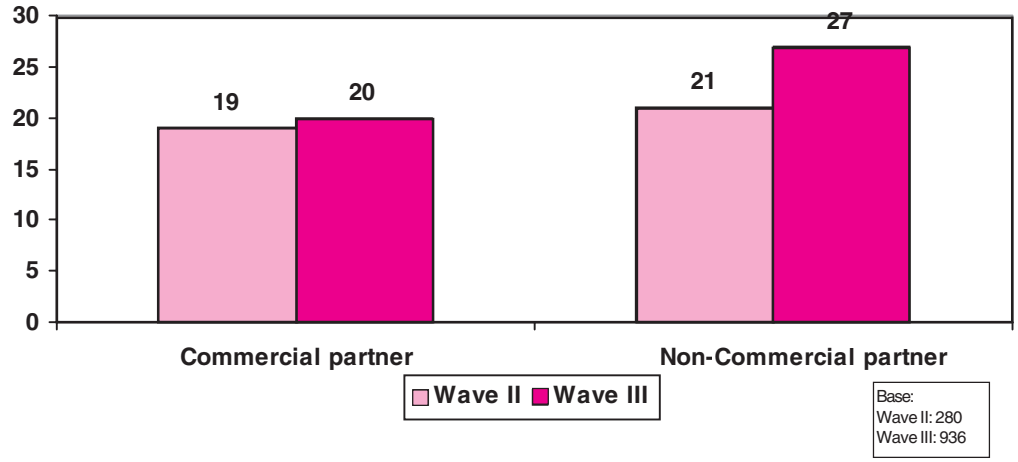
"I have many friends with whom I have sex with. I can't tell my friends to use condom with me as it will affect our friendship."

Light Transport Workers (LTWs)

Sexual partners

One fifth of the LTWs had sex with a commercial partner and this proportion marginally increased since wave II. More than one fourth (27%) of the LTWs had non-commercial sex partners in the previous 12 months and this proportion increased since wave II (Fig. 31).

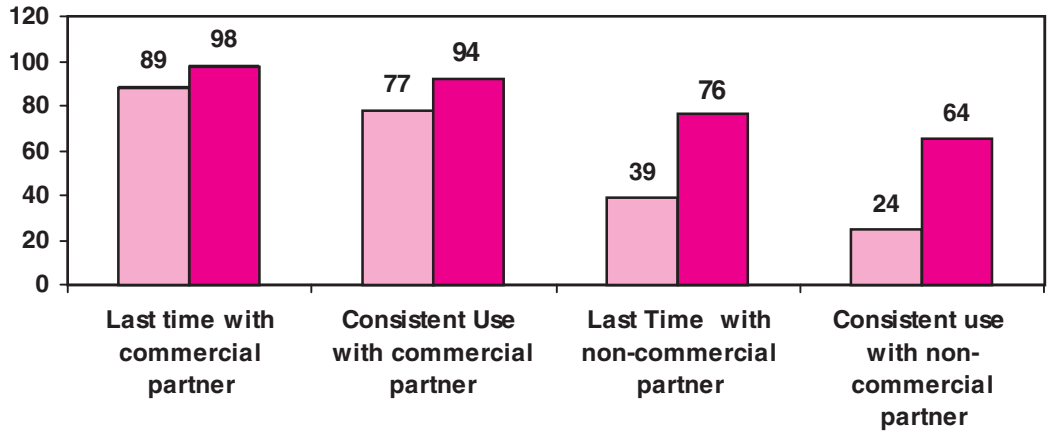
Fig 31: Sexual partners of LTWs in the past 12 months



Condom use

The extent of condom use among the LTWs with commercial and non-commercial partners increased since wave II. Almost all the LTWs used condom at the last sex (98%) while most of them used it consistently (94%) with their commercial partners. More interestingly, significant increase is observed in condom use at last sex (39% to 76%) as well as consistent use of condom (24% to 64%) with non-commercial partners since wave II (Fig 32).

Fig. 32: Condom use in previous month by LTW



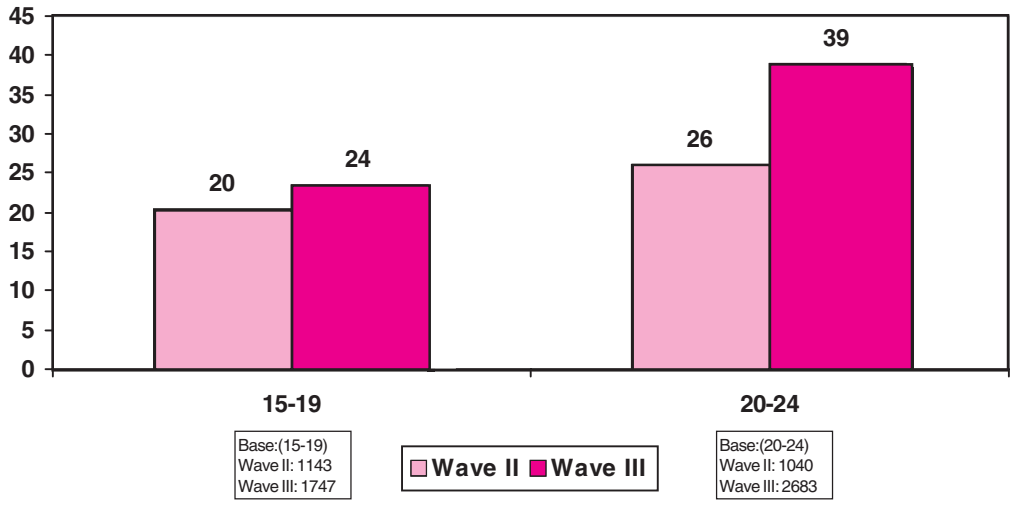
Base:	Com. Par	Non-Com par
Wave II:	53	23
Wave III:	177	241

Unmarried Male Slum Youths (UMSY) aged 15-19 and 20-24 years

Sexual partners

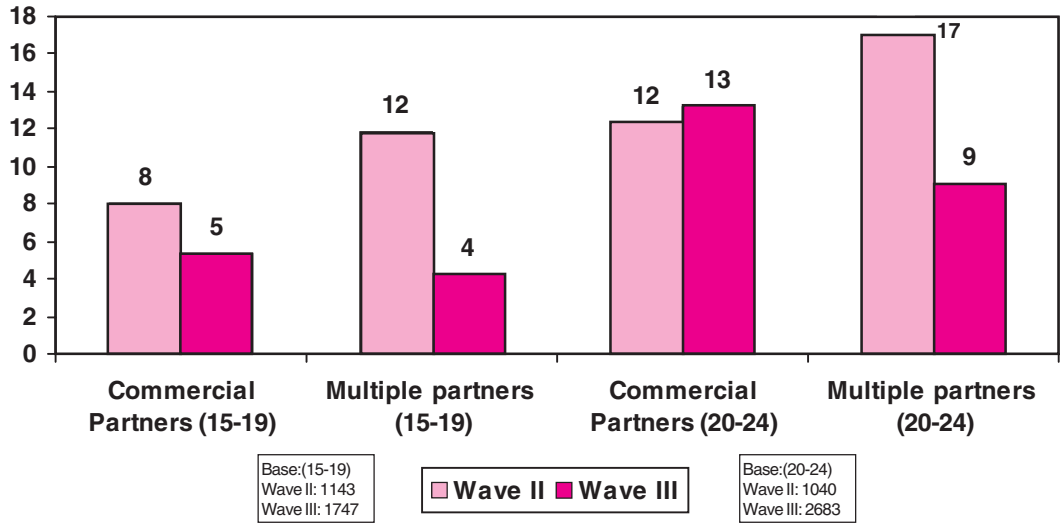
One fourth (24%) of the UMSY aged 15-19 years are sexually active whereas about two fifth (39%) of the older group (20-24 years) are sexually active. In case of both the groups, the proportion of sexually active youth increased since the wave II (Fig 33).

Fig 33: Percentage of male slum youth (UMSY) who ever had sex



Multi partner sexual activity declined in case of male slum youth of both the age groups. In spite of increase in sexual partners among the male slum youth of 20-24 years, the multi partner sexual activity declined since wave II. Marginal increase is observed in the proportion of male slum youth of 20-24 years who had sex with commercial partners. Significant reduction was recorded in multi-partner sex among male slum youth of 20-24 years (from 17% to 9%) and 15-19 years (12% to 4%) (Fig 34).

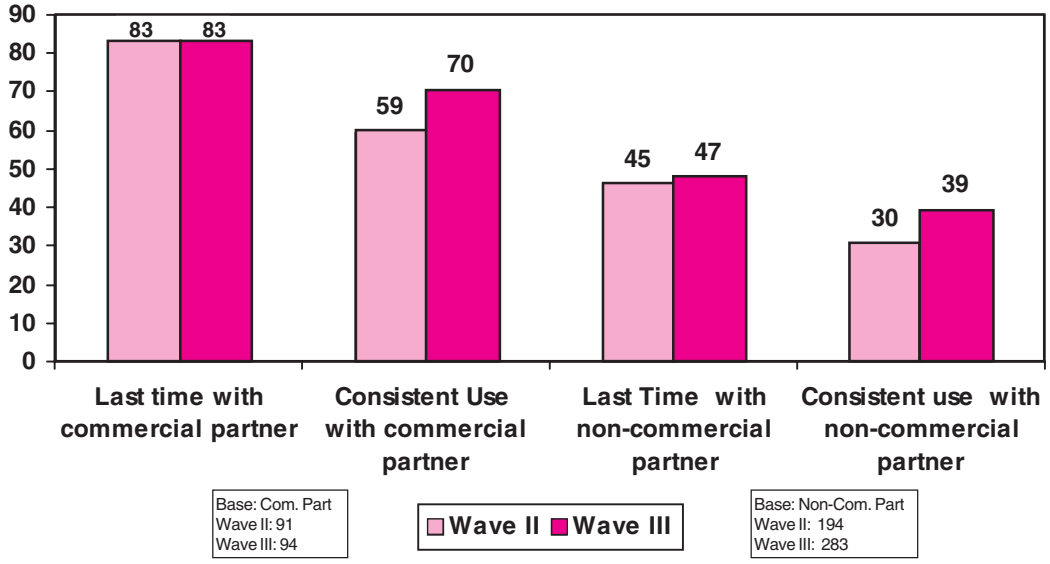
Fig 34: Sexual activity of male slum youth 15-24 in previous 12 months



Condom use

More than one fourth (30%) and three fifth (61%) of the male slum youth aged 15-19 years are at risk because of inconsistent use of condom with commercial and non commercial partners respectively (Fig 35a).

Fig 35a: Condom use by male slum youth 15-19 years in past 12 months



The extent of use of condom increased since wave II irrespective of type of sex partner. Though the male slum youth aged 20-24 years used condom at the last sex, one tenth of them are at risk because of inconsistent use of condom with commercial partners. Though there is an increase in condom use with non-commercial partner, more than half of the male slum youth of 20-24 years are at risk because of not using condom consistently with the non-commercial partners (Fig 35b).

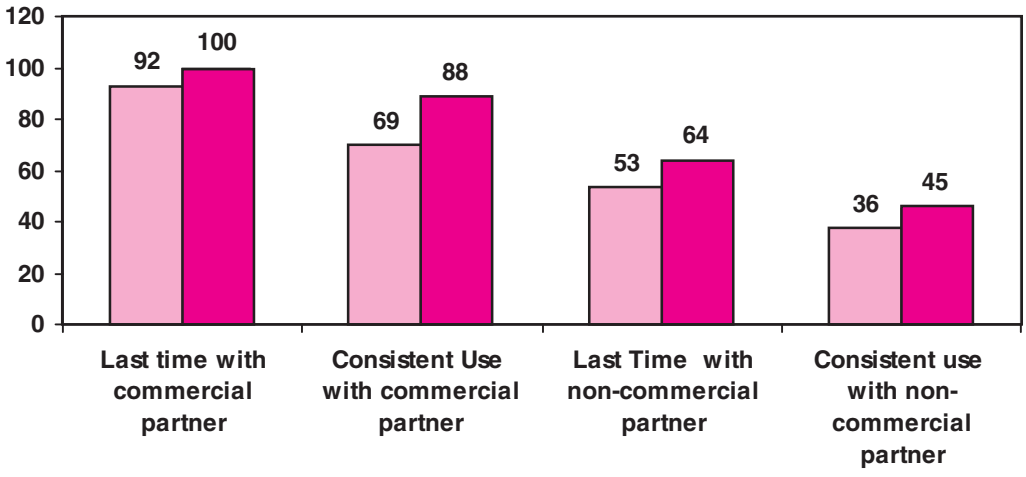
Follow up qualitative Study

The qualitative follow up study reveals that more male slum youth are having sex with non-commercial partners, who are mostly their girlfriends. The male slum youth also added that because the girls now are more open to sex, they need not to visit the CSWs. Many slum youths are having sex with non-commercial partners due to the increase in AIDS awareness and the perception of commercial sex workers as potential carriers of HIV and other STIs. The male slum youth prefer having sex with them as opposed to commercial partners because they need not have to spend money with non-commercial partner.

"It is not safe to have sex with Commercial Partner. I got to know from a street play that we can get diseases from them; that is why I have sex with my classmates and girls from the colony."

"Why should I use condom with my girl friend? I may use the same only if we want to avoid unwanted pregnancy".

Fig 35b: Condom use by male slum youth 20-24 years in past 12 months



Unmarried Male College Students (UMCS)

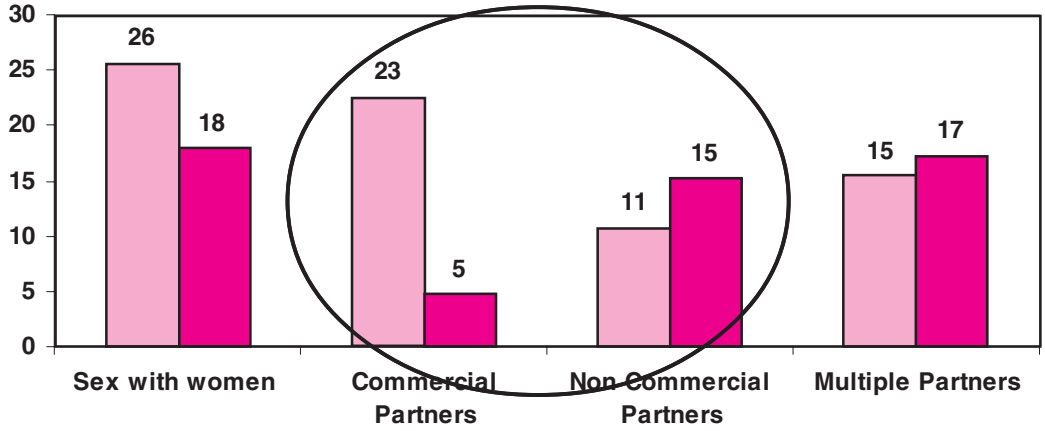
Sexual partners

A shift in the sexual behavior from commercial to non-commercial partners can be observed among the unmarried male college students. About one fifth of the male college students had sex with a woman in the past 12 months and this proportion declined since wave II. A small proportion of the UMCS (5%) had sex with commercial partners and this proportion declined since wave II (Fig 36).

Follow up qualitative Study

The follow up qualitative study reveals that the non-commercial partners (girl friends) are more open now to have sex. The students prefer them to the commercial partners, as the risk of contracting HIV is not attached to them because they are from good families. Slight increase in multiple partners may be due to the fact that more and more students reported having non-commercial partners.

Fig 36: Sexual activity of male college students



Follow up qualitative Study

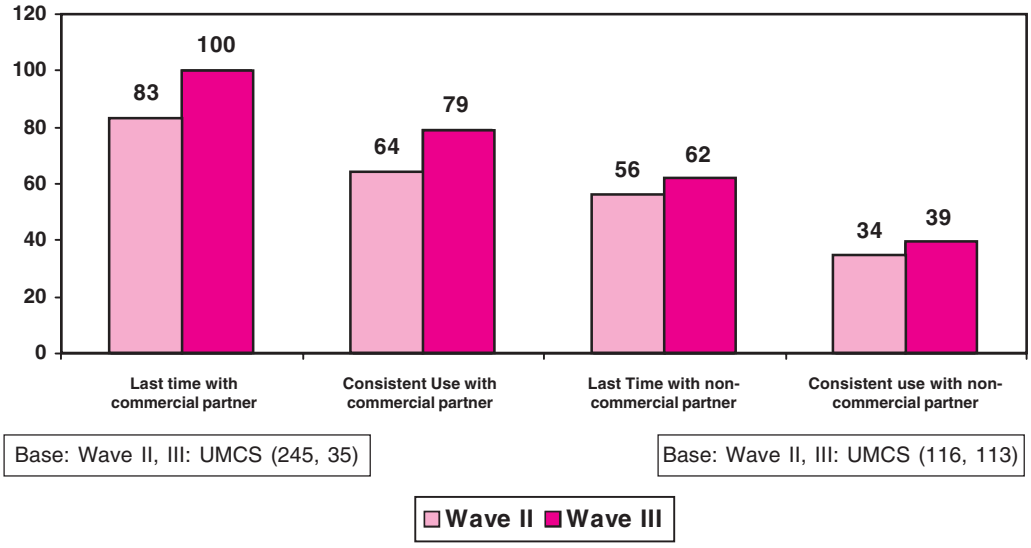
Interestingly, major shift has taken place from the commercial sex partners to the non-commercial partners and the follow up qualitative study attributes this to reasons such as the non-regular partners like girl friends are more open to have sex which reduces the necessity for the commercial partner, where money and the risk of getting HIV both are involved.

"I have a girlfriend from my tuition classes for the past 3 months, she agreed to have sex with me after much convincing. After all, most of our friends are also sleeping with each other and we do not need to visit red light areas".

Condom use

All the male college students used condom at the last sex with commercial partners while three fifth reported so with non commercial partners. Four fifth of the male students used condom consistently with the commercial partners and this proportion increased since wave II. Though there is an increase in condom use at the last sex and consistent use with non-commercial partners, more than three fifth of them did not use condom consistently with non-commercial partners (Fig 37).

Fig 37: Last time condom use and consistent use of condom by male college students

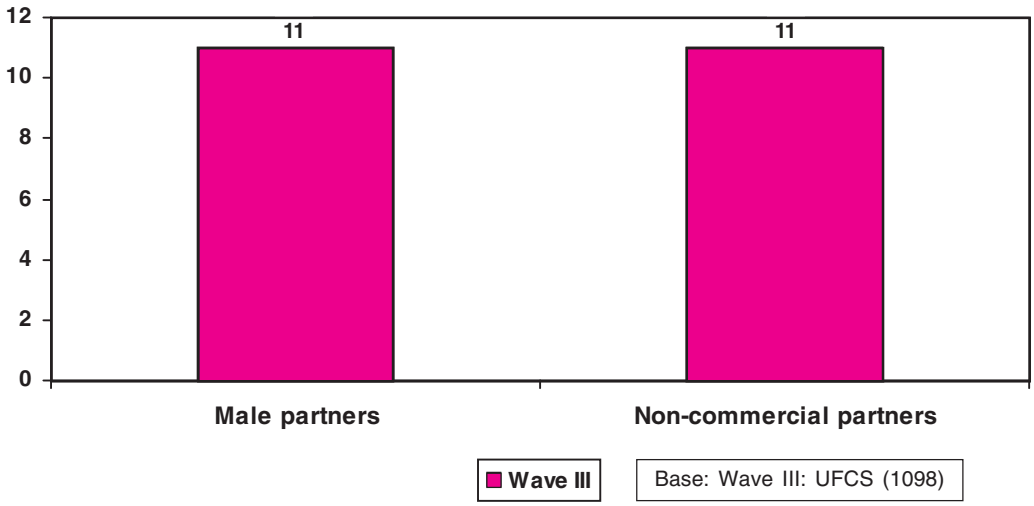


Unmarried Female College Students (UFCS)

Sexual Partner

This population group is introduced in wave III. One tenth (11%) of the female college students are sexually active and all of them had non-commercial sex partners, mostly their boy friends or classmates (Fig 38).

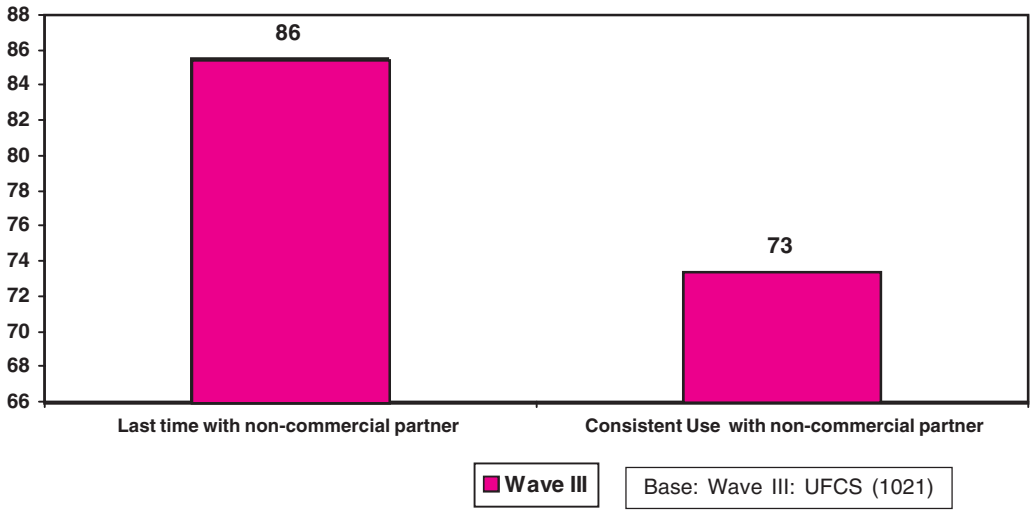
Fig 38: Sexual activity of female college student



Condom use

Majority of the female college students used condom at last sex with non-commercial partners. Three fourth of them used condom consistently with non-commercial partners (Fig 39).

Fig. 39: Last time condom use and consistent use of condom by female college students



Follow up qualitative Study

Resistance from the male partners emerges as the major reason for non-use of condoms among the female college students. They also stated that they did not always have the power to decide on using condoms and more often found it difficult to negotiate use of condom with their partners.

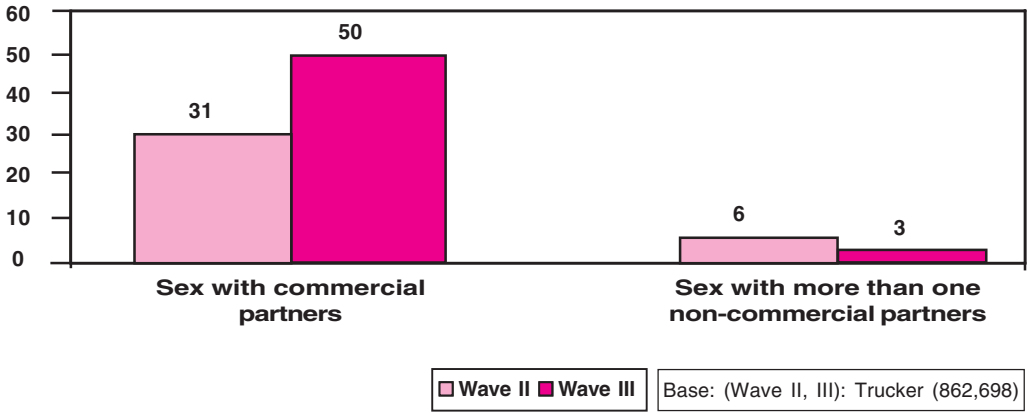
"*I want to use condom to avoid unwanted pregnancy but my boyfriend doesn't want to use. He says he doesn't get pleasure when he uses condom. He asks me to use oral pills instead. How can I pressurize him? He doesn't listen to me. I have to follow what he says.*"

Truckers

Sexual partners

Half of the truckers had sex with a commercial partner and this proportion increased since wave II. (Fig 40).

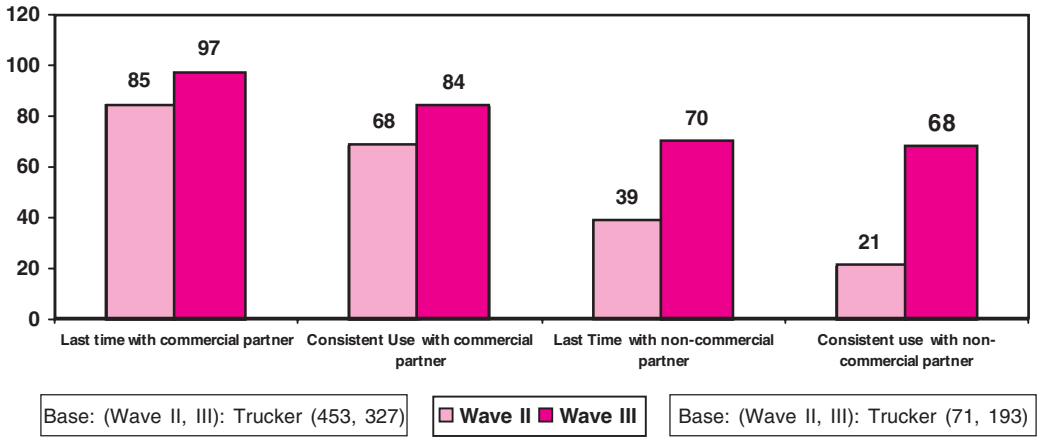
Fig. 40: Percentage of Truckers who had Sex partners in past 12 months



Condom use

Almost all the Truckers used condom at the last sex while more than four fifth (84%) used condom consistently with the commercial partners. The increase in extent of use of condom since wave II is appreciable. In case of non commercial partners, condom use at last sex increased significantly (from 39% to 70%) while the consistent use of condom recorded three fold increase (21% to 68%) (Fig 41).

Fig. 41: Last time use and consistent use of condom by Truckers

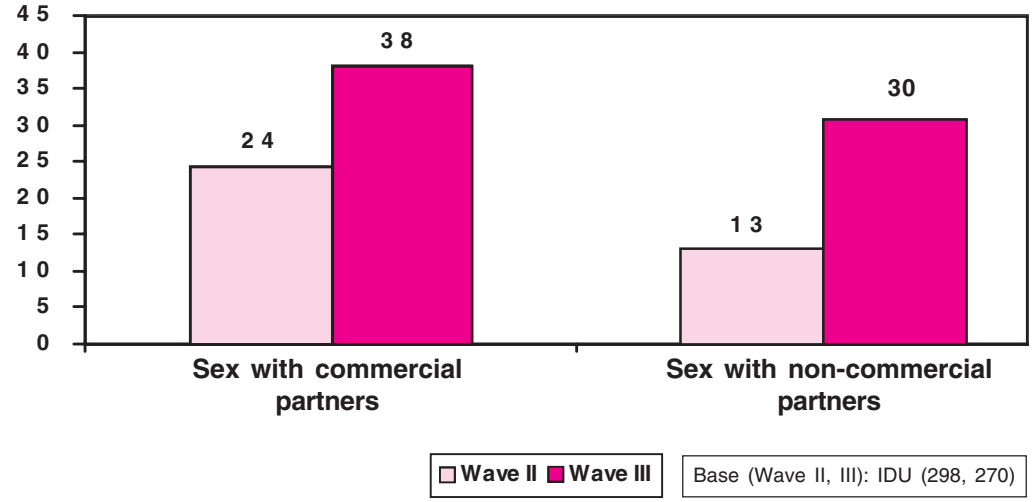


Injecting Drug Users (IDUs)

Sexual partners

About two fifth of the IDUs (38%) had sex with commercial partners; while about one third each had non-commercial partners (30%) and this proportion increased since wave II (Fig 42).

Fig. 42: Sexual partners of IDUs in the past 12 months



Condom use

The extent of condom use at the last sex increased since wave II across all types of partners but declining trend is observed in case of consistent use of condom. More than four fifth of the IDUs used condom at the last sex (85%) but only one third used condom consistently with their commercial partners. The same scenario is observed in case of their non-commercial partners (Fig 43).

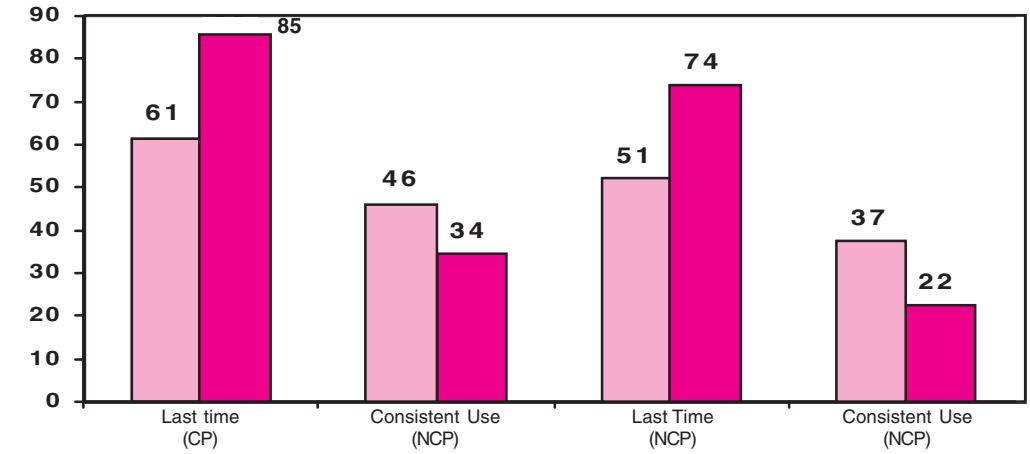
Follow up qualitative Study

One of the most significant reasons cited by the IDUs for not using condom particularly with non commercial partners pertains to the feeling that using condom lessens the joy of sex.

"We enjoy sex without the condom. We don't get pleasure when we use condom."

The IDUs also added that once they are high after injecting drugs, they are not conscious of their actions and this leads them not to use condoms with their sex partners.

Fig. 43: Last time use and consistent use of condom by IDUs



Needle syringe sharing behavior

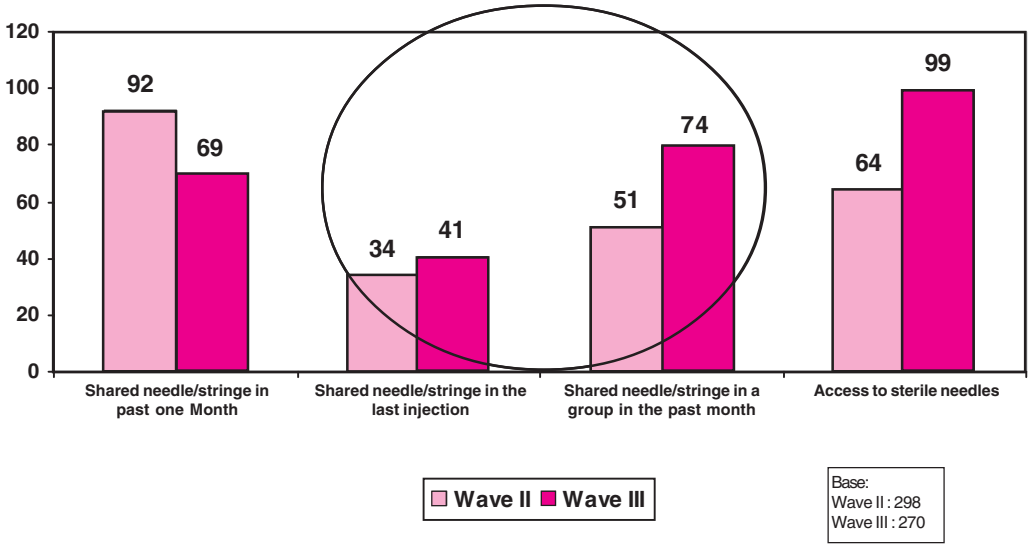
Though almost all the IDUs (99%) reported accessibility to the sterile needles, three fourth of them (74%) reported to have shared needles in high equipment sharing situation. This proportion increased since wave II. Two fifth of the IDUs shared needles/syringe the last time in spite of reduction (69%) in sharing of needles/syringe in the last one month (Fig 44).

Follow up qualitative Study

The follow up qualitative study attributes this to the feeling of fun in sharing in a group especially with the sex partner and non availability of the needles/syringes everyday.

"I and my partner always enjoy the heavenly pleasure of sex after injecting drugs. We share needles as we always do not have enough of them".

Fig. 44: Needle syringe sharing behaviour of IDUs

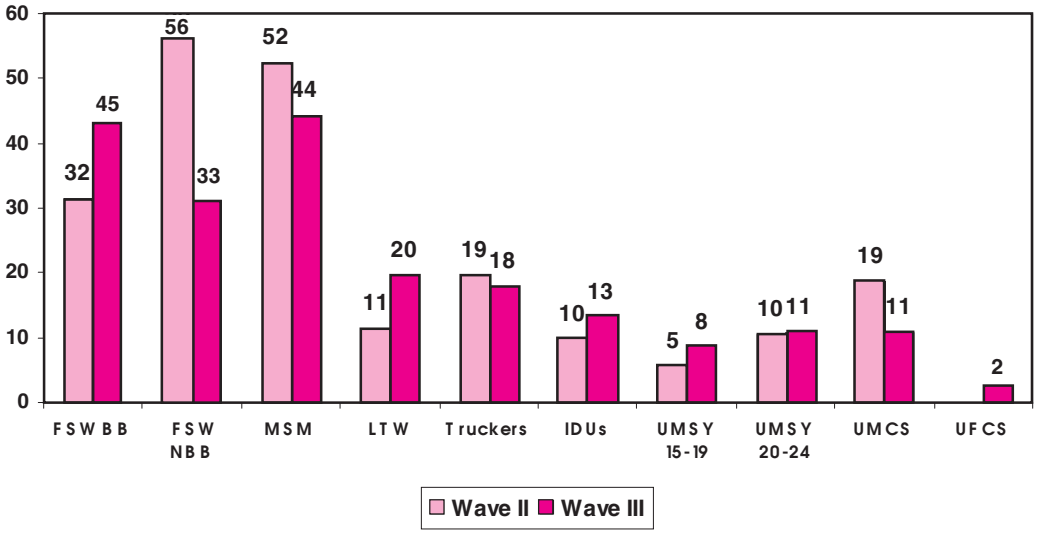


Other key indicators

Population seeking voluntary HIV tests

The voluntary HIV test seeking behavior increased among the brothel based sex workers and declined among the non-brothel based sex workers since wave II. This issue was addressed by the follow up qualitative study, which attributes this to the fear *of being branded with HIV and chances of loosing clients*. In case of MSM, *they feel that the VCTC staff would discourage them from practicing homosexual behavior.* In case of LTW and IDU, slight increase is noticed in the proportion that sought voluntary HIV test (Fig 45).

Fig. 45: Percentage who sought Voluntary HIV test

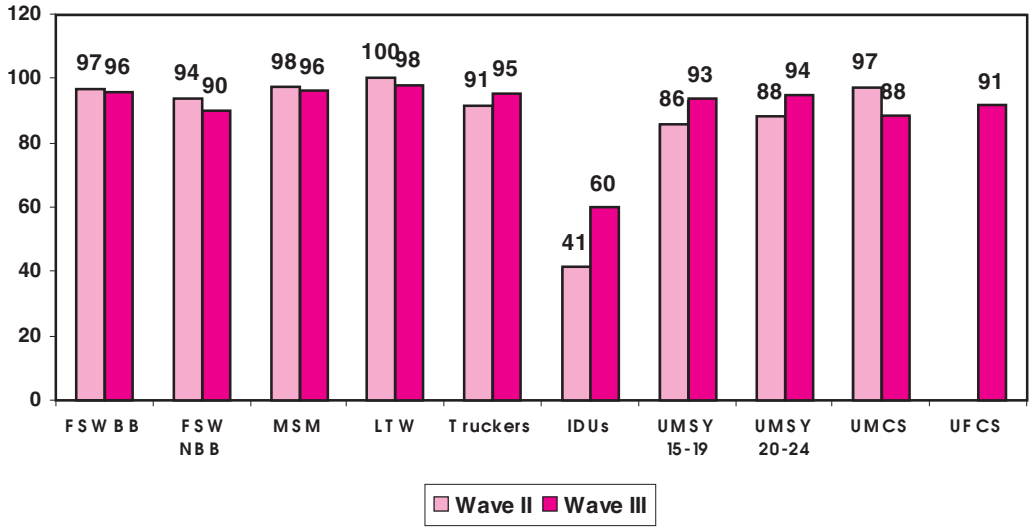


Base: (Wave II,III): FSW-BB(1597,2727); FSW-NBB(1156,1616); MSM(1402,1355); LTW(280,936); Trucker(862,698); IDU(298,270);UMSY 15-19 (1143,1747); UMSY20-24(1040,2683);UMCS(1090,744) and UFCS(1098)

Exposure to intervention in previous 12 months

There is no visible change in terms of exposure to interventions across the population groups since wave II with IDUs being the only exception. Three fifth of the IDUs (60%) reported exposure to some intervention and this proportion increased since wave II. More than four fifth are exposed to the intervention across the groups (Fig 46).

Fig. 46: Exposure to intervention in previous 12 months

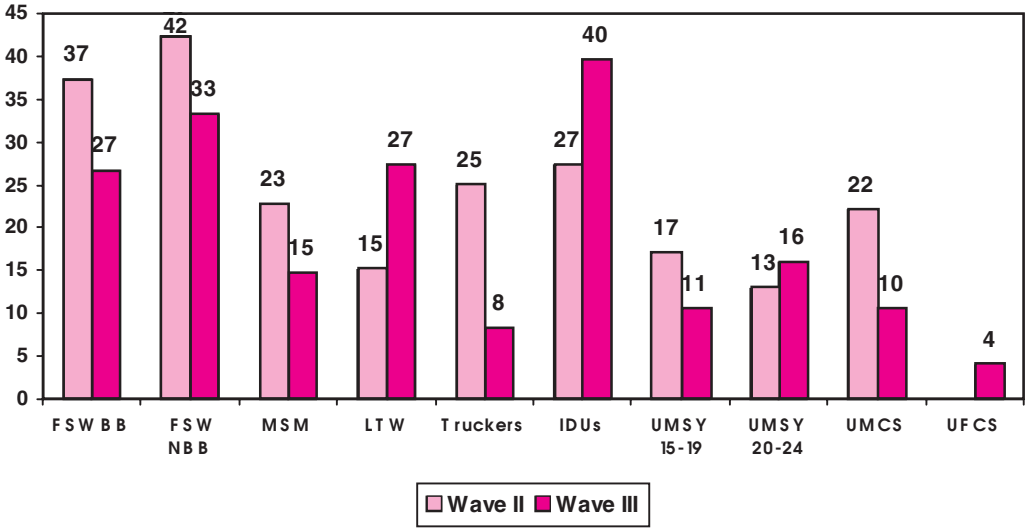


Base: (Wave II,III): FSW-BB(1597,2727); FSW-NBB(1156,1616); MSM(1402,1355); LTW(280,936); Trucker(862,698); IDU(298,270);UMSY 15-19 (1143,1747); UMSY20-24(1040,2683);UMCS(1090,744) and UFCS(1098)

Genital discharge and genital ulcer/sore in previous 12 months

Figure 47 gives the reported incidence of STI symptoms in the past one year among the study groups. The maximum STI incidence was recorded among the IDUs (40%) followed by LTWs (27%). Reported STI incidence increased among IDUs, LTWs and UMSY of 20-24 years and declined in case of the remaining groups.

Fig. 47: Genital discharge / ulcer / sore in previous 12 months

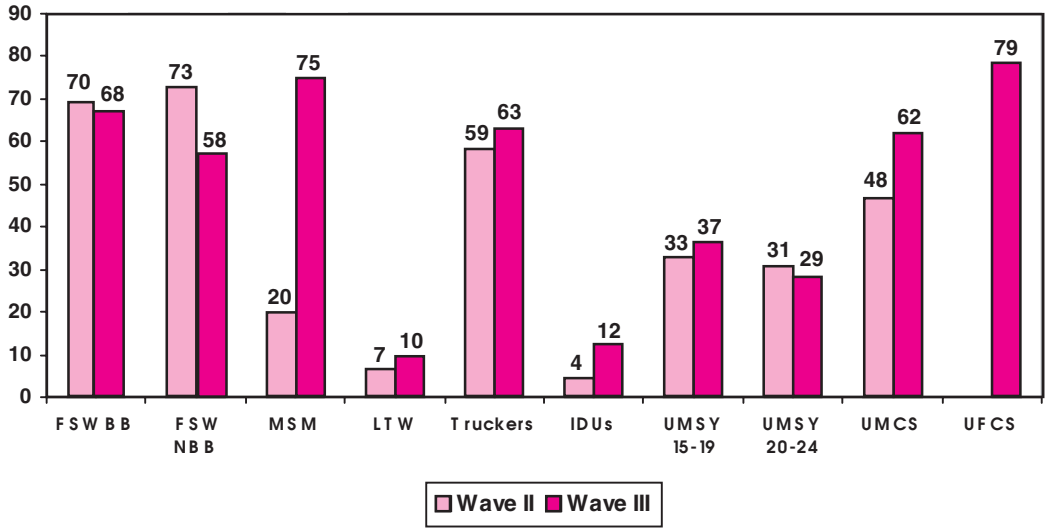


Base: (Wave II,III): FSW-BB(1597,2727); FSW-NBB(1156,1616); MSM(1402,1355); LTW(280,936); Trucker(862,698); IDU(298,270);UMSY 15-19 (1143,1747); UMSY20-24(1040,2683);UMCS(1090,744) and UFCS(1098)

STI care seeking behavior

STI care seeking behavior among those who have experienced STI symptoms in the past one year can be understood from Fig 48. The results indicate improvement in STI care seeking behavior in most of the groups. In case of MSM, the increase is four fold since wave II (20% to 75%) and the follow up qualitative study attributes this *to reasons such as awareness, good network among* MSMs *and increase in safe sex behavior*. Four fifth of the female college students sought STI care from qualified allopathic practitioner.

Fig. 48: STI care seeking behaviour



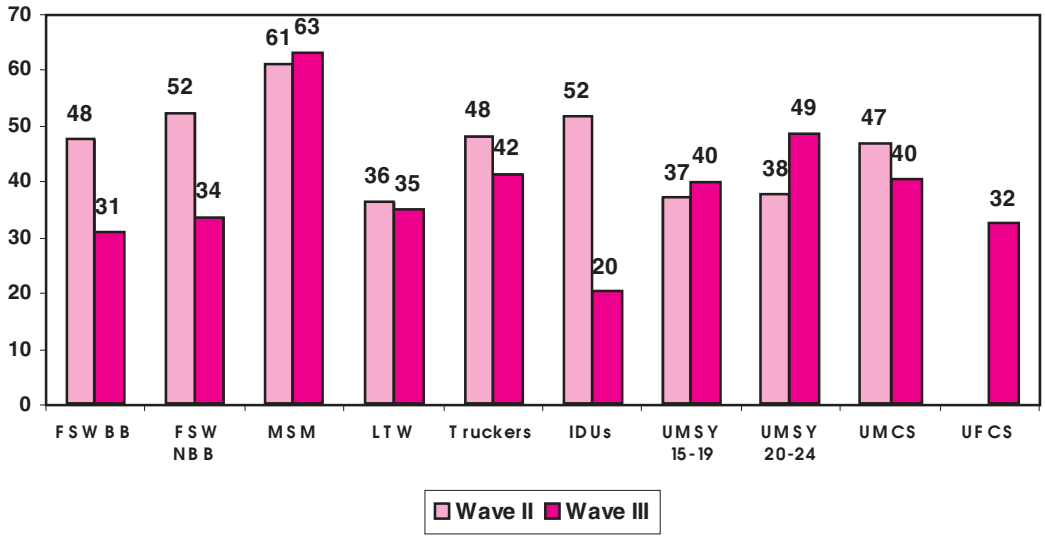
Base: (Wave II,III): FSW-BB(1597,2727); FSW-NBB(1156,1616); MSM(1402,1355); LTW(280,936); Trucker(862,698); IDU(298,270);UMSY 15-19 (1143,1747); UMSY20-24(1040,2683);UMCS(1090,744) and UFCS(1098)

The incidence of STI among MSM declined since the last wave but still is moderately high (15%) (Fig 47). This can be attributed to rapid increase of STI care seeking behaviour from qualified allopathic practitioners (20% in wave II and 75% in wave III) (Fig 48) and the thriving network among the MSM/Hijaras.

Know people living with HIV/AIDS

One third each of the brothel and non brothel sex workers (31% and 34% respectively) know people living with HIV/AIDS and this proportion declined since the wave II. Significant reduction is observed in the proportion of the IDUs who know people living with HIV/AIDS (from 52% to 20%). The proportion who know people living with HIV/AIDS increased slightly only in case of MSM and male slum youth (Fig 49).

Fig. 49: Needle syringe sharing behaviour of IDUs



Base: (Wave II,III): FSW-BB(1597,2727); FSW-NBB(1156,1616); MSM(1402,1355); LTW(280,936); Trucker(862,698); IDU(298,270);UMSY 15-19 (1143,1747); UMSY20-24(1040,2683);UMCS(1090,744) and UFCS(1098)

SALIENT FINDINGS

Sex workers - Brothel Based (FSW-BB) and Non Brothel Based (FSW-NBB)

- High partner turnover among the sex workers (16 paying clients in case of brothel based and 12 paying clients in case of non-brothel based sex workers in a week) drive them towards vulnerability to HIV, which did not change significantly since the wave II.

- One tenth of the brothel based sex workers and one third of their non brothel counterparts are at risk because of not using condom consistently with paying clients. Further, more sex workers (74% among brothel based and 85% among non-brothel based) are at risk of contracting HIV because of non use of condom consistently with their non-paying partners and this proportion decreased since wave II (99% and 90% respectively).

Men who have Sex with Men (MSM)

- Condom use with the non-commercial partner at the last anal sex is 86% and this proportion increased since wave II (77%). Overall, the condom use at last anal sex with the commercial partner is 95% and it increased since the wave II (72%).

- The incidence of STI among MSM declined since the last wave but still is moderately higher (15%) and this can be attributed to rapid increase of STI care seeking behavior from qualified allopathic practitioners (20% in wave II and 75% in wave III) and the thriving network among MSMs. *In spite of fewer targeted intervention (TI) in the state, rapid increase in STI care seeking behavior can be attributed to reasons such as awareness, good network among the* MSM*s and increase in safe sex behavior.*

Light Transport Workers (LTW)

- Condom use at the last sex with a commercial partner was reported by almost all the LTWs (98%). Condom use with non-regular partner at the last sex and consistently in the past 12 months was reported by 76% and 64% of the LTWs respectively with the corresponding figure for wave II being 39% and 24% respectively. *The follow up qualitative study attributes this increase in condom use to the increased awareness*

on HIV/AIDS in case of commercial partner and a feeling of safety in case of non regular partners.

- More than one fourth of the LTWs experienced STI symptoms (27%) in the past 12 months and this proportion increased since the last wave. One tenth of them (10%) sought treatment from qualified allopathic practitioners. The higher STI incidence perhaps indicates the high risk behavior of this group.

Unmarried Male Slum Youth Aged 15 – 19 Years (UMSY 15-19)

- The use of condom by the male slum youth of 15-19 years slightly increased with commercial as well as non-commercial partner. More than four fifth of the male slum youth used condom at the last sex with a commercial partner, while consistent condom use with the commercial partner in the past 12 months was reported by 70% as against 59% in the wave II. Condom use with non-regular partner at the last sex and consistently in the past 12 months was reported by 47% and 39% respectively and this proportion increased since wave II (45% and 30% respectively).

- Incidence of genital ulcer / sore / genital discharge was reported by 11% male slum youth and this proportion decreased since the wave II. Among those who had any STI symptoms in the past 12 months, 37 percent sought any treatment and this proportion increased since the wave II (33%).

Unmarried Male Slum Youth Aged 20 – 24 Years (UMSY 20-24)

- Though condom use at the last sex with a commercial partner by the male slum youth is universal (100 % as against 92% in wave II), consistent condom use was reported by 88% as against 69% in wave II. Though there is an increase in the extent of consistent condom use in the past 12 months with non-regular partners, less than half of the male slum youth of 20-24 years reported so (45% as against 36% in wave II).

- Less than one fifth of the male slum youth of 20-24 years (16%) who had at least one symptom of STI, sought treatment and more than one fourth (29%) sought treatment from a qualified allopathic practitioner.

Unmarried Female Slum Youth (UFSY 15-19 years and 20-24 years) (Qualitative)

- None of the younger age group slum females reported to have participated in sex. Some of the female slum youth are aware of commercial sex. The slum females of younger age group refer call girls and bar girls as commercial sex workers. The females of the older age group opined that girls go for commercial sex to resolve financial crisis of the family. Regarding their experience about sex, younger females are still apprehensive to have sexual relationship with their male friends and not forthcoming to accept such relationships openly. On the other hand, the older age group females feel that it is a pleasurable experience.

- Awareness level on STIs is low as only a few slum females from the younger age group reported awareness of the same. The older age group lack correct knowledge about STIs in spite of awareness of STIs.

- In view of the indications regarding high risk behavior of this group, the female slum youth of 15-19 years and 20-24 years can be considered for the subsequent wave of the BSS as the behavior of this group needs to be tracked in terms of quantitative indicators.

Unmarried Male College Student (UMCS)

- Around 5 % of the male college students reported to have had sex with a commercial partner and multiple partners in the past 12 months prior to the survey. *Interestingly, major shift has taken place in risk behaviour from the commercial sex partners to the non-regular partners. The follow up qualitative study attributes this to reasons such as the non-regular partners like girl friends being more open to have sex there by reducing the necessity for a commercial partner where money as well as HIV risk is involved.*

- About two fifth and four fifth of the male college students reported use of condom with non commercial (39%) and commercial sex partners (79%) and this proportion increased since the wave II (34% and 64% respectively). The extent of consistent use of condom with commercial and non-commercial partners did not change significantly since the wave II.

- One tenth of the male college students reported to have had at least one STI symptom in the past 12 months. More than three fifth (62 %) of the male college students who had STI symptoms in the past 12 months sought medical treatment from a qualified allopathic doctor.

Unmarried Female College Student (UFCS)

- One fourth of the female college students (25%) had non-penetrative sex with their partners, while 11% reported to have had penetrative sex with a male partner. None of the female students had sex with a male commercial partner or had multiple sex partners in the past 12 months prior to the survey.

- More than four fifth (86%) of the female college students reported use of condom at the last sex with a non-commercial partner while consistent condom use with non-commercial partners in the past 12 months was reported by 73% of the female college students.

- Two fifth (40%) of the female students are aware of Sexually Transmitted Infections and majority of the female students (96%) reported to have had never experienced any of the STI symptoms.

Truckers

- Half (50%) of the truckers had sex with a female commercial sex partner in the past 12 months prior to the survey. This proportion increased since the wave II (31%). One fourth (25%) of the truckers surveyed had more than one commercial partner, while this proportion was slightly less (22%) in the wave II. The extent of condom use at last sex with a commercial partner was reported by almost all (97%) the truckers which was three fourth in the wave II. Consistent condom use with commercial partner in the past 12 months was reported by more than four fifth (84%) of the truckers. Condom use with the non-commercial partners at the last sex and consistently in the last 12 months was reported by 70% and 68% of the truckers respectively which was 39% and 21% respectively in the wave II. More than one tenth of these (16%) reported to have ever had sex with hijaras.

- Experience of STI symptoms viz., genital ulcer and burning pain in urination in the past 12 months was reported by 8% and 25% of the truckers respectively. Among those who had any STI symptoms in the past 12 months, more than three fifth (63%) sought any treatment and received treatment from a qualified allopathic doctor.

Injecting Drug Users (IDUs)

- Two fifth (41% in wave III as against 34% in wave II) of the injecting drug users reported to have shared injecting equipment, the last time they had injected the drugs. Around three fourth (74%) of the IDUs reportedly shared the equipment in high-equipment sharing situations.

- Irrespective of partner, the percentage of injecting drug users reporting consistent condom use with paying clients and non paying partners decreased since the wave II.

- The proportion of IDUs reporting STI incidence during the past one year increased from 27% in wave II to 40% in wave III.

Recommendations:

On the basis of the findings discussed earlier, the following recommendations are put forth :

- *Targeted Interventions need to focus on non-paying partners of brothel based as well as non-brothel based sex workers in view of their risk behavior with non-paying partner.*
- *The interventions among the non-brothel based sex workers should focus on voluntary HIV testing and condom use with non-paying partners.*
- *The success and effective networking among the* MSMs *should be further strengthened.*
- *Plan and scale up interventions, especially for male college students with focus on condom use with non-regular partners.*
- *Scale up interventions among IDUs with focus on sexual activity and the sharing of equipment.*
- *Strengthen the STI care services and treatment seeking behavior among the high risk groups.*
- *Scale up VCTC activities for all the target groups.*
- *Scale up HIV prevention activities among the IDUs.*
- *LTWs can be covered in wave IV of BSS because of high incidence of STI.*
- *Unmarried Female slum youth of 15-19 years and 20-24 years need to be covered in wave IV (quantitative study) because of their vulnerability.*
- *Interventions need to focus on increasing STI treatment seeking behaviour among Light Transport Workers (LTWs).*

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APPENDIX - I
PART A: BSS Indicators (Wave III) at a glance (95 percent CI)

Sl.NO.	Core Indicators	FSW-BB	FSW-NBB	MSM	LTW	UMSY15-19	UMSY20-24	UMCS	**UFCS**	Truckers	IDU
1	Percent of respondents who identified **consistent condom use** as a method of reducing the risk of contracting HIV (Base: All respondents)	92 (90.51, 93.48)	86.3 (84.43, 88.16)	85.9 (84.00, 87.79)	87.4 (85.59, 89.20)	91.7 (90.19, 93.20)	93.7 (92.36, 95.03)	88.4 (86.65, 90.14)	**88 (86.23, 89.76)**	90.7 (89.11, 92.28)	85.2 (83.27, 87.12)
2	Percent of respondents with **correct knowledge of HIV prevention** (Abstaining from sex, having uninfected faithful partner, and consistent condom use) (Base: All respondents)	59.4 (56.74, 62.05)	87.3 (85.4, 89.1)	86.1 (84.2, 87.9)	56.9 (54.22, 59.57)	56.2 (53.52, 58.87)	58.2 (55.53, 60.86)	51.9 (49.20, 54.59)	**53.7 (51.00, 56.39)**	46.8 (44.10, 49.49)	34.8 (32.22, 37.37)
3	Percent of respondents who **rejected the two most common local misconceptions** about AIDS transmission and who knew that a health looking person can transmit AIDS (Base: All respondents)	67.6 (65.07, 70.12)	63.5 (60.89, 66.10)	73.5 (71.11, 75.88)	66.9 (64.35, 69.44)	70.4 (67.93, 72.86)	70.8 (68.34, 73.25)	87.8 (86.01, 89.58)	**71.9 (69.46, 74.33)**	58.7 (56.04, 61.35)	58.9 (56.24, 61.55)
4	Percent of **sex workers** who reported using a **condom** with their most **recent client** (Base: All respondents)	97.6 (96.74, 98.45)	97.3 (96.39, 98.20)								
5	Percent of **sex workers** who reported **always using a condom** with **every clients** during the **previous month** (Base: All respondents)	82.3 (80.23, 84.36)	66.9 (64.35, 69.44)								
6	Percent of sex workers who reported using a **condom** with their **most recent non, paying partner** (Base: Those who had at least one non, regular partner in the previous seven days)	54.1 (51.4, 56.7)	34.2 (31.6, 36.7)								
7	Percent of sex workers who reported **always using a condom** with every **non, paying** partners during in the **previous month** (Base: Those who had at least one non, regular partner in the previous seven days)	26 (23.6, 28.3)	15.1 (13.1, 17.0)								
8	Percent of sex workers who reported having **injected drugs** at least once in **previous 12 months** (Base: All respondents)	1.1 (0.507, 1.692)	0.6 (0.151, 1.048)								

9	Genital **discharge** in the last 12 months (Base: All respondents)	6.4 (5.059, 7.740)	7.4 (5.968, 8.831)	3.2 (2.225, 4.174)	9.7 (8.086, 11.31)	0.8 (0.288, 1.311)	93.7 (92.36, 95.03)	0.4 (0.026, 0.773)	**0.5 (0.087, 0.912)**	0.2 (- 0.07, 0.474)	17.8 (15.72, 19.87)
10	Genital **ulcer**/sore in previous 12 months (Base: All respondents)	7.9 (6.426, 9.373)	5.3 (4.069, 6.530)	9.3 (7.716, 10.88)	7.7 (6.243, 9.156)	2.9 (1.969, 3.830)	58.2 (55.53, 60.86)	3.1 (2.139, 4.060)	**0.2 (- 0.07, 0.474)**	8.2 (6.701, 9.698)	11.9 (10.13, 13.66)
11	Proportion of respondents **seeking STI care** from qualified **allopathic practitioner** (Base: Those reported any STI in the past one year)	68.1 (65.5, 70.6)	58.4 (55.7, 61.0)	75.2 (72.8, 77.5)	9.5 (7.901, 11.09)	36.5 (33.8, 39.1)	28.6 (26.1, 31.0)	62.4 (59.7, 65.0)	**78.6 (76.3, 80.8)**	63.4 (60.8, 66.0)	12.1 (10.32, 13.87)
12	**Anal ulcer**/sore in the last 12 months (Base: All respondents)			6.5 (5.149, 7.850)							
13	Percent of respondents who reported **anal sex** with **more than one other man** in **previous one month** (Base: All respondents)			53.9 (51.20, 56.59)							
14	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 the previous one month)			86.1 (84.2, 87.9)							
15	Percent of respondents who **used a condom every time** they had **anal sex** with a **non, regular** partners over previous six months (Base: Those who had anal sex with at least one non, commercial partner in the previous one month)			70.3 (67.8, 72.7)							
16	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 the last one month)			95 (93.8, 96.1)							
17	Percent of respondents who **used a condom every time** they had **anal sex with** a **commercial** partners over previous six months (Base: Those who had anal sex with at least one commercial partner in the last one month)			83 (80.9, 85.0)							
18	Proportion of respondents **having non, regular/non, commercial female partner** in previous 12 months (Base: All respondents)				27.3 (24.89, 29.70)					2.7 (1.79, 3.60)	30 (27.5, 32.4)

19	Percent of respondents who reported **condom use** on the **last occasion** they had sex with non, regular/non, commercial female partner (Base: Those who had sex with at least one non, regular female partner/non, commercial in the previous 12 months)				75.5 (73.1, 77.8)	47.4 (44.7, 50.0)	63.6 (61.0, 66.1)	61.6 (58.9, 64.2)	**85.5 (83.5, 87.4)**	70.1 (67.6, 72.5)	74.1 (71.7, 76.4)
20	Percent of respondents who **used a condom every time** they had sex with a **non, regular** female partners/non, **commercial** over previous six months (Base: Those who had sex with at least one non, regular female partner/non, commercial in the previous 12 months)				64.4 (61.8, 66.9)	39.3 (36.6, 41.9)	45.3 (42.6, 47.9)	39.2 (36.5, 41.8)	**73.4 (71.0, 75.7)**	67.8 (65.2, 70.3)	22 (19.7, 24.2)
21	Percent of respondents who had **sex with a female sex worker** in previous 12 months (Base: All respondents)				19.9 (17.73, 22.06)	20 (17.83, 22.16)	30.6 (28.10, 33.09)	20 (17.83, 22.16)	**11 (9.296, 12.70)**	49.5 (46.79, 52.20)	38.2 (35.5, 40.8)
22	Proportion of **respondents** having **more than one commercial female partner** in previous 12 months (Base: All respondents)				18.9 (16.77, 21.02)					25.2 (22.8, 27.5)	
23	Percent of respondents who reported **condom** use **at the last occasion** they had sex with **commercial** partner (Base: Those who had sex with at least one commercial in the previous 12 months)				97.9 (97.0, 98.7)	83 (80.9, 85.0)	99.8 (99.5, 100.)	100 (99.9, 100.)	**0**	97 (96.0, 97.9)	85.3 (83.3, 87.2)
24	Percent of respondents who **used a condom every time** they had anal sex with **commercial partners** over previous six months (Base: Those who had sex with at least one commercial in the previous 12 months)				94.3 (93.0, 95.5)	70.1 (67.6, 72.5)	88.1 (86.3, 89.8)	78.8 (76.5, 81.0)	**0**	83.5 (81.4, 85.5)	34.1 (31.5, 36.6)
25	Percent of respondents who had ever **voluntarily requested a HIV test**, received the test and received their result (Base: All respondents)	45.2 (42.5, 47.8)	33.2 (30.6, 35.7)	44.1 (41.4, 46.7)	19.6 (17.44, 21.75)	8.4 (6.885, 9.914)	10.9 (9.203, 12.59)	11.4 (9.670, 13.12)	**2 (1.217, 2.782)**	18 (15.9, 20.0)	13.7 (11.83, 15.56)
26	Percent of respondents reporting having been exposed to specific prevention **interventions** (Base: All respondents)										
27	**Seen billboards/posters/leaflets** on STI/HIV/AIDS in previous 12 months	90.2 (88.57, 91.82)	86.9 (85.06, 88.73)	94.3 (93.02, 95.57)	97.7 (96.86, 98.53)	92.1 (90.62, 93.57)	93.9 (92.58, 95.21)	88.2 (86.44, 89.95)	**88.2 (86.44, 89.95)**	94.7 (93.46, 95.93)	

28	**Been approached for education** on spread of STI/HIV/AIDS in previous 12 months	84.9 (82.95, 86.84)	69.6 (67.11, 72.08)	68 (65.47, 70.52)	56.1 (53.41, 58.78)	38.7 (36.06, 41.33)	34.4 (31.83, 36.96)	37.6 (34.98, 40.21)	**63 (60.39, 65.60)**	54.6 (51.91, 57.28)	43.7 (41.02, 46.37)
29	**Attended/participated in campaigns** or **meetings** on STI/HIV/AIDS in previous 12 months	58.9 (56.24, 61.55)	34.7 (32.12, 37.27)	36 (33.40, 38.59)	12.7 (10.88, 14.51)	15.9 (13.91, 17.88)	15.9 (13.91, 17.88)	24.9 (22.55, 27.24)	**29.1 (26.64, 31.55)**	23.8 (21.49, 26.10)	31.9 (29.38, 34.41)
30	**Received** free **medical check ups** for STI/HIV/AIDS in previous 12 months	35.2 (32.61, 37.78)	22.9 (20.62, 25.17)	39.5 (36.85, 42.14)	10.1 (8.458, 11.74)	5.6 (4.338, 6.861)	7.8 (6.334, 9.265)	6.3 (4.968, 7.631)	**0.9 (0.360, 1.439)**	12.3 (10.51, 14.08)	20.4 (18.21, 22.58)
31	Proportion of respondents who reported **sharing injecting** equipment the **last time** they injected drugs (Base: All respondents)										40.7 (38.04, 43.35)
32	Proportion of respondents who reported **never sharing** injecting equipment during any episode of injection in the **last month** (Base: All respondents)										31.1 (28.5, 33.6)
33	Proportion of respondents who reported **sharing** equipment in any **high equipment sharing situation** at least once in the month (Base: All respondents)										74.1 (71.7, 76.5)
34	Proportion of respondents reported having **access to sterile needles** through pharmacies or needle exchange programs (Base: All respondents)										99.3 (98.81, 99.78)

*** UFCS is newly introduced in Wave - III**

PART B: BSS Indicators (comparison, wave II and wave III) at a glance (95 percent CI)

		FSW, BB		FSW, NBB		MSM		LTW	
SI.NO.	Core Indicators	Wave - II	Wave - III	Wave - II	Wave - III	Wave - II	Wave - III	Wave - II	Wave - III
1	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)	92 (90.51, 93.48)	88.9 (87.0,90.8)	86.3 (84.43, 88.16)	75.0 (72.4,77.6)	85.9 (84.00, 87.79)	76.3 (70.2,82.4)	87.4 (85.59, 89.20)
2	Percent of respondents with **correct knowledge of HIV prevention** (Abstaining from sex, having uninfected faithful partner, and consistent condom use) (Base: All respondents)	53.7 (50.36,57.04)	59.4 (56.74, 62.05)	59.4 (56.23,62.57)	87.3 (85.4, 89.1)	75.0 (72.38,77.62)	86.1 (84.2, 87.9)	42.0 (33.09,50.91)	56.9 (54.22, 59.57)
3	Percent of respondents who **rejected the two most common local misconceptions** about AIDS transmission and who knew that a health looking person can transmit AIDS (Base: All respondents)	49.6 (46.12, 53.08)	67.6 (65.07, 70.12)	48.4 (44.83,51.97)	63.5 (60.89, 66.10)	64.4 (61.28,67.52)	73.5 (71.11, 75.88)	53.8 (45.04,60.96)	66.9 (64.35, 69.44)
4	Percent of **sex workers** who reported using a **condom** with their most **recent client** (Base: All respondents)	79 (76.75,81.25)	97.6 (96.74, 98.45)	69.6 (66.86,72.34)	97.3 (96.39, 98.20)				
5	Percent of **sex workers** who reported **always using a condom** with **every clients** during the **previous month** (Base: All respondents)	71.3 (68.67,73.93)	82.3 (80.23, 84.36)	52.8 (49.39,56.21)	66.9 (64.35, 69.44)				
6	Percent of sex workers who reported using a **condom** with their **most recent non, paying partner** (Base: Those who had at least one non, regular partner in the previous seven days)	32.4 (20.75,43.85)	54.1(51.4, 56.7)	23.7 (12.85,34.55)	34.2 (31.6, 36.7)				
7	Percent of sex workers who reported **always using a condom** with every **non, paying** partners during in the **previous month** (Base: Those who had at least one non, regular partner in the previous seven days)	11 (5.57,16.43)	26 (23.6, 28.3)	10.4 (0.0,22.13)	15.1 (13.1, 17.0)				
8	Percent of sex workers who reported having **injected drugs** at least once in **previous 12 months** (Base: All respondents)	.8 (0.3,1.3)	1.1 (0.507, 1.692)	2 (1.1,2.9)	0.6 (0.151, 1.048)				
9	Genital **discharge** in the last 12 months (Base: All respondents)	10 (8.2,11.8)	6.4 (5.059, 7.740)	14.2 (12.1,16.3)	7.4 (5.968, 8.831)	16.6 (14.2,19.0)	3.2 (2.225, 4.174)	0.2 (0.0,0.8)	9.7 (8.086, 11.31)
10	Genital **ulcer**/sore in previous 12 months (Base: All respondents)	12.1 (10.1,14.1)	7.9 (6.426, 9.373)	17.7 (15.420.0)	5.3 (4.069, 6.530)	19 (16.5,21.5)	9.3 (7.716, 10.88)	6.0 (2.6,9.4)	7.7 (6.243, 9.156)

11	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)	68.1 (65.5, 70.6)	72.5 (68.3,76.7)	58.4 (55.7, 61.0)	19.7 (14.3,25.1)	75.2 (72.8, 77.5)	7.1 (0.0,17.0)	9.5 (7.901, 11.09)
12	**Anal ulcer**/sore in the last 12 months (Base: All respondents)					16 (13.6,18.4)	6.5 (5.149, 7.850)		
13	Percent of respondents who reported **anal sex** with **more than one other man** in **previous one month** (Base: All respondents)					95.2 (94.39,96.1)	53.9 (51.20, 56.59)		
14	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 the previous one month)					77.4 (74.82,79.98)	86.1 (84.2, 87.9)		
15	Percent of respondents who **used a condom every time** they had **anal sex** with a **non, regular** partners over previous six months (Base: Those who had anal sex with at least one non, commercial partner in the previous one month)					60.7 (57.3,64.1)	70.3 (67.8, 72.7)		
16	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 the last one month)					72.1 (68.52,75.68)	95 (93.8, 96.1)		
17	Percent of respondents who **used a condom every time** they had **anal sex with** a **commercial** partners over previous six months (Base: Those who had anal sex with at least one commercial partner in the last one month)					59.8 (55.5,64.1)	83 (80.9, 85.0)		
18	Proportion of respondents **having non, regular/non, commercial female partner** in previous 12 months (Base: All respondents)							7.4 (3.6,11.2)	27.3 (24.89, 29.70)
19	Percent of respondents who reported **condom use** on the **last occasion** they had sex with non, regular/non, commercial female partner (Base: Those who had sex with at least one non, regular female partner/non, commercial in the previous 12 months)							38.6 (19.07,58.93)	75.5 (73.1, 77.8)

20	Percent of respondents who **used a condom every time** they had sex with a **non, regular** female partners/non, **commercial** over previous six months (Base: Those who had sex with at least one non, regular female partner/non, commercial in the previous 12 months)							24.2 (1.63,46.37)	64.4 (61.8, 66.9)
21	Percent of respondents who had **sex with a female sex worker** in previous 12 months (Base: All respondents)							19 (13.3,24.7)	19.9 (17.73, 22.06)
22	Proportion of **respondents** having **more than one commercial female partner** in previous 12 months (Base: All respondents)							15.6 (0.4,20.8)	18.9 (16.77, 21.02)
23	Percent of respondents who reported **condom** use **at the last occasion** they had sex with **commercial** partner (Base: Those who had sex with at least one commercial in the previous 12 months)							88.9 (80.05,97.95)	97.9 (97.0, 98.7)
24	Percent of respondents who **used a condom every time** they had anal sex with **commercial partners** over previous six months (Base: Those who had sex with at least one commercial in the previous 12 months)							77.4 (64.12,89.88)	94.3 (93.0, 95.5)
25	Percent of respondents who had ever **voluntarily requested a HIV test**, received the test and received their result (Base: All respondents)	31.5 (28.7,34.3)	45.2 (42.5, 47.8)	56.3 (53.3,59.3)	33.2 (30.6, 35.7)	52.3 (49.6, 54.9)	44.1 (41.4, 46.7)	11.4 (6.8,16.0)	19.6 (17.44, 21.75)
26	Percent of respondents reporting having been exposed to specific prevention **interventions** (Base: All respondents)								
27	**Seen billboards/posters/leaflets** on STI/HIV/AIDS in previous 12 months	95.8 (94.6,97.0)	90.2 (88.57, 91.82)	99.1 (98.5,99.7)	86.9 (85.06, 88.73)	96 (94.7,97.3)	94.3 (93.02, 95.57)	100	97.7 (96.86, 98.53)
28	**Been approached for education** on spread of STI/HIV/AIDS in previous 12 months	88.9 (87.0,90.8)	84.9 (82.95, 86.84)	74.2 (71.4,77.0)	69.6 (67.11, 72.08)	71.4 (68.5,74.3)	68 (65.47, 70.52)	16.1 (10.8, 21.4)	56.1 (53.41, 58.78)
29	**Attended/participated in campaigns** or **meetings** on STI/HIV/AIDS in previous 12 months	59.2 (56.2,62.2)	58.9 (56.24, 61.55)	47.1 (44.0,50.2)	34.7 (32.12, 37.27)	61.4 (58.3,64.5)	36 (33.40, 38.59)	19.6 (13.9,25.3)	12.7 (10.88, 14.51)
30	**Received** free **medical check ups** for STI/HIV/AIDS in previous 12 months	55.8 (52.8,58.8)	35.2 (32.61, 37.78)	49.4 (46.3,52.5)	22.9 (20.62, 25.17)	67.7 (64.7,70.7)	39.5 (36.85, 42.14)	4.3 (1.4,7.2)	10.1 (8.458, 11.74)

31	Proportion of respondents who reported **sharing injecting** equipment the **last time** they injected drugs (Base: All respondents)								
32	Proportion of respondents who reported **never sharing** injecting equipment during any episode of injection in the **last month** (Base: All respondents)								
33	Proportion of respondents who reported **sharing** equipment in any **high equipment sharing situation** at least once in the month (Base: All respondents)								
34	Proportion of respondents reported having **access to sterile needles** through pharmacies or needle exchange programs (Base: All respondents)								

Part B: (contd) : BSS Indicators (comparison, wave II and wave III) at a glance (95 percent CI)

		UMSY15-19		UMSY20-24		UMCS		**UFCS ***	Truckers		IDU	
SI.NO.	Core Indicators	Wave-II	Wave-III	Wave-II	Wave-III	Wave-II	Wave-III	**Wave-III**	Wave-II	Wave-III	Wave-II	Wave-III
1	Percent of respondents who identifies **consistent condom use** as a method of reducing the risk of contracting HIV (Base: All respondents)	75.9 (72.9, 78.9)	91.7 (90.19, 93.20)	78.1 (75.0, 81.2)	93.7 (92.36, 95.03)	89.4 (87.2, 91.6)	88.4 (86.65, 90.14)	**88 (86.23, 89.76)**	84.5 (81.5, 87.5)	90.7 (89.11, 92.28)	78.2 (72.4, 84.0)	85.2 (83.27, 87.12)
2	Percent of respondents with **correct knowledge of HIV prevention** (Abstaining from sex, having uninfected faithful partner, and consistent condom use) (Base: All respondents)	38.8 (34.37,43.43)	56.2 (53.52, 58.87)	39.7 (34.98, 44.42)	58.2 (55.53, 60.86)	55.3 (51.33, 59.27)	51.9 (49.20, 54.59)	**53.7 (51.00, 56.39)**	53.7 (49.6, 58.54)	46.8 (44.10, 49.49)	30.2 (20.71, 36.39)	34.8 (32.22, 37.37)
3	Percent of respondents who **rejected the two most common local misconceptions** about AIDS transmission and who knew that a health looking person can transmit AIDS (Base: All respondents)	44 (39.66,48.34)	70.4 (67.93, 72.86)	47.3 (42.89, 51.71)	70.8 (68.34, 73.25)	70.9 (67.7, 74.1)	87.8 (86.01, 89.58)	**71.9 (69.46, 74.33)**	56.1 (57.57, 60.63)	58.7 (56.04, 61.35)	33.6 (24.34, 42.86)	58.9 (56.24, 61.55)
4	Percent of **sex workers** who reported using a **condom** with their most **recent client** (Base: All respondents)											
5	Percent of **sex workers** who reported **always using a condom** with **every clients** during the **previous month** (Base: All respondents)											
6	Percent of sex workers who reported using a **condom** with their **most recent non, paying partner** (Base: Those who had at least one non, regular partner in the previous seven days)											
7	Percent of sex workers who reported **always using a condom** with every **non, paying** partners during in the **previous month** (Base: Those who had at least one non, regular partner in the previous seven days)											
8	Percent of sex workers who reported having **injected drugs** at least once in **previous 12 months** (Base: All respondents)											

9	Genital **discharge** in the last 12 months (Base: All respondents)	3.1 (1.9, 4.3)	0.8 (0.288, 1.311)	1.3 (0.5, 2.1)	93.7 (92.36, 95.03)	2.7 (1.5, 3.9)	0.4 (0.026, 0.773)	**0.5 (0.087, 0.912)**	2.5 (1.2, 3.8)	0.2 (, 0.07, 0.474)	8.4 (4.5, 12.3)	17.8 (15.72, 19.87)
10	Genital **ulcer**/sore in previous 12 months (Base: All respondents)	5.2 (3.6, 6.8)	2.9 (1.969, 3.830)	3.5 (2.1, 4.9)	58.2 (55.53, 60.86)	4.9 (3.3, 6.5)	3.1 (2.139, 4.060)	**0.2 (, 0.07, 0.474)**	6.6 (4.6, 8.6)	8.2 (6.701, 9.698)	10.4 (6.1, 14.7)	11.9 (10.13, 13.66)
11	Proportion of respondents **seeking STI care** from qualified **allopathic practitioner** (Base: Those reported any STI in the past one year)	32.8 (24.6, 41.0)	36.5 (33.8, 39.1)	30.8 (20.7, 40.9)	28.6 (26.1, 31.0)	47.5 (39.7, 55.3)	62.4 (59.7, 65.0)	**78.6 (76.3, 80.8)**	58.6 (50.5, 66.7)	63.4 (60.8, 66.0)	4.4 (0.0, 10.0)	12.1 (10.32, 13.87)
12	**Anal ulcer**/sore in the last 12 months (Base: All respondents)											
13	Percent of respondents who reported **anal sex** with **more than one other man** in **previous one month** (Base: All respondents)											
14	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 the previous one month)											
15	Percent of respondents who **used a condom every time** they had **anal sex** with a **non, regular** partners over previous six months (Base: Those who had anal sex with at least one non, commercial partner in the previous one month)											
16	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 the last one month)											
17	Percent of respondents who **used a condom every time** they had **anal sex with** a **commercial** partners over previous six months (Base: Those who had anal sex with at least one commercial partner in the last one month)											
18	Proportion of respondents **having non, regular/non, commercial female partner** in previous 12 months (Base: All respondents)											

19	Percent of respondents who reported **condom use** on the **last occasion** they had sex with non, regular/non, commercial female partner (Base: Those who had sex with at least one non, regular female partner/non, commercial in the previous 12 months)	45.3 (34.9, 55.7)	47.4 (44.7, 50.0)	52.6 (43.09, 62.11)	63.6 (61.0, 66.1)	56.1 (47.82, 64.38)	61.6 (58.9, 64.2)	**85.5 (83.5, 87.4)**	38.8 (24.9, 53.1)	70.1 (67.6, 72.5)	51.3 (28.82, 73.78)	74.1 (71.7, 76.4)
20	Percent of respondents who **used a condom every time** they had sex with a **non, regular** female partners/non, **commercial** over previous six months (Base: Those who had sex with at least one non, regular female partner/non, commercial in the previous 12 months)	30 (18.21,41.79)	39.3 (36.6, 41.9)	36.4 (25.36, 47.44)	45.3 (42.6, 47.9)	34 (28.85, 44.15)	39.2 (36.5, 41.8)	**73.4 (71.0, 75.7)**	20.8 (4.7, 37.3)	67.8 (65.2, 70.3)	36.8 (17.1, 56.5)	22 (19.7, 24.2)
21	Percent of respondents who had **sex with a female sex worker** in previous 12 months (Base: All respondents)	8 (2.43, 13.57)	20 (17.83, 22.16)	12.3 (6.61, 17.99)	30.6 (28.10, 33.09)	10.6 (4.88, 16.12)	20 (17.83, 22.16)	**11 (9.296, 12.70)**	30.7 (25.15, 36.25)	49.5 (46.79, 52.20)	24.2 (18.2, 30.2)	38.2 (35.5, 40.8)
22	Proportion of **respondents** having **more than one commercial female partner** in previous 12 months (Base: All respondents)								21.8 (18.4, 25.2)	25.2 (22.8, 27.5)		
23	Percent of respondents who reported **condom** use **at the last occasion** they had sex with **commercial** partner (Base: Those who had sex with at least one commercial in the previous 12 months)	83.2 (74.79, 91.61)	83 (80.9, 85.0)	92.1 (87.23, 96.97)	99.8 (99.5, 100)	82.8 (74.64, 89.96)	100 (99.9, 100.)	**0**	84.5 (79.19, 88.91)	97 (96.0, 97.9)	61.1 (46.69, 75.51)	85.3 (83.3, 87.2)
24	Percent of respondents who **used a condom every time** they had anal sex with **commercial partners** over previous six months (Base: Those who had sex with at least one commercial in the previous 12 months)	59.2 (46.09, 72.31)	70.1 (67.6, 72.5)	69 (59.34, 78.66)	88.1 (86.3, 89.8)	63.8 (59.85, 74.75)	78.8 (76.5, 81.0)	**0**	67.8 (61.17, 74.83)	83.5 (81.4, 85.5)	45.8 (31.4, 60.2)	34.1 (31.5, 36.6)
25	Percent of respondents who had ever **voluntarily requested a HIV test**, received the test and received their result (Base: All respondents)	5.4 (3.8, 7.0)	8.4 (6.885, 9.914)	10.4 (8.1,12.7)	10.9 (9.203, 12.59)	18.5 (13.14, 23.86)	11.4 (9.670, 13.12)	**2 (1.217, 2.782)**	19.4 (13.05, 24.95)	18 (15.9, 20.0)	9.7 (5.6, 13.8)	13.7 (11.83, 15.56)
26	Percent of respondents reporting having been exposed to specific prevention **interventions** (Base: All respondents)											
27	**Seen billboards/posters/leaflets** on STI/HIV/AIDS in previous 12 months	83.5 (80.9, 86.1)	92.1 (90.62, 93.57)	85.2 (82.6, 87.8)	93.9 (92.58, 95.21)	96.6 (95.3, 97.9)	88.2 (86.44, 89.95)	**88.2 (86.44, 89.95)**	90.8 (88.4, 93.2)	94.7 (93.46, 95.93)		
28	**Been approached for education** on spread of STI/HIV/AIDS in previous 12 months	22.7 (19.7, 25.7)	38.7 (36.06, 41.33)	23.8 (20.6, 27.0)	34.4 (31.83, 36.96)	53.9 (50.3, 57.5)	37.6 (34.98, 40.21)	**63 (60.39, 65.60)**	58.3 52.2, 60.4)	54.6 (51.91, 57.28)	84.4 (79.3, 89.5)	43.7 (41.02, 46.37)

29	**Attended/participated in campaigns** or **meetings** on STI/HIV/AIDS in previous 12 months	20.4 (17.5, 23.3)	15.9 (13.91, 17.88)	20.8 (17.8, 23.8)	15.9 (13.91, 17.88)	51.9 (48.3, 55.5)	24.9 (22.55, 27.24)	**29.1 (26.64, 31.55)**	23.1 (19.6, 26.6)	23.8 (21.49, 26.10)	38.5 (31.7, 45.3)	31.9 (29.38, 34.41)
30	**Received** free **medical check ups** for STI/HIV/AIDS in previous 12 months	12.1 (9.8, 14.4)	5.6 (4.338, 6.861)	12.3 (9.9,14.7)	7.8 (6.334, 9.265)	15.3 (12.7, 17.9)	6.3 (4.968, 7.631)	**0.9 (0.360, 1.439)**	20.6 (17.3, 23.9)	12.3 (10.51, 14.08)	26.2 (20.1, 32.3)	20.4 (18.21, 22.58)
31	Proportion of respondents who reported **sharing injecting** equipment the **last time** they injected drugs (Base: All respondents)										33.6 (24.34, 42.86)	40.7 (38.04, 43.35)
32	Proportion of respondents who reported **never sharing** injecting equipment during any episode of injection in the **last month** (Base: All respondents)										8.1 (4.98, 11.22)	31.1 (28.5, 33.6)
33	Proportion of respondents who reported **sharing** equipment in any **high equipment sharing situation** at least once in the month (Base: All respondents)										51.3 (43.38, 59.22)	74.1 (71.7, 76.5)
34	Proportion of respondents reported having **access to sterile needles** through pharmacies or needle exchange programs (Base: All respondents)										64.4 (57.63, 71.17)	99.3 (98.81, 99.78)

*** UFCS is newly introduced in Wave III**

APPENDIX - II

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9. Prof. (Mrs.) Shalini Bharat Dean, School of Health Systems Studies, TISS Sion-Trombay Road, Deonar, Mumbai Phone: (022)-25563290	10. Jayanta Kumar Basu Research Specialist Avert Society, AcWorth Complex, R.A. Kidwai Marg, Wadala (W), Mumbai-400 031. Phone: (022)-24164510