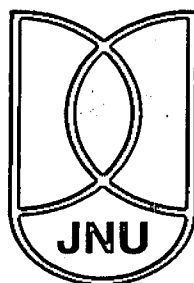


**HIV/AIDS IN INDIA : A GEOGRAPHICAL  
ANALYSIS**

Dissertation submitted in partial fulfillment of the requirement for the award of  
the degree of

**MASTER OF PHILOSOPHY**

**SWETA KUMARI GUPTA**



**CENTRE FOR THE STUDY OF REGIONAL DEVELOPMENT  
SCHOOL OF SOCIAL SCIENCES  
JAWAHARLAL NEHRU UNIVERSITY  
NEW DELHI-110067**

**2004**



जवाहरलाल नेहरू विश्वविद्यालय  
JAWAHARLAL NEHRU UNIVERSITY  
Centre for the Study of Regional Development  
School of Social Sciences  
New Delhi-110067

CERTIFICATE

I, Sweta Kumari Gupta, certify that the dissertation entitled "HIV/AIDS IN INDIA: A GEOGRAPHICAL ANALYSIS" for the degree of MASTER OF PHILOSOPHY is my bonafide work and may be placed before the examiners for evaluation.

*Sweta Kumari Gupta*

SWETA KUMARI GUPTA

Forwarded by

*Nangia*  
26.7.04

(PROF. SUDESH NANGIA)  
SUPERVISOR

*Aslam Mahmood*

(PROF. ASLAM MAHMOOD)  
CHAIRPERSON

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I take responsibility for the errors remaining.

**Sweta Kumari Gupta**

## **LISTOF ABBREVIATIONS**

<b>AIDS</b>	:	Acquired Immune Deficiency Syndrome
<b>BSS</b>	:	Behavioral Surveillance Survey
<b>FSW</b>	:	Female Sex Workers
<b>HIV</b>	:	Human Immuno Deficiency
<b>ID</b>	:	Injecting Drugs
<b>IDU</b>	:	Injecting Drug Users
<b>CSW</b>	:	Commercial sex workers
<b>MSM</b>	:	Men having sex with men
<b>NACO</b>	:	National AIDS Control Organization
<b>NGO</b>	:	Non Governmental Organization
<b>STD</b>	:	Sexually Transmitted Diseases
<b>UNAIDS</b>	:	Joint United Nations Program on HIV/AIDS
<b>WHO</b>	:	World Health Organization
<b>DFID</b>	:	Department for International Development
<b>PFI</b>	:	Population Foundation of India
<b>ANC</b>	:	Antenatal Clinic
<b>DSD</b>	:	Discrimination, Stigmatization, Denial
<b>IVDUS</b>	:	Intra-Venous drug users
<b>NFHS</b>	:	National Family Health Survey

<b>ILO</b>	:	International Labour Organization
<b>AIIH &amp; PH</b>	:	All India Institute of Hygiene and Public Health
<b>SHIP</b>	:	STD/HIV Intervention Programme
<b>DMSC</b>	:	Durbar Mahila Samanwaya Committee
<b>SITA</b>	:	Suppression of Immoral Traffic Act
<b>ART</b>	:	Anti – Retroviral Therapy
<b>UTs</b>	:	Union Territory
<b>CBOs</b>	:	Community Based Organizations
<b>IEC</b>	:	Information, Education and Communication
<b>RTI</b>	:	Reproductive tract Infection
<b>FRU</b>	:	First Referral Units
<b>PCH</b>	:	Primary Centres of Health
<b>CHC</b>	:	Community Health Centres
<b>VCT</b>	:	Voluntary counseling and Testing
<b>AZT</b>	:	Azidothynidine (anti retroviral)
<b>PLWHA</b>	:	People Living With HIV/AIDS
<b>ERS</b>	:	ELISA Rapid and Simple
<b>PHC</b>	:	Primary Health Clinics
<b>VCTCs</b>	:	Voluntary Counseling and testing centers
<b>R &amp; D</b>	:	Research and Development

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# CHAPTER I

## INTRODUCTION AND LITERATURE REVIEW

**Introduction:** AIDS (Acquired Immune Deficiency Syndrome) is an epidemic caused by a virus called HIV (human immuno-deficiency virus) which weakens the immune system and leads to death through secondary infections such as tuberculosis or pneumonia. HIV is transmitted through sex, blood, and infected mother to the child. About 10 million people all over the world are already infected by it. It is spreading very rapidly and the number of AIDS cases continues to double every 10 or 11 months. It presents a growing threat to public health throughout the world. With AIDS, the world quota of misery is full. Fear and ignorance continues to lead to tragedies for individuals, families and communities unfortunately anxiety and fear cause some to blame others. In fact AIDS has unveiled disguised prejudices about race religion social class sex and nationality. As a result AIDS now threatens free travel between countries and open international communication and exchange. It is obvious that these feelings on AIDS are based on a lack of information and bias.

In India the human immuno-deficiency virus / acquired immuno-deficiency syndrome (HIV/AIDS) epidemic is now 17 years old. Within this short period it has emerged as one of the most serious public health problems in the country. The initial cases of HIV/AIDS were reported among commercial sex workers in Mumbai and Chennai and injecting drug users in the Northeastern State of Manipur. The infection has since then spread rapidly in the areas adjoining these epicenters and by 1996 Maharashtra, Tamil Nadu and Manipur together accounted for 77% of the total AIDS cases with Maharashtra reporting almost – half the number of cases in the country. Even though the officially reported cases of HIV infection and full blown AIDS cases are in the thousands only, it was realized that there is a wide gap between the reported and estimated figures because of the absence of epidemiological data in major parts of the country. The latest estimate for the HIV/AIDS infected adult population in the country is 3.8 million in 2000. The overall prevalence in the country is still very low or rates much lower than many other countries in the Asia region.

The available surveillance data clearly indicate that HIV is prevalent in almost all parts of the country. In the recent years it has spread from urban to rural areas and from

individuals practicing risk behavior to the general population. Studies indicate that more and more women attending antenatal clinics is testing HIV positive thereby increasing the risk of perinatal transmission. About 85% of the infections occur from the sexual route (both heterosexual and homosexual), about 4% through blood transfusion and another 8% through injecting drug use. About 89% of the reported cases are occurring in sexually active and economically productive age group of 18-49 years. One in every 4 cases reported is a woman. The attributable factors for such rapid spread of the epidemic across the country to day is labor migration and mobility in search of employment from economically backward to more advanced regions. Low literacy level leading to low awareness among the potential high risk groups, gender disparity, sexually transmitted infection and reproductive tract infection both among the men and women. The social stigma attached to sexually transmitted infection also hold good for HIV/AIDS, even in much more serious manner. Discrimination against people living with HIV/AIDS denies them access to treatment, services and support and hinders effective responses. It creates a climate in which decisive action from the government may be side stepped. There have been cases of refusal of AIDS patients in hospitals and nursing homes both in government and private sectors. This has compounded the misery of the AIDS patients. More often it is mistaken to be a contagious disease and the patients are isolated in the wards creating a scare among the general patients. In the works place also there are cases of discrimination leading in some occasions to the loss of employment. The active part played by some non-governmental organization in bringing out public interest-litigation against such cases of discrimination of judicial pronouncements by courts in support of the right of such people has partly helped in alleviating the misery of the affected persons. People living with HIV/AIDS have limited treatment options, which are still in the initial trial stage and are prohibitively expensive. While there is no vaccine in sight, multi drug anti retroviral therapy popularly known as 'cocktail therapy' is not cure to the disease and may help only in prolonging the life of the patient.

Standardisation of treatment regimens for these drugs is still evolving and there are fears of patients developing drug resistance and side effects if the therapy is not administered under proper medical supervision.

AIDS is a disease which of obscure nature in India because its largely connected to the sexual behavior of the people and thus about this people do not want to talk. Awareness and the prevention of its spread are the main interments, which can prove to be the cure of the disease since no proper medicine could have been developed. In India HIV/AIDS prevention and care is not yet part of the main stream social process. Resilient socio-cultural norms, stereotype organizational inefficiencies and weaknesses and poverty are the main inhibiting factors. Moreover constraints upon open discussion of sex and sexuality in habit the emergence of safe spaces for the disease. Underlying these are the patriarchal structures and gender relations that constitute the most enduring obstacles bridging the gap between women powerlessness and the uncharted Terrain of men's private behavior is one of the major cultural and political challenges posed by the AIDS epidemic.

The problem in India becomes more serious in lack of awareness among the masses especially among the women population as they are more exposed to the problem. Extensive study/researches have been done and workshops are organized to discuss the problem. But they all find success if they are able to generate awareness among the masses. The challenge of the problem attracts more study and research works thus a conclusion can be derived in future to fight with the problem. I myself have drowned towards it taking the same intention in mind. The present paper of mine has been an attempt to examine the state-wise proportion of AIDS patients in India. The geographical analysis on AIDS will provide a way to examine upto what extent this epidemic has penetrated to our states and what is its present rate of spread in comparison to other parts of the world. Some case studies are also included in the study to examine the problem.

### **HIV/AIDS Situation in World Now**

Before looking at the situation of HIV/AIDS in India across the state we shall be looking into the situation of world, across different countries, for a proper understanding of the subject and can make a comparative picture with the various countries of the world.

As the world enters in the third decade of the AIDS epidemic, the evidence of its impact is undeniable. Wherever the epidemic has spread unchecked, it is robbing countries of the resources and capacities on which human security and development depends. In some regions, HIV/AIDS in combination with other crises is driving even larger part of the nation towards destitution.

The worst affected region Sub-Saharan Africa is now home of 29.4 million people living with HIV/AIDS. Approximately 3.5 million new infections occurred there in 2002 while the epidemics claimed the lives of an estimated 2.4 million Africans in the past years. Ten million young people (aged 19-24) and almost 3 million children under 15 are living with HIV(Data according to 2002).

In Eastern Europe and central Asia, the number of people lives with HIV. In 2002 stood at 1.2 million HIV/AIDS is expanding rapidly in the Baltic State. The Russian federation and several central Asian republics.

In Asia and pacific 7.2 million people now living with HIV. The growth of the epidemic in this region is largely due to the growing epidemic in China. Where a million people are now living with HIV and where official estimates foresee a manifold increase in that number over the coming decade.

In North America the epidemic started in late 70s and early 80s. The number of adults and children living with HIV/AIDS at the end of 2002 is 980,000, while adults and children newly infected with HIV are 46,000, during the same time.

In Australia and New Zealand the adults and children living with HIV/AIDS was 15,000 and adults and children newly infected with HIV was just 500 at the end of the year 2002.

**The following table shows the present trend of HIV/AIDS in the world among the women, children and the adults:**

**Table 1.1: THE PRESENT TRENDS OF HIV/AIDS IN THE WORLD AMONG THE WOMEN, CHILDREN AND THE ADULTS**

Region	Epidemic started	Children living with HIV/AIDS	Children newly infected with HIV/AIDS	HIV/AIDS prevalence rate (*)	No. HIV Positive adults who are women	Mode of transmission for adults living with HIV/AIDS
Sub Saharan Africa	Late 70s early 80s	29.4 million	3.5 million	8.8%	58%	Hetero
North Africa and middle east	Late 80s	550,000	83,000	0.3%	55%	Hetero, IDU
South and south east Asia	Late 80s	6.0 million	700,000	0.6%	36%	Hetero IDU
East Asia pacific	Late 80s	1.2 million	270,000	0.1%	24%	IDU Hetero, MSM
Latin America	Late 70s early 80s	1.5 million	150,000	0.6%	30%	MSM, IDU Hetero
Caribbean	Late 70s early 80s	440,000	60,000	2.4%	50%	Hetero, MSM
Eastern Europe & Central Asia	Early 90s	1.2 million	250,000	0.6%	27%	IDU
Western Europe	Late 70s early 80s	570,000	30,000	0.3%	25%	MSM, IDU
North America	Late 70s early 80s	980,000	45,000	0.6%	20%	MSM IDU Hetero
Australia and New Zealand	Late 70s early 80s	15,000	500	0.1%	7%	MSM
<b>Total</b>		<b>42 million</b>	<b>5 million</b>	<b>1.2%</b>	<b>50%</b>	

\* The proportion of adults (15-49 years age) living with HIV/AIDS in 2002, using 2002 population number.

Hetero – Heterosexual transmission.

IDU – Transmission through injecting drug use.

MSM – Sexual transmission among men who have sex with men.

Several countries are experiencing the early stages of the epidemic; significant economic and social changes are giving rise to conditions and trends that favour the rapid spread of HIV.

Current projections suggest that an additional 45 million people will become infected with HIV in 126 low and middle income countries (currently with concentrated or generalized epidemic) between 2002–2010 unless the world succeeds in mounting a drastically expanded, global prevention effort. More than 40% of those infections would occur in Asia and Pacific (currently accounts for about 20% of new annual infections)\*

The future trajectory of the global HIV/AIDS epidemic depends on whether the world can protect young people everywhere against this and its aftermath. It is vital that HIV/AIDS related activities become an integral part of wider ranging efforts to prevent and overcome humanitarian crisis.

### **The Basic rationale behind selection of this topic**

The rationale behind selection of the topic is manifold. In India, which is a developing country, the spread of HIV/AIDS among population is creating many socio-economic problems, worsening the health. Thus a large chunk of our money goes every year in preventing spread of HIV/AIDS since the impact of virus is manifold and there is no cure of the diseases. Thus the problem requires extensive as well as intensive research. This research work is a small step towards that extensive task.

### **Impact of HIV/AIDS in the socio-economic condition of our country:**

1. It mostly affects men/women in their economically most productive years (15-49 years).
2. Within household, illness of a member accounts to loss of income, increase in medical expenses and diversion of other family members to caring for the patient.

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\* The AIDS epidemic claimed more than 3 million lives in 2002 and an estimated 5 million people acquired HIV in 2002 bringing to 42 million people globally living with the virus.



3. This in turn leads to loss of productivity in term of absenteeism from work due to illness and death, loss of skill and increase in the expenditure on employee and training and a reduction in profit levels.
4. It leads to poverty, gender inequality and decreasing social security.
5. Ultimately, It weakens the government's capacities to provide essential services and it reverses human development.
6. Stigma and discrimination against HIV infected person's remains a reality and hampers their day to day functioning in a normal society or community.

### **Health costs of HIV/AIDS**

1. At present there is no care for HIV/AIDS nor is there any vaccine to prevent infection.
2. Most of the illness associated with HIV infection are due to tuberculosis, diarrhea diseases and other bacterial / viral and fungal infections there are termed as opportunistic infections because they utilize the opportunity of infecting an HIV positive person with low immunity.
3. The infection is transferred from pregnant mother to the child. With increasing number of infection in women protecting the newborn child is a priority. This will amount to increase in the costs of health care and thus more burdens on government.

### **Research objectives:**

This study aimed to examine forms; determinants and outcomes of HIV/AIDS related discrimination, Stigmatization and denial in India and to explore their possible social, demographic and cultural correlates. It also looks into the prevalence of HIV/AIDS across various states of India and a few case studies completely based on secondary sources.

### **This research has been organized to focus on a range of key issues:**

1. Examine the state wise prevalence rate of HIV/AIDS in India

2. To analyze the socio-economic and demographic profile of the people who is influencing rise in prevalence of HIV/AIDS cases in India.
3. Role of Government and Non Government organizations in prevention of HIV/AIDS infections and government policies.

**Study area:**

1. State level analysis.
2. Detailed study of some hard hit states of India.

**Methodology:**

The methodology will be based on both qualitative and quantitative analysis. The qualitative study will include extensive literature analysis. The qualitative look like diagrams (Bar, pie, line, and pyramid) will be applied and in case of requirement statistical tools like co-relation between various factors will be made.

**Data Base:**

This study is completely based on secondary data. The database has been taken from:

1. National AIDS Control Organisation (NACO) report
2. UNAIDS Report
3. International Labour Organisation Report
4. National Family Health Survey (Round I, 1992-93 and round II, 1997-98)
5. World Health Organisation Report.
6. Health Statistics of India (ministry of health and family welfare publication).
7. Population foundation of India fact sheet.

**Organization of the material or chapterisation in the dissertation has been done as follows:**

**Chapter I:** Includes Literature reviews, Research questions, specified with Methodology Database, Study area etc.

**Chapter II:** Provides regional variation in prevalence rate of HIV/AIDS patients (state wise variation) along with detailed analysis of situation of six hard hit states of India.

**Chapter III:** Analysis the socio-economic and demographic attributes which are influencing increasing rate of HIV/AIDS in India and also examines the level of awareness regarding AIDS in common India mass.

**Chapter IV:** This chapter looks into case studies of HIV/AIDS

**Chapter V:** Government and Non-government efforts to prevent further spread of AIDS in India.

**Chapter VI:** Conclusion.

**Literature Review:** Here is the analysis of few literatures, which are relevant for this dissertation work.

**The works, which are relevant for this research work, can be seen as follows:**

**Chen and Krishnan Das Gupta's**<sup>1</sup> book which provides an insight into reproductive health problem of the women and STDs in which AIDS count more numbers of deaths which is basically because of poverty, stigma, discrimination and the resulting of negated health of women in rural areas.

**Radhika Rama subban**<sup>2</sup> in her book talks about the prostitutes or the commercial sex workers who are unable to impose use of condoms on paying customers and thus infected by HIV/AIDS. Similarly wives get infected by their husbands and find it difficult to share the burden of the disease because husbands are unwilling to cooperate in seeking treatments.

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<sup>1</sup> Das Gupta Krishnan and Chen (1995) *Women Health in India*, Oxford University Press.

<sup>2</sup> Ramasubban Radika(1998) *HIV / AIDS in India : Gulf between Rhetoric and reality*, Economic and Political Weekly, Nov. 7

**Sonia correa**<sup>3</sup> describes that AIDS rate in India is highest mainly among the sex workers by heterosexual transmission. She points out that the primary work of health activist world wide have focused more on the struggle to save lives by controlling the incidence and spread of the disease and talk less about the right of person with AIDS thus it requires special attention.

**Sunita Chopra**<sup>4</sup>, like Sonia Correa agrees that in India the spread of AIDS virus is largely through heterosexual transmission but she says that the control on spread of virus is suggested by using condoms as a primary prevention strategy for AIDS. Thus, she locates the debate on condom as a part of a critique of the biomedical approach to AIDS.

**V.K. Tiwari** and **Anil Tiwari**<sup>5</sup> in their article say about the spread of HIV/AIDS among the various sections of general population and say that it has not been confined to any specific group. Its spread is largely because of low level of awareness among the masses and the stigma attached to it.

**Ritu Priya**<sup>6</sup> (JNU) in her article talks of spread of AIDS in India and its control by the government agencies. She also discusses about the various issues related to the AIDS control program in India. This article provides a best insight of how this HIV virus infects a person and the sensitive areas of its spread.

**Radhika Rama subban**<sup>7</sup> says that HIV/AIDS prevention and care in not yet part of the mainstream social processes. Organizational inefficiencies and weakness, particularly at state

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<sup>3</sup> Correa Sonia (1994) in Collection with Rebecca Reichmann, *Population and Reproductive Rights*, Published in Association with DAWN.

<sup>4</sup> Chopra Suhita (1998) *Condoms AIDS and Sexuality*, B.R. Publication

<sup>5</sup> Tiwari, V.K. and Kumar Anil (2002), *The need of Sex Education among Youths : Present Perspectives and Future Prospects*. Demography India, Volume 31, No. 1, Page No. 129-159.

<sup>6</sup> Priya Ritu (1994) *AIDS, Public Health and Panic Reaction* (JNU) New Delhi. The National Medical Journal of India, Volume 7, No. 5.

<sup>7</sup> Ramasubban Radika(1998) *HIV / AIDS in India : Gulf between Rhetoric and reality*, Economic and Political Weekly, Nov. 7

level, to undertake public health issues and tackle the intractable problem of poverty makes the high spread of HIV/AIDS a reality with India.

**ICMR bulletin HIV infection<sup>8</sup>:** On going studies and future research plan says the detection of first case of AIDS in India and different phases of surveillance for HIV infection in India. These articles provide for the map and table of establishments of various sero-surveillance centers in India since the first phase of surveillance. It provides for hospital policies on care of HIV sero-positive persons.

**Ajit Kumar<sup>9</sup>** says that their visits to the red light areas contaminate migrant labourers who go to other places after and when they go back home they pass on the disease unknowingly to their wives. In rural areas condoms are still little used by most of the people as they consider it a barrier to the sexual pleasure they try to seek in distant land. Lack of sensitivity and unable to discuss the problem related to sex seems to be the major reason leading to the disease.

**G. Mahesh<sup>10</sup>** in his thesis tries to discuss the prevalence of AIDS more among the working population (15-55) giving a negative impact on our workforce which is economically highly productive. Here he also discusses about the nature of work of the truck drivers and sex worker who spread HIV/AIDS virus unknowingly in lack of awareness.

**Female sex worker HIV prevention projects by UNAIDS<sup>11</sup>:** This report is basically a collection of case studies done in Papua New Guinea, India and Bangladesh. The set of case studies in this collection emerged from a session entitled "Best practices in female sex worker projects" held at the fourth international congress on AIDS in Asia and the Pacific in Manila, October 1997. The three projects selected for case studies represent a range of situation, geographical locations problem and solutions. Two of these, Sonagachi (India) and

<sup>8</sup> ICMR Bulletin (1989), *HIV Infection – Ongoing Studies and Future Research Plan*, Volume 19, No. 11, November.

<sup>9</sup> Kumar Ajit (2001), *Combating AIDS in Rural Areas*, Kurukshetra, July.

<sup>10</sup> Mahesh G. (1999), *HIV / AID and Working Population of India a Review*, Ph.D. Thesis Submitted to the Centre of Social Medicine and Community Health, JNU, New Delhi.

Shakti (Bangladesh) involve brothel based sex worker in south Asia. While the Trans sex Project of Papua New Guinea works with club or street – based sex workers.

**“Political leadership in combating HIV/AIDS”**<sup>12</sup> based on national convention of elected representatives on HIV/AIDS (held between 26-27 July 2003) is a fact sheet on HIV/AIDS situations in India. It provides a precise and comprehensive facts on what is HIV/AIDS, how it gets transmitted, how the spread can be prevented, the global and Indian facts regarding HIV/AIDS, what is the impact of HIV/AIDS, on the socio-economic situation of the country etc. It also gives an insight on Indian response to combat with HIV/AIDS and our achievements so far.

**“HIV Estimates for the year 2001”** is basically based on the sentinel surveillance of national AIDS control organization during 2001. This report provides data on number of infections since 1986 to 2002. This also tells in details, what is the process involved in sentinel surveillance and according to the data they use to divide the states as high, medium and low prevalent states. Data of sentinel surveillance are mainly based on STD and ANC clinic. This report provides data for state wise HIV prevalence level for 2001.

**“Combating HIV/AIDS in India 1999-2000 report”**<sup>13</sup> by ministry of Health and family welfare, NACO. This report provides a detailed insight for current status and bends of HIV/AIDS epidemic in India, National AIDS control program phase I and phase II, blood safety program, STD control program, condom program, information, education, communication and social Mobilization, National family health Awareness campaign, voluntary counseling and testing and care and support of HIV/AIDS patients.

**“National AIDS prevention and control policy”**<sup>14</sup> By NACO ministry of health and family welfare. This report of NACO provides the government policy initiative, program management, social mobilization, and participation of NGOs and use of condom as an

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<sup>11</sup> UNAIDS Best Practice Collection, (2000), *Female Sex Worker HIV Preventive Projects : Lessons Learnt from Papua New Guinea, India and Bangladesh*, UNAIDS Case Study, November.

<sup>12</sup> National AIDS Control Organisation (2003), *Political Leadership in Combating HIV / AIDS*, Based on National Convention of elected representatives on HIV / AIDS, a fact sheet on HIV / AIDS situation in India 26-27 July, Min. of Health and Family Welfare, Govt. of India, New Delhi.

HIV/AIDS prevention measure. It also provides for human right of the people living with HIV/AIDS.

**“Realities of sexual behavior in Tamil Nadu”**<sup>15</sup> This is a report from AIDS prevention and control project, voluntary health services, Chennai 1998. This report is based on the field study, which explains the patterns of high-risk behavior, and analyzes the determinants for such behavior. It describes the life style; family structure, economic factors, social life and other personal activities of a target group of population like brothels, lodges, street sex-workers and others. This report looks into the knowledge, misconception, health perception and risk behavior regarding STD, HIV/AIDS and describes the availability and accessibility of condoms and health care provided in the target area of Tamil Nadu.

**Dr. Sushma Gupta and Dr. O. P. Sood** (editors) **“HIV/AIDS in India”**<sup>16</sup> is basically a proceeding of the sixth round table conference held at New Delhi on April 5, 2000. Although all the articles of book is regarding HIV/AIDS, few of them are chosen which are relevant for this dissertation work like “ the Global HIV/AIDS epidemic entering a third decade by Gorden Alaxandea (UNAIDS) provides insight into the global scenario on HIV/AIDS.

**Jai P. Narain** in his article “Combating HIV/AIDS in Asia, Experience so far”. Focus on the history of spread of the first case of HIV to the scene now and what should be the challenges and opportunities for future in stopping the spread of HIV/AIDS.

**P. L. Joshi** in his Article “HIV AIDS in India provides for the situation in India today. He also talks about the Indian response to the epidemic and achievements so far. This article provides for government policy campaigns and public response to that.

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<sup>13</sup> National AIDS Control Organisation (1999-2000), *Combating HIV / AIDS in India*, Ministry of Health and Family Welfare, New Delhi.

<sup>14</sup> National AIDS Control Organisation, (2201), *National AIDS Prevention and Control Policy*”, Ministry of Health and Family Welfare, Govt. of India, New Delhi.

<sup>15</sup> AIDS Prevention and Control Project, Voluntary Health Services, (1998), *Realities of Sexual Behaviour in Tamil Nadu*, A Report, Chennai.

<sup>16</sup> Gupta Sushma and Sood O. P. (2000), *HIV / AIDS in India, Proceedings of the Sixth Round Table Conference Held in New Delhi*, April 5, Ranbaxy Science Foundation, Haryana, India.

“A baseline study of knowledge, attitude, Behavior and Practices Among the man having sex with men, in selected sites of Mumbai,<sup>17</sup> this is a report based on the survey and findings of THE HUMSAFAR trust submitted to the Mumbai District AIDS control society on 31<sup>st</sup> March 2000. The main issue of the report has been to study the risk of sexually transmitted infection among MSM in Mumbai. Since the government health programs have recognized the MSM segment as a risk group, efforts are being made to propagate the importance of safe sex behavior among the MSM.

“AIDS IN INDIA: Vision and Action by NACO”<sup>18</sup> provides for state of the epidemic, sentinel surveillance, Role of NGOs, care and support, voluntary counseling and testing, control of sexually transmitted diseases, prevention of mother to child transmission of HIV.

**Karnataka meets the challenge of HIV/AIDS form Karnataka state AIDS prevention society Banglore August 2001,**<sup>19</sup> this report provides in deep details of what has been the scenario Karnataka in AIDS since its first reported case till today. It provides the basic facts, high prevalence districts, the literacy level of those who are HIV positive AIDS in general population, family health awareness campaign and prevention of further spread of AIDS among masses.

**Nishimizu Meiko**<sup>20</sup>, vice president, South Asia region, published in Business Line, October 7,2002, discusses many risk factors that put India in danger of experiencing a widespread epidemic if prevention and control measures are not scaled up and expanded throughout the

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<sup>17</sup> The Humsafar Trust (2000), *A Baseline Study of Knowledge, Attitude, Behavior and Practices among the men having sex with men in selected Sites of Mumbai*, Submitted to Mumbai District AIDS Control Society.

<sup>18</sup> National AIDS Control Organisation (2003), *AIDS in India : Vision and Action*, Ministry of Health and Family Welfare Government of India, New Delhi.

1. <sup>19</sup> Karnataka State AIDS Prevention Society (2001), *Karnataka Meets the Challenge of HIV/ AIDS*, Banglore, August.



country later he discusses about the various control policy of government in combating the HIV problem.

**John Levi Martin, James Wiley, and Dennis Osmond<sup>21</sup>**. The authors say that as a sexually transmitted disease, AIDS spreads along social networks, consequently, it is reasonable to purpose to utilize these networks in teaching people to avoid practices that put them at increased risk of contracting AIDS. Most obviously homosexual men are both at relatively high risk of contracting AIDS and in many urban areas have well crystallized community structures and high social connectivity. The present evidences suggesting that using such social network can have the unanticipated consequences of reaching a set of men who are at relatively low risk. Evidently, there is great unobserved heterogeneity among the population in terms of risk and while this heterogeneity is not captured by conventional measures of risk behavior, it is closely linked to network processes.

**ILO presented a report on Prevention of HIV/AIDS in the world of work<sup>22</sup>**, which was basically a project supported by the US department of labor. This report presented the case studies conducted in Maharashtra, Delhi, Manipur and Tamil Nadu on people living with HIV/AIDS. These case studies focused on the socio-economic impact of HIV/AIDS on people living with HIV/AIDS. The main object of the study was to document the overall experiences of PLWHA and their families since the discovery of their status (stigma faced), impact on employment status, family income, availability of care and support services and the impact of HIV/AIDS on women and children.

**UNAIDS presents his point of view on the report “Prisons and AIDS”**. The report is based on the facts and figures that HIV/AIDS has already spread in the prisons and is spreading very rapidly further. This is basically because of IDUs and men having sex with men, which

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<sup>20</sup> Nishimizu Meiko (2002), *AIDS and the Development Paradigm in India*, Business Line, Oct. 7.

<sup>21</sup> Wiley James, Osmond Dennis, (2003), *Social Network and Unobserved Heterogeneity in Risk for AIDS*, Population Research and Policy, Review, Vol. 22, No. 1, Feb.

<sup>22</sup> International Labour Organisation (2003), *Enterprises & HIV / AIDS in India*, Prevention of HIV / AIDS in the world of work, A Tripartite Response, supported by US Department of Labour.

is very unsafe. The criminals in the prison environment are met with disciplinary measures and no health care facilities are provided which makes the situation very complicated.

**UNAIDS best practice collection** provides with the key material on India: HIV and AIDS related discrimination, stigmatization and Denial (DSD). This is a very comprehensive report on the discrimination faced by the HIV positive people in the Hospitals, Home and community, work places and Hospitals. Infected people are discriminated in the schools, life insurance and in the post death services. This report provides the case studies and interviews taken from the HIV positive people in different places and suggests the ways the problem can be solved.

**UNAIDS best practice collection** presents a report on **population mobility and AIDS**<sup>23</sup>. The report says that Migration, mobility and HIV/AIDS are a major Global Phenomena at the beginning of the New Millennium. Today there is increasing recognition that migrants and mobile people may be more vulnerable to HIV/AIDS than population that does not move. They may acquire HIV while on the move and take the infection back with them when they return home, often without even knowing it. They also face greater obstacles in accessing care and support if living with HIV or AIDS. This report also draws attention towards the refugees and displaced people where AIDS found more in number. The report says that HIV spreads fastest in conditions of poverty, powerlessness and social instability.

**Prof. Ashish Bose**<sup>24</sup> in his article provides the tenth plan goal set by the government to fight with the problem of HIV/AIDS. He also discusses the HIV prevalence Data based on ANC and STD clinic published by NACO. He also provides an account on prevalence rate of HIV in Mumbai from 2000-2002, this data is also based on ANC and STD clinic.

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<sup>23</sup> UNAIDS Best Practice Collection, Key Material, (2001), *Population Mobility and AIDS*, UNAIDS Technical Update, February.

<sup>24</sup> Bose Ashish, (2003), *Fighting HIV / AIDS: Current Scenario Based on HIV Sentinel Surveillance Rounds*, Health Magazine, Feb.-March, Volume 28, No. 6.

**Shrabanti sen**<sup>25</sup> in her article provides the trend of HIV prevalence in India. She discusses the increasing number of cases in India in the past years. Her discussion is totally based on the NACO report. She also talks about the level of awareness among the people of India regarding HIV/AIDS. For showing awareness level she completely rests on NACO data and NFHS report.

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<sup>25</sup> Sen Shrabanti (2003), *High HIV Prevalence States: An Analysis of HIV / AIDS Scenario*, Health Magazine, Feb.-March, Volume 28, No. 6, P.P. 28-30.

## CHAPTER II

## **REGIONAL VARIATION IN PREVALENCE RATE OF HIV/AIDS: STATES-WISE ANALYSIS**

**Introduction:** The AIDS epidemics in India consist of a number of local epidemics. Around 70% of India's population live in rural areas, once thought to be relatively immune to the epidemic. Some recent studies however suggest that HIV has begun to spread in several rural areas. The epidemic is now moving beyond its initial focus among sex workers and injecting drug users and is shifting towards the general population, making women and young people the most vulnerable for HIV infection.

The spread of HIV within the country is as diverse as the societal patterns different regions, states and metropolitan areas. In fact, India's epidemic is made up of a number of epidemics and in some places they occur with in the same state.

The epidemics vary from states with mainly heterosexual transmission of HIV, to some states where injecting drug use in the main route of HIV transmission. This chapter basically looks into the prevalence of HIV/AIDS across different states of India (mainly based on NACO data). Data has been collected through the number of HIV / AID percentage in ANCs and STD clinics.

A detailed study of prevalence of HIV/ AIDS in six hard hit states of India – Maharastra, Tamil Nadu, Andhra Pradesh, Karnataka, Manipur and Nagaland has also been presented.

### **Some facts about HIV/AIDS in India**

- First case reported from Chennai in 1986 from a commercial sex worker.
- An estimated 3.97 million people infected with HIV (2001)
- The predominant route of transmission is through the sexual route (84%) and in the Northeast is through injecting drug use.
- The intensity of the epidemic varies in India State to state and district to district.

Table 2.1:

Probable sources of infection of reported AIDS cases in India			
Sources of infection	Percentage (May 1986- March 2001)	Percentage (Feb. 2003)	percentage ( Nov. 2003)
Sexual	82.6	84.19	85.27
Perinatal	1.8	2.6	2.68
Blood and Blood products	4	3.02	2.69
IDU	4.2	2.8	2.35
History not available	7.5	7.38	7.01

Source: NACO data 2001-2003

Looking at the data on Mode of transmission of HIV we find, that the principle mode of HIV transmission is through heterosexual contact, the second most common mode is the blood and the blood products. Perinatal transmission, which was very insignificant during 2001, has developed as a major cause of concern of the disease. On the contrary, injectable drug use, which was a major cause of spread of HIV virus during 2001, comes at the fourth position. Around 7 % AIDS cases are there during the period of March 2001 to November 2003 whose sources of infection are not available.

If we look at the age and sex distribution of the reported AIDS cases in India, it becomes clear that the prevalence rate of AIDS is very high among the age group of 15-44 years. While there is a three fold increase in the number of AIDS cases among the males in the age group 30-44 years.

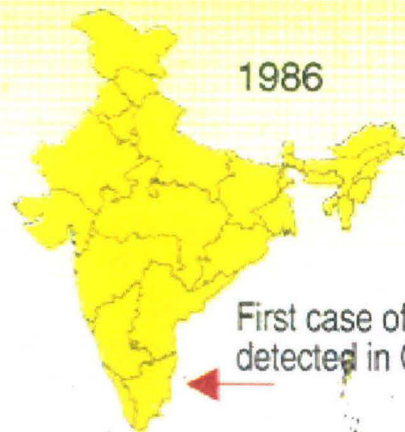
Table 2.2:

Age and Sex distribution of reported AIDS Cases in India				
Age group (in yrs.)	No. of AIDS cases May- March 2001		No. of AIDS cases Nov. 2003	
	Male	Female	Male	Female
0-14	470	279	1326	837
15-29	6022	2360	13073	7023
30-44	7621	1692	24887	6545
>45	1450	410	3276	814

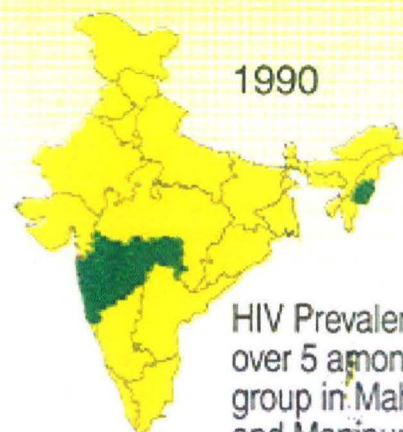
Source: NACO surveillance data, 2003

# EVOLUTION OF THE EPIDEMIC

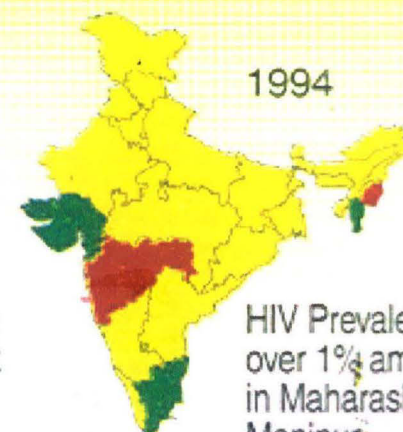
## EVOLUTION OF HIV EPIDEMIC - INDIA 1986 - 2000



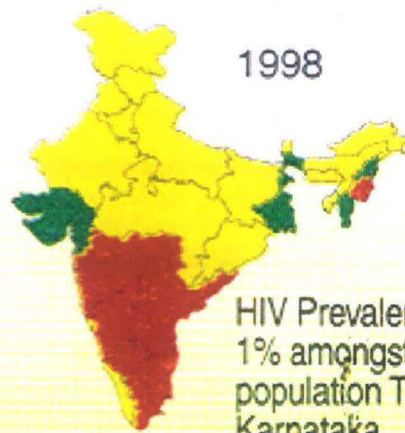
First case of HIV detected in Chennai



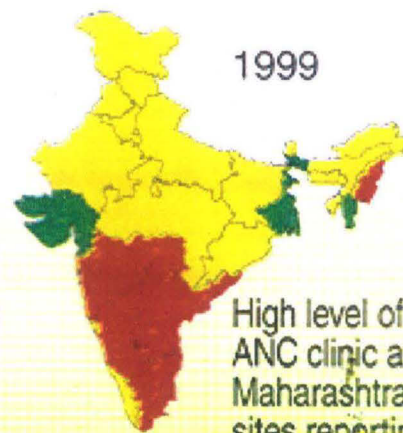
HIV Prevalence reaches over 5 amongst high risk group in Maharashtra and Manipur



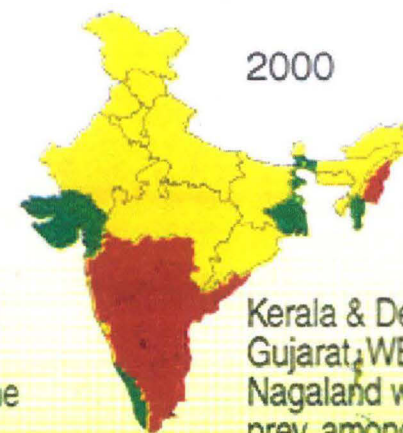
HIV Prevalence reaches over 1% amongst women in Maharashtra and Manipur



HIV Prevalence reaches 1% amongst general population TN, AP & Karnataka



High level of HIV among ANC clinic attendants in Maharashtra & TN - some sites reporting over 5%



Kerala & Delhi join Gujarat, WB & Nagaland with over 5% prev. among HRG

■ > 1% Antenatal women    
 ■ > 5% High risk groups    
 ■ < 5% High risk groups

MAP NOT TO SCALE

Source: NACO Surveillance, 2000

The AIDS cases have become doubled among the males in 15-29 years of age, the number of AIDS cases has also increased tremendously from March 2001-November 2003 in women, but it is less in comparison to their male counterpart. The number of cases among 45 years and above age group has also increased but this is more significant in case of the males. Among children between 0-14 years of age, the rise in the cases among male child and female child is three folds, since 2001-2003, though the number is high among the male child.

#### **HIV estimates in India based on sentinel surveillance round:**

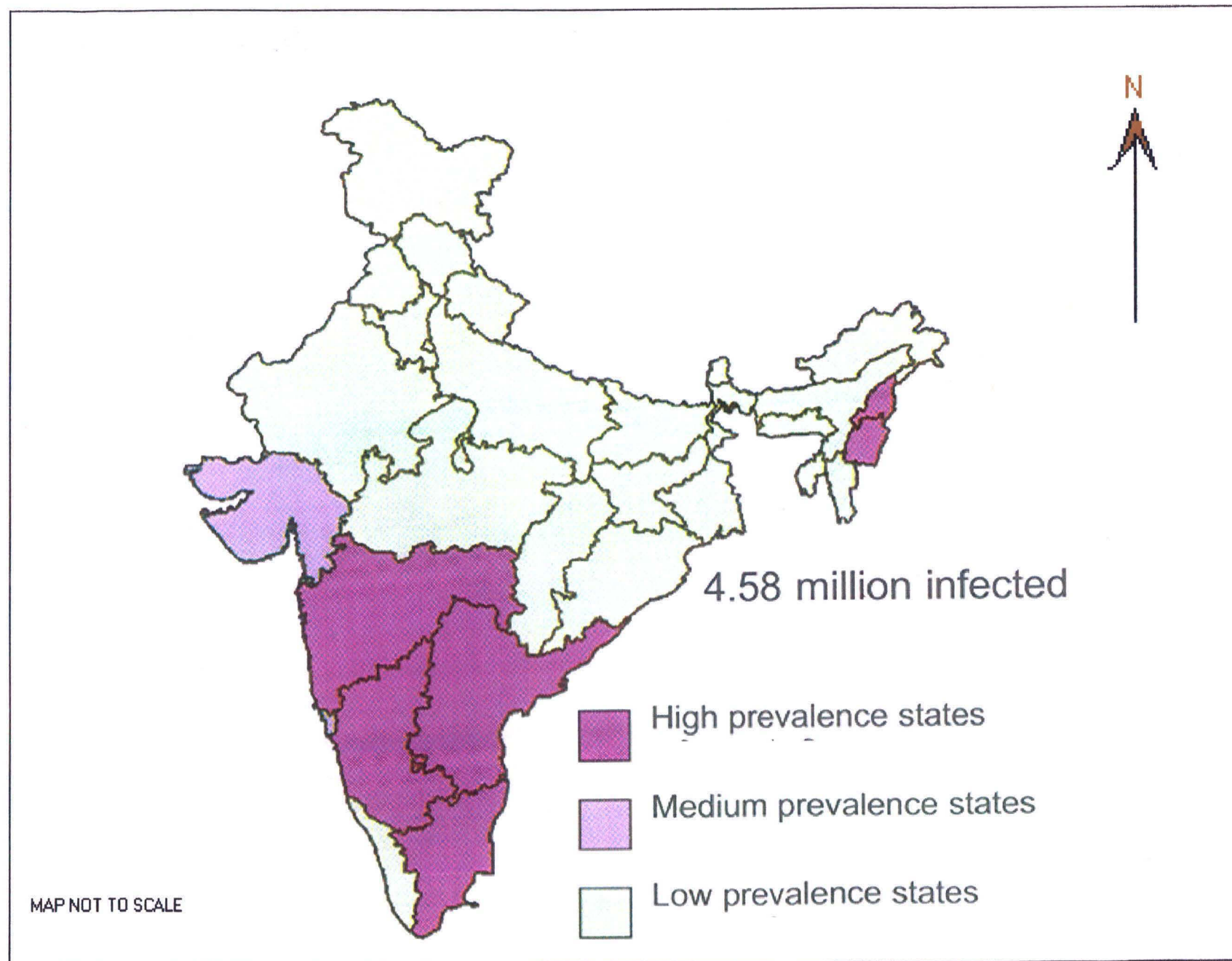
As the sentinel surveillance system has been established as the best system to monitor trends of HIV infection in specific high risk group as well as low risk groups, it was decided to adopt sentinel surveillance methodology in few selected sentinel sites representing the various groups of population which would be screened for HIV prevalence and its trends are monitored over a period of time. Accordingly the sentinel surveillance for HIV infection was taken up in 55 sentinel sites in 1994 which was expanded to 180 sites in 1998 and 384 in 2002 in various parts of the country.

The population groups and sites are chosen based on information of risk behavior of various groups for HIV infection. The high-risk group of population includes patients attending STD clinics and intra venous drug users while low risk of population includes mothers attending antenatal clinics. The rationale of choosing sentinel sites in these clinics is that people with multi partner sex and IVDUS have similar risk for acquiring HIV infection, which is captured in clinic based settings to maintain "Unlinked Anonymity" of whole procedure.

The former is captured from STD clinics while latter from drug addiction centers. The samples for low risk population are captured from antenatal clinics. Each sentinel sites conducts regular round of surveillance every year with a sample size of 250 samples for high-risk group. If the sample size is not adequate then the number of samples collected in 12 weeks interval is taken as adequate sample size.



## HIV/AIDS in India: The Situation in 2002



Based on the analysis of 2000 sentinel surveillance data collected from among 180 sites the HIV prevalence in adult population can be broadly classified into three groups of states / Union territory in the country:

**Group I:** Includes states like Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh, Manipur and Nagaland where the HIV infection has crossed 1% or more in antenatal women.

**Group II:** Includes states like Gujarat, Goa, Pondicherry, where HIV infection has crossed 5% or more among high risk groups but the infection is below 1% in antenatal women.

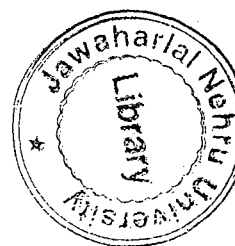
**Group III:** Includes remaining states where the HIV infection in any of the high risk group is still less than 5% and is less than 1% among antenatal women.

#### HIV prevalence level state wise 1998-2002

Let's examine briefly the data on HIV prevalence rate given in NACO's reports since 1998-2002. It may be noted that the government of India introduces a national HIV sentinel surveillance system in 1994 when data was collected about HIV infections in 55 sentinel sites. In the latest which was conducted in 2002, as many as 384 sites were taken into account for calculating HIV prevalence rates, this poses some methodological problems concerning comparison of data over time. Besides, there are different categories of sites like STD, ANC, IDU, MSM and CWC\*. In all the states and Union Territories all types of sites are not covered. Nevertheless, we do get a fairly good idea about state wise variation in HIV prevalence rates. On the basis of the data given by NACO in their latest report (2002) the highlights of the analysis is given below. It may be noted that the rates are calculated for the adult population at the age group 15-49 years.

#### Highlights

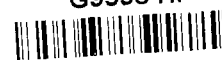
1. The HIV prevalence rate for STD sites is highest in Andhra Pradesh (30.4%) followed by Mumbai (14.8%), Tamil Nadu (14.7%), Karnataka (13.6%), Goa (11.3%), Manipur (9.6%), Maharashtra (7.6%) and Gujarat (6.2%).



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2. The prevalence rate for CSW is as high as 54.5% in Mumbai followed by 24% in Goa.
3. Data on IDU's has been limited. In Mumbai it was 39.1%, while in Manipur it was 39.1% and in Tamil Nadu it was 33.8%.
4. Regarding ANC data, there are several states that have experienced HIV prevalence rate of over 1%. These are Karnataka (1.75%), Mizoram (1.5%), Goa (1.38%) Andhra Pradesh (1.25%), Nagaland (1.25%), Maharashtra (1.25%), and Manipur (1.12%).
5. The IDU data are extremely limited. In Mumbai it was 39.4%, in Manipur 39.1%, in Tamil Nadu 33.8% and in Delhi it was 7.2%.
6. The situation in Manipur was shocking in 1998 where the IDU sites revealed on HIV prevalence rate of 70.7% which has now come down to 39.1%.

Table: 2.3

STATES/Uts	HIV prevalence levels state-wise: 1998-2002						
	No. of sites in 2002	1998 (180sites)	1999 (180sites)	2000 (232sites)	2001 (320sites)	2002 (384sites)	
Andhra Pradesh	STD	8	24.9	29.5	3.3	26.6	30.4
Arunachal Pradesh	ANC	14	2.25	2.6	30	1.5	1.25
	STD	4	0	0	2	0	0
Assam	ANC	2	0.4	0	0.1	0	0
	STD	5	2.1	2.4	0.61	1.49	0.75
Bihar	ANC	4	0	0	0	0	0
	STD	5	1.35	0.6	0.5	1.2	1.6
Chattisgarh	ANC	7	0	0	0.1	0.13	0.25
	STD	3	-	-	-	14	0.8
Goa	ANC	5	--	-	-	0.33	0.25
	STD	2	19.4	13.5	12.2	15	11.29
Gujrat	ANC	2	1.2	0.8	1.7	0.5	1.38
	CSW	1	-	-	53.2	50.79	24
Haryana	STD	8	2.5	6.7	4.65	4.14	6.17
	ANC	8	0	0.4	0.5	0.5	0.38
Himachal Pradesh	STD	5	2.6	5.3	2.75	1.08	1.14
	ANC	4	0	0	0	0.41	0.38
Jammu & Kashmir	STD	5	2	0.4	0.4	0.26	0.4
	ANC	7	0.36	0.3	0.89	13	0
Jharkhand	STD	2	1.83	1.2	0.4	0.8	0.95
	ANC	3	0	0	0.12	0.25	0.08
Jharkhand	STD	3	-	-	-	0.25	0.13
	ANC	6	-	-	-	0.08	0

\* STD stands for sexually transmitted diseases, ANC for antenatal clinics IDU for Intra-venous Drug Users, MSM for men having sex with men, CSW for commercial sex workers

Karnataka	STD	7	16.7	15.5	12.8	16.4	13.6
	ANC	10	1.75	1	1.68	1.13	1.75
	IDU	1	-	1.3	4.23	2	2.26
Kerala	STD	4	2.6	3.2	5.2	6.42	2.45
	ANC	4	0.1	0	0	0.08	0.38
Madhya Pradesh	STD	10	3.5	0.2	1.6	2.69	2.35
	ANC	13	0	0.3	0.12	0.25	0
Maharashtra	STD	9	16	20	18.4	9.2	7.6
	ANC	14	2	2.1	1.12	1.38	1.25
Manipur	IDU	3	70.7	48.8	64.34	56.26	39.06
	STD	2	4.15	12	11.6	10.5	9.6
	ANC	10	0.75	2.3	0.75	1.75	1.12
Meghalaya	IDU	1	0	0	1.41	1.39	0
	STD	2	0.13	0.3	0	0	0.9
	ANC	2	0	0	0	0	0
Mizoram	IDU	1	1	1.5	9.61	2	1.6
	STD	2	1.49	0.76	2	2.2	2.6
	ANC	3	0.48	0.48	0.37	0.3	1.5
Nagaland	IDU	3	13.2	7.6	7.03	5.5	10.28
	STD	1	11.1	4.4	6.9	7.4	2.42
	ANC	4	0.7	1.3	1.35	1.25	1.25
Orissa	STD	8	2.86	1.2	2.6	0.8	0.8
	ANC	4	0	0.1	0.27	0.25	0.25
Punjab	STD	3	0	2	0.8	1.61	1.6
	ANC	4	0	0.4	0	0.4	0.49
Rajasthan	STD	7	5.2	3.2	2.84	4	6
	ANC	6	0	0.3	0.25	0	0.5
Sikkim	STD	1	0	0	0	0	0
	ANC	2	0.13	0.1	0	0	0.13
Tamil Nadu	STD	11	16.3	10.4	16.8	12.6	14.7
	ANC	10	1	1	1	1.13	0.88
	IDU	1	-	-	26.7	24.56	33.8
	MSM	2	-	-	4	2.4	2.4
Tripura	STD	2	0	0.8	1.34	3.2	1.4
	ANC	1	-	-	-	0.25	0
Uttar Pradesh	STD	17	1.6	0.6	1.8	0.9	0.8
	ANC	17	0.24	0	0.12	0	0.25
Uttanchal	STD	4	-	-	-	0.4	0.26
	ANC	3	-	-	-	0	0.23
West Bengal	STD	8	0.4	1.4	1.96	0.6	0.47
	ANC	9	0.62	0.1	0.5	0.13	0
	IDU	1	-	-	-	-	1.5
A & N Island	STD	2	1.2	0.4	1.2	1.2	2.8
	ANC	3	0	0	0.25	0.16	0
Chandigarh	STD	2	2.95	1.8	3.35	3.78	0.8
	ANC	1	0.47	0.8	0.06	0	0.25
D & N Haveli	STD	0	0	0	-	-	-
	ANC	1	0	0	0	0.25	1
Daman & Diu	STD	0	0	0	-	-	-

	ANC	2	0.13	0	0	0.25	0.22
Lakshdweep	STD	1	0	0	0	-	0
	ANC	2	0.6	0	0	-	0
Pondicherry	STD	3	7.2	5.8	4.1	2	2.02
	ANC	2	0.5	0.9	0.25	0.25	0.25

Note 1: HIV prevalence values in states with more than three sites are median values, while in states /UTs with three or less than three sites, the values are mean value

Note 2: SITES WITH 75% coverage of desired sample sites (STD: 250 and ANC: 400) are included for analysis.

← In the table the trend data for HIV prevalence has been given for the years 1998 to 2002. We see that in India as a whole the number of sentinel sites has been increased from 180 in 1998 to 384 in 2002. Thus the data during the various years cannot be compared as the comparison during these year poses methodological and sampling problems. But the table of course provides an over all trend. In Andhra Pradesh, the STD clinics reported a significant increase in the HIV prevalence rate. Similarly Gujarat and Manipur also recorded a significant increase in this regard.

When HIV/AIDS hard hit states are analyzed in light of demographic indicators (e.g. literacy rate, sex ratio, birth and death rate, infant mortality rate) and per capita income. It is found that these are the most progressive states in India (Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra and Gujarat). But unfortunately these states are suffering badly when considered from HIV prevalence rate. The most HIV/AIDS proven states are among the most demographically progressive states. This is indeed a complex socio-cultural situation and calls for extensive scientific studies and fieldwork, including understanding the socio-cultural ethos of the people.

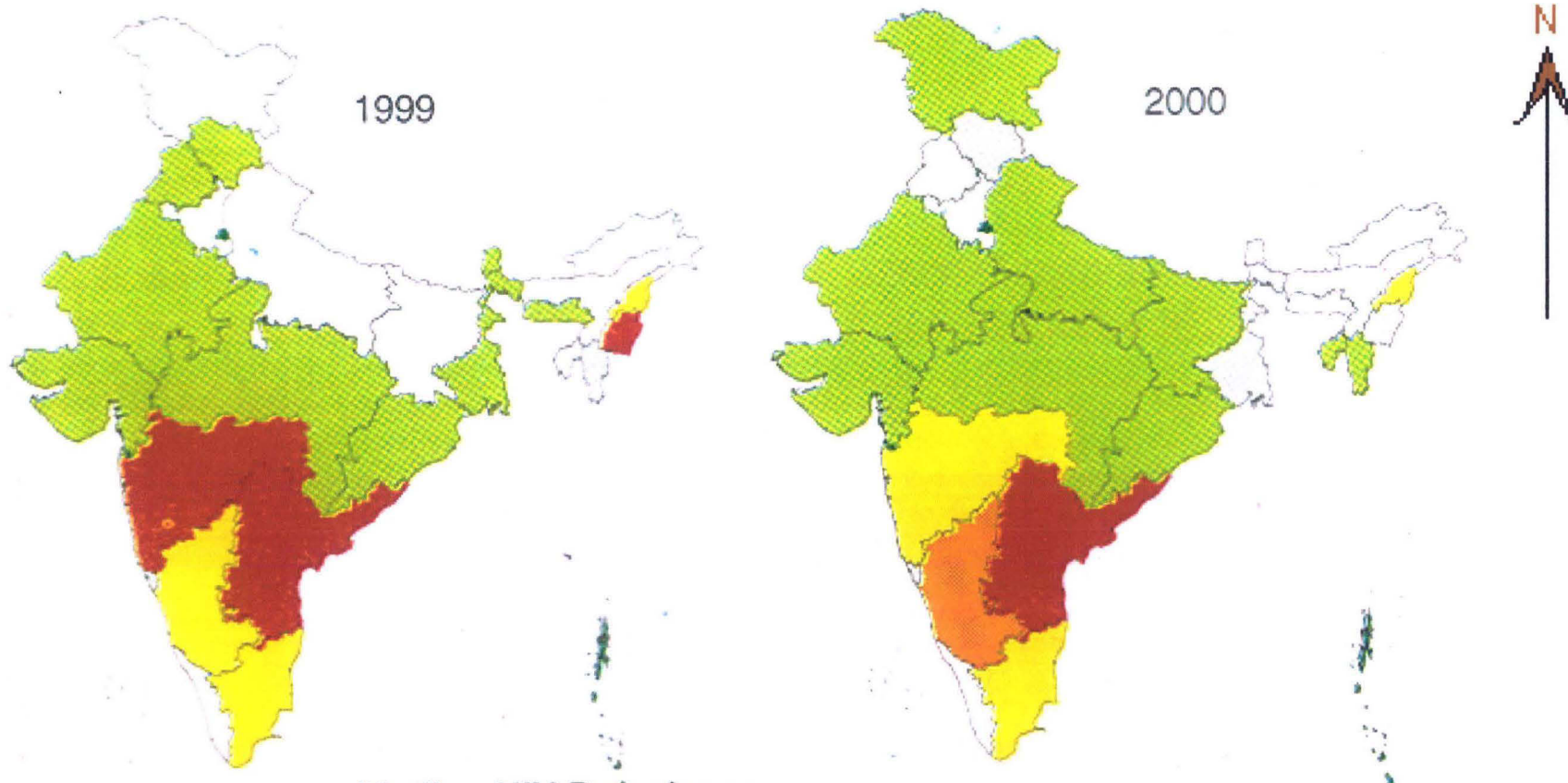
India has had a sharp increase in the estimated number of HIV infections, from a few thousands in the early nineties to an estimated 3.8 million people living with HIV/AIDS in 2001. Although, in India HIV prevalence rate is low (0.7%) according to the estimates by UNAIDS, the overall number of people with HIV infection is high. But keeping in mind India's large population, even a mere 0.1% increase in the prevalence rate would increase the number of adults living with HIV/AIDS by over half a million people. There in an estimated

50,000 to 1,00,000 AIDS cases already occurred in the country. However the official figure tell a different story altogether. Table 2.4:

AIDS CASES IN INDIA (Reported to NACO)				
S.No.	STATES/UTs	AIDS Cases( on 31st March 2001)	AIDS Cases( on Feb. 2003)	AIDS Cases( on 30th Nov. 2003)
1	Tamil Nadu	9714	18276	24667
2	Maharashtra	4459	9234	9234
3	Andhra Pradesh	612	2794	5570
4	Gujarat	689	2355	3488
5	Karnataka	918	1631	1849
6	Manipur	790	1238	1238
7	Uttar Pradesh	282	845	1202
8	Madhya Pradesh	664	959	1061
9	Rajasthan	272	649	892
10	Delhi	500	762	856
11	Chandigarh	292	675	798
12	West Bengal	57	930	390
13	Nagaland	103	303	370
14	Goa	29	145	357
15	Haryana	48	247	321
16	Kerala	267	267	267
17	Punjab	131	227	248
18	Assam	110	149	171
19	Pondicherry	141	157	157
20	Bihar	44	148	155
21	Himachal Pradesh	85	106	146
22	Orissa	55	82	128
23	Mizoram	16	46	52
24	A & N Island	13	24	32
25	Meghalaya	8	8	8
26	Sikkim	2	6	8
27	Tripura	0	5	4
28	Jammu & Kashmir	2	2	2
29	Daman & Diu	1	1	1
30	Arunachal Pradesh	0	0	0
31	D & N Haveli	0	0	0
32	Lakshdweep	0	0	0
	INDIA	20304	42271	53672

SOURCE: NACO Surveillance data 2001,2003

# INDIA-CURRENT STATUS OF HIV EPIDEMIC-ANTENATAL CLINIC



Source: Surveillance data from NACO, 2000

MAP NOT TO SCALE

According to NACO surveillance data total number of AIDS cases during 31<sup>st</sup> March 2001 were 20304 including the hard hit states. This number rose to 44275 in February 2003 (this figure includes Mumbai M.C. and Ahmedabad M.C. 267, excluding this the number is 42271). The number further rose to 57781 during 30<sup>th</sup> November 2003 (figure including Mumbai M.C. and Ahmedabad M.C. but excluding this number is 54212).

The recent data from NACO, HIV/AIDS surveillance in all the states of India reveals that the situation in six states is emerging as most complicated. Tamil Nadu leads in these six states in total number of HIV/AIDS cases with almost 24000 cases in 30<sup>th</sup> November 2003, followed by Maharashtra with 9234 cases. The other concerned states are Andhra Pradesh, Gujarat, Karnataka, and Manipur. According to 30<sup>th</sup> November 2003 figure the states of Uttar Pradesh and Madhya Pradesh also cross the figure of 1000, which is an alarming situation.

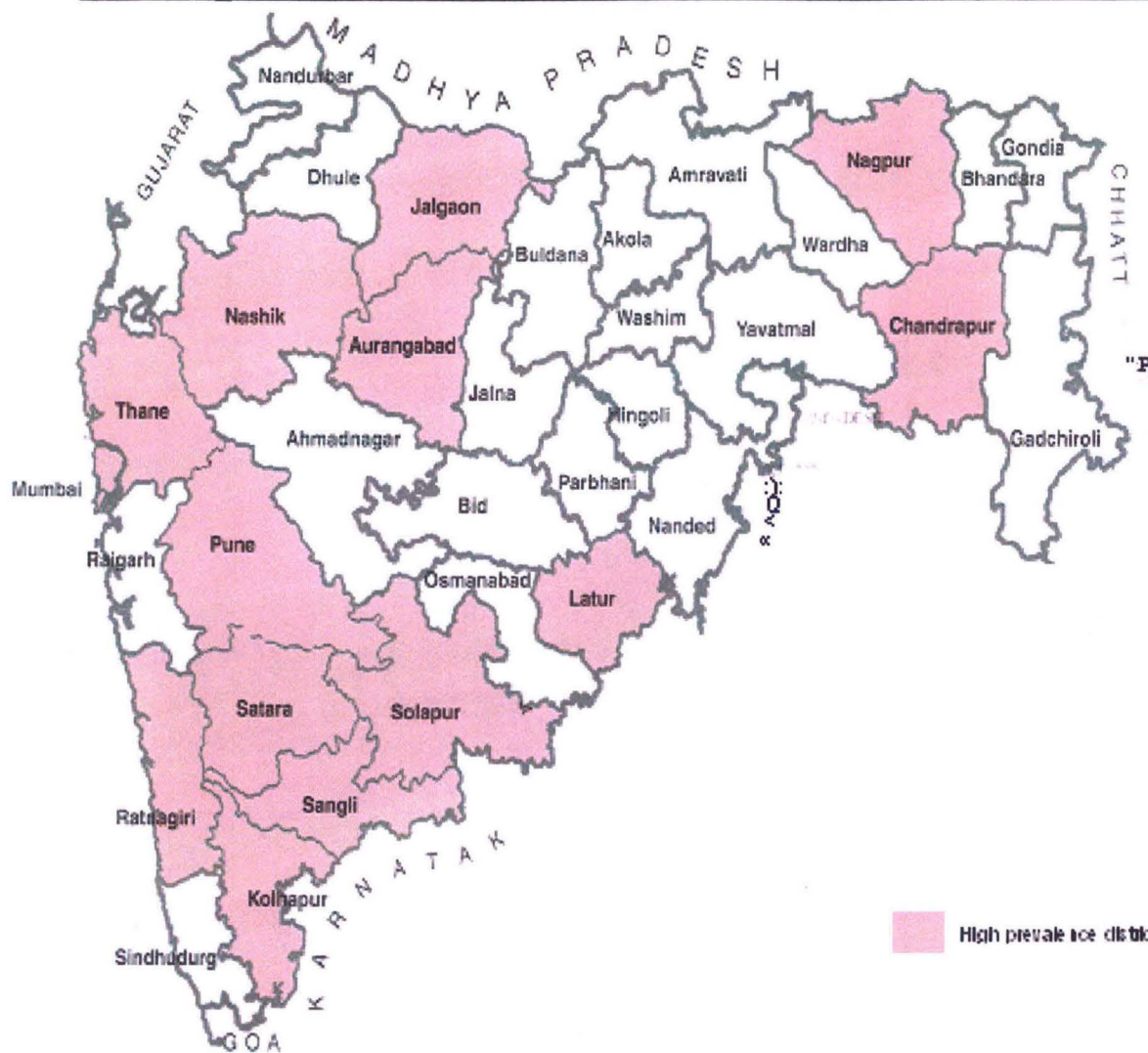
Among the northeastern states, Manipur and Nagaland in particular need special attention because of the high cross-border migration and high prevalence of injecting drug users. Moreover among the northeastern states, Manipur has the highest number of cases (1238, 30<sup>th</sup> November 2003) followed by Nagaland (370 number of cases). According to the national sentinel surveillance survey conducted in 2002, in all the above-mentioned states, HIV infection has crossed one percent or more among antenatal women.

But the NACO sero-surveillance system suffers from weaknesses and is found biased in targeting various groups in testing. Further the lack of availability of testing services in several parts of country suggests a significant level of under reporting.

If we look at the sentinel surveillance data from antenatal clinic in 7 metro cities HIV infection has crossed 2% in Mumbai, it is more than 1% in Hyderabad, Bangalore, Chennai and is below 1% in Calcutta, Ahmedabad and Delhi. This data clearly supports the evidence that HIV infection is percolating from various high-risk groups to low risk groups population.



# HIV positive districts in Maharashtra in 2001



High prevalence district

MAP NOT TO SCALE

Source : National surveillance data  
NACO,2001

Now we will look into details in the condition of a few states where the prevalence of HIV patients are very high.

### MAHARASTRA

This was one of the earliest states to be affected by HIV/AIDS in India and one of the firsts to be considered high prevalence. The first AIDS case in the state was detected in Mumbai in May 1986. Through mid-2003, 21% of the countries reported cases of AIDS were in Maharashtra. The epidemic began among groups with a high risk of infection such as sex workers and their clients. But it has now spread to the general population; this is the way HIV/AIDS spread in Africa.

Official reported cases of AIDS taken from hospitals and clinic are only the small fraction of what the original number is. The number of cases reported 4459 in March 2001 grew to 11,829 in August 2003 which shows a high rise of number in Maharashtra. In which Mumbai alone accounted for 2595 of all reported cases. Among adults the ratio of male and female infected patients are 3:1 but the number for female has been rising. About 90% of the reported case of AIDS are in the age group of 15-44.

The percent of HIV positive people among different groups in Maharashtra for 2002 is

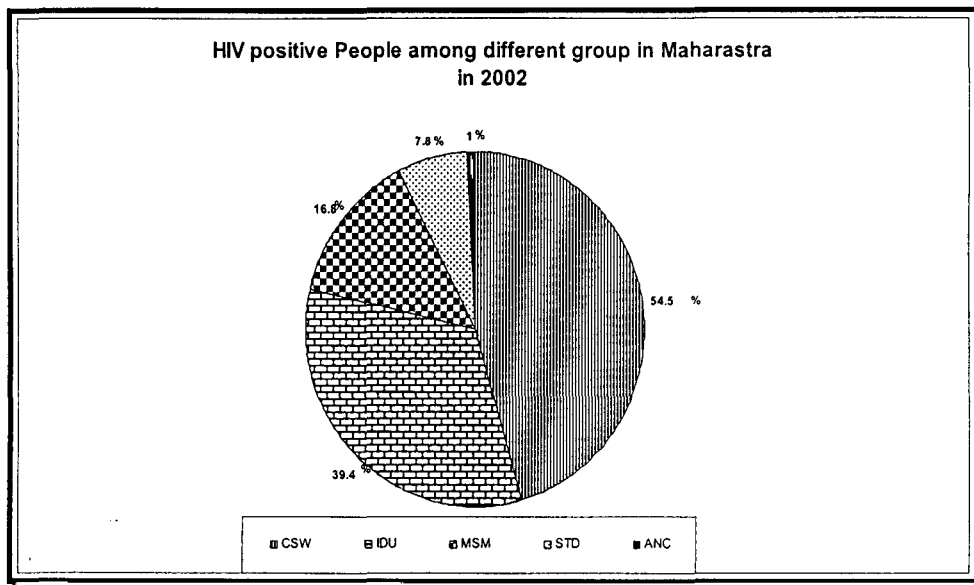
Table 2.5

<b>HIV Positive People among Different group in Maharashtra (2002)</b>	
Groups	Percentage
CSW	54.5
IDU	39.4
MSM	16.8
STD	7.8
ANC	1
Total	100

Source: NACO 2002

In Maharashtra the highest number of AIDS cases were counted among the commercial sex workers followed by the intravenous drug users. The HIV positive people in MSM account for almost 16.8% of the total number, after which arrives women attending STD clinics, while the percentage in ANC clinics is just one percent, it shows a dangerous future looking at India's large population base.

Fig: 2.1

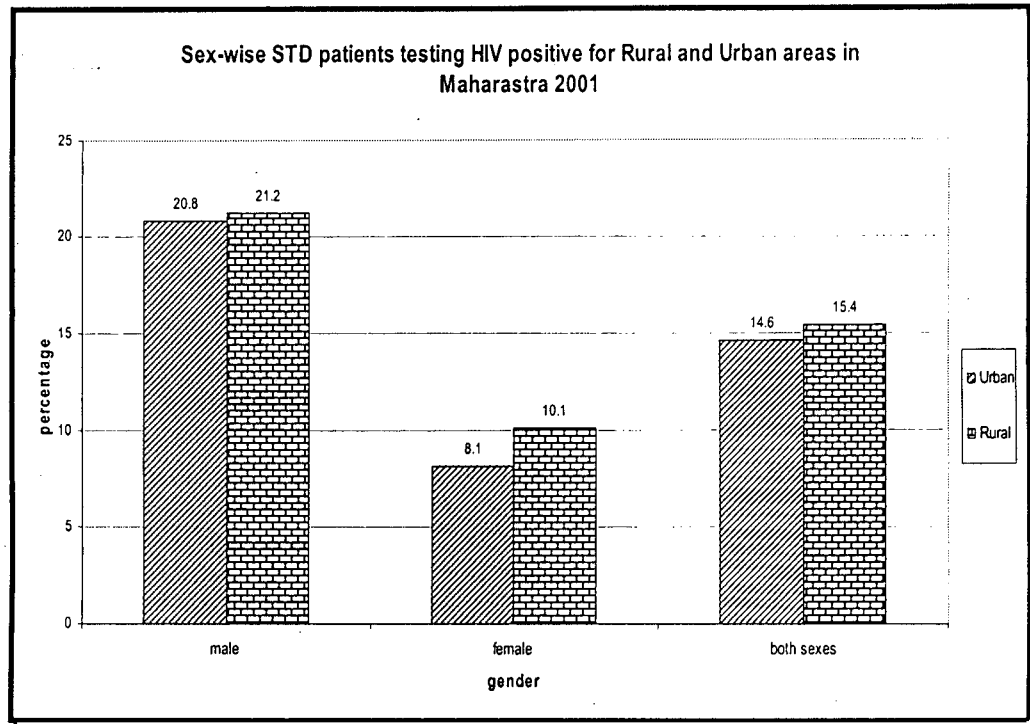


Source: NACO 2002

Of the 49 high prevalence HIV/AIDS districts in India 14 are there in Maharashtra alone.

If we see the STD patients testing HIV positive for Urban and rural areas by sexes in Maharashtra.

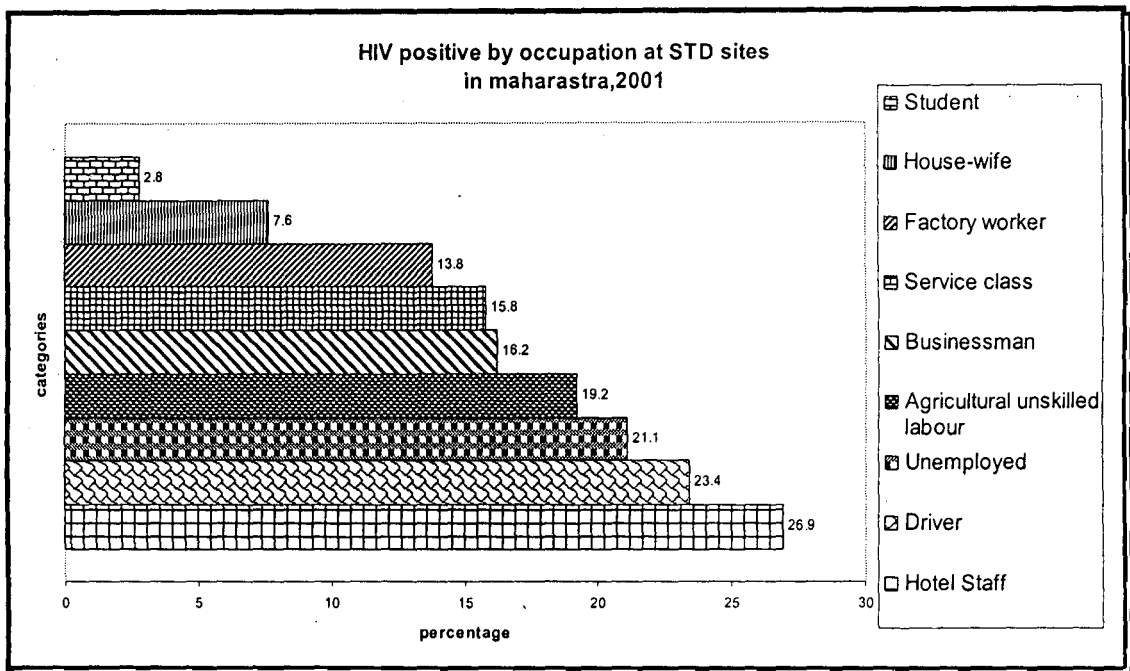
Fig: 2.2



Source: NACO 2001

This graph shows that percentage of male affected are significantly higher than female but the figure also reveals the percentage for rural areas is higher than the Urban area where the spread has been mainly by (in village) migrant labourers. But in presence of high stigma and discrimination attached to HIV/AIDS and low medical facility availability rural areas makes the situation very alarming.

Fig: 2.3



Source: NACO 2001

If we try to analyze data for HIV positive among various occupation groups, we see workers in the hotel and tourist industry have the highest prevalence of the groups tested in Maharashtra, followed by drivers and the unemployed. Truck drivers who travel distance to many locations bring the infections and spread to those areas where it has not yet begun. Migrants in search of employment come to Maharashtra already infected and spread the diseases after arriving. This group is often without work and vulnerable to the disease.

### Tamil Nadu

Tamil Nadu detected the first case of AIDS in May 1986 in Chennai. Through mid-2003, 45% of countries reported cases of AIDS were in Tamil Nadu, while it has only 6% of country's population. The epidemic began among groups with a high risk of infection such as sex workers and their clients. But now it has spread to the general population. Tamil Nadu's

# HIV positive districts in Tamil Nadu in 2001



MAP NOT TO SCALE

Source : National surveillance data  
NACO,2001

share of India's reported AIDS cases from 1986-2003 is 45% while other states have only 55% of cases (NACO).

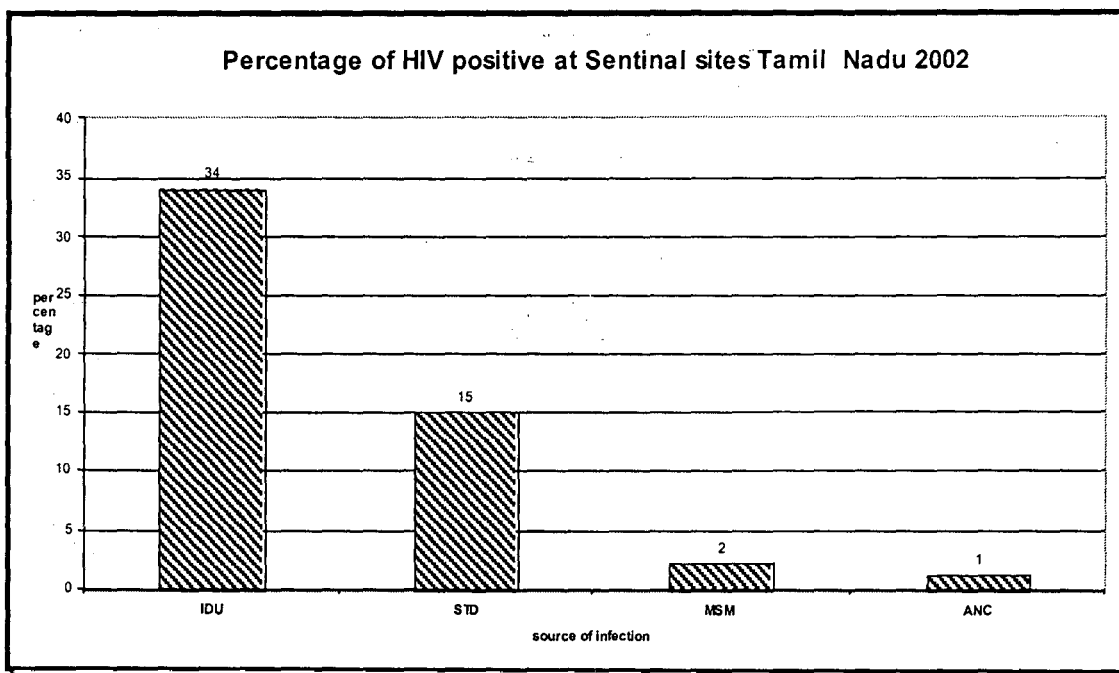
### Measuring the spread in Tamil Nadu:

The NACO classifies the HIV/AIDS epidemic in Tamil Nadu on high prevalence with 5% or more of high-risk groups tested positive and one percent or more women in many ANCs tested positive. In the state prevalence rate for women in many ANCs has now risen above one percent.

These are very high rates for women in general populations who typically do not engage in risky sexual behavior and whose chance of contracting HIV is considered low.

Graph showing percent of HIV positive at sentinel sites, Tamil Nadu, 2002 is given below:

Fig: 2.4



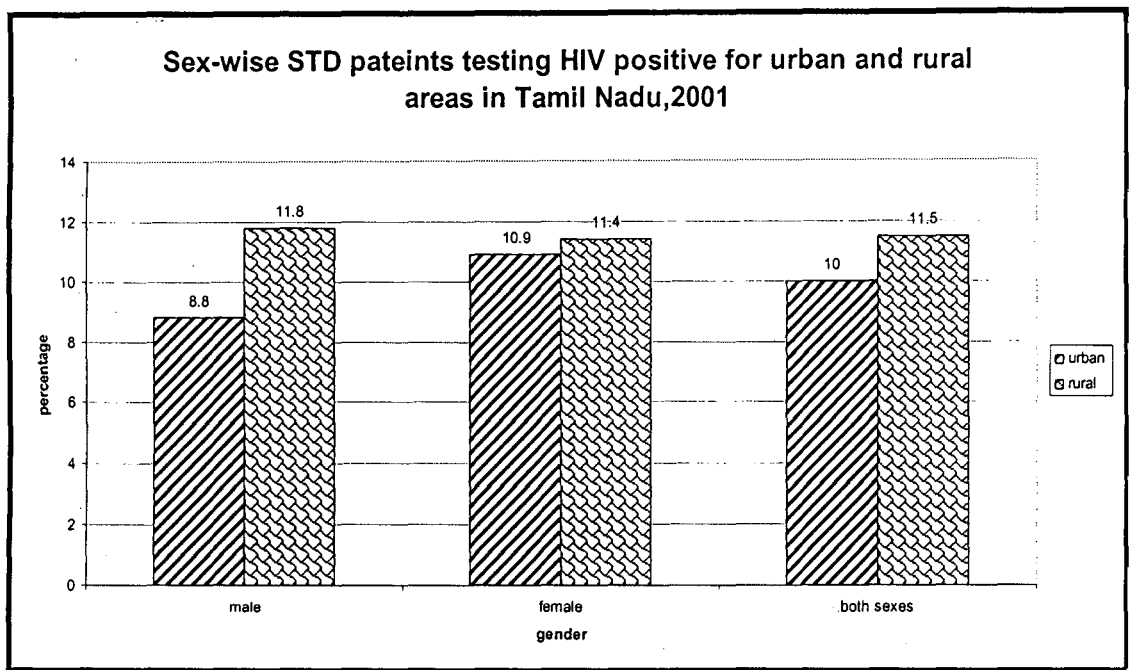
Source: NACO 2002,

According to 2002 data the highest percentage is there of IDU users followed by the people having sexually transmitted diseases. MSM and patients at ANC clinic includes 2 percent and one percent of the total percentages of HIV patients in Tamil Nadu in 2002.

Out of the 49 high prevalence HIV/AIDS districts India seven are in Tamil Nadu. A sexually transmitted disease increases vulnerability of infection level of HIV among patients in STD clinics in Tamil Nadu. The level has now increased to a great extent, which is highest in India. Infection rates are higher in rural areas than in urban areas. The serious public health issue in rural population has less access to medical diagnosis and treatment.

The following graph shows percent of STD patients testing positive for HIV in rural and urban areas by sex in Tamil Nadu, 2001.

Fig: 2.5

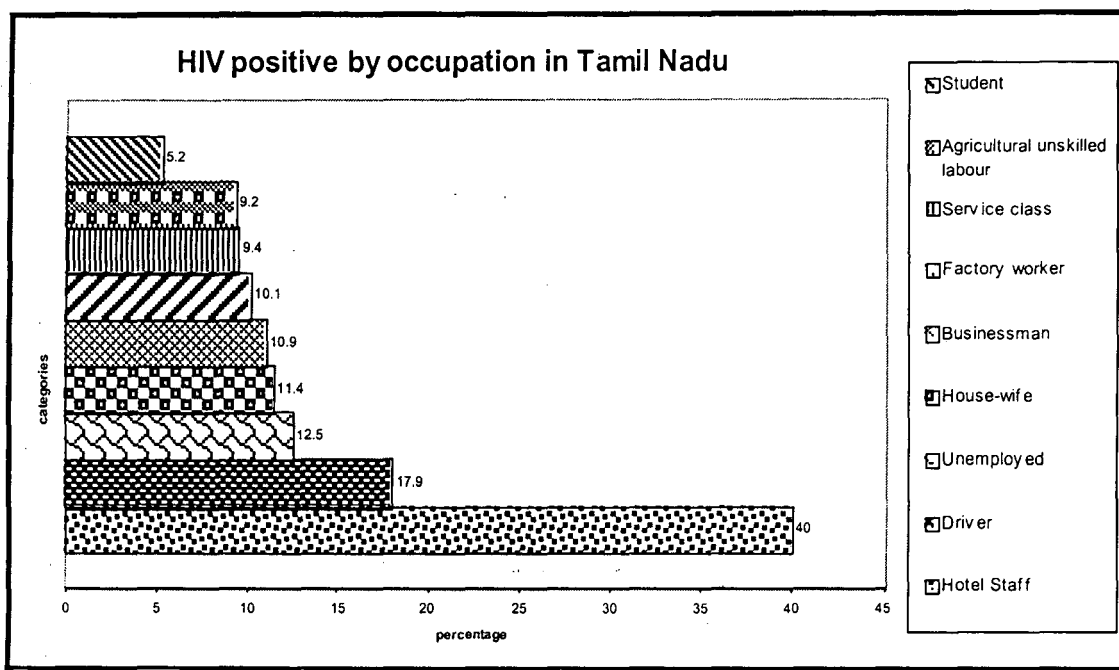


Source: NACO 2001

The prevalence rate in rural areas is higher than in urban areas, in all males, female and both taken combined. In Urban areas prevalence rate in male is lower than the female, contrary to that in rural area prevalence rate in female is slightly higher than their male counterpart.



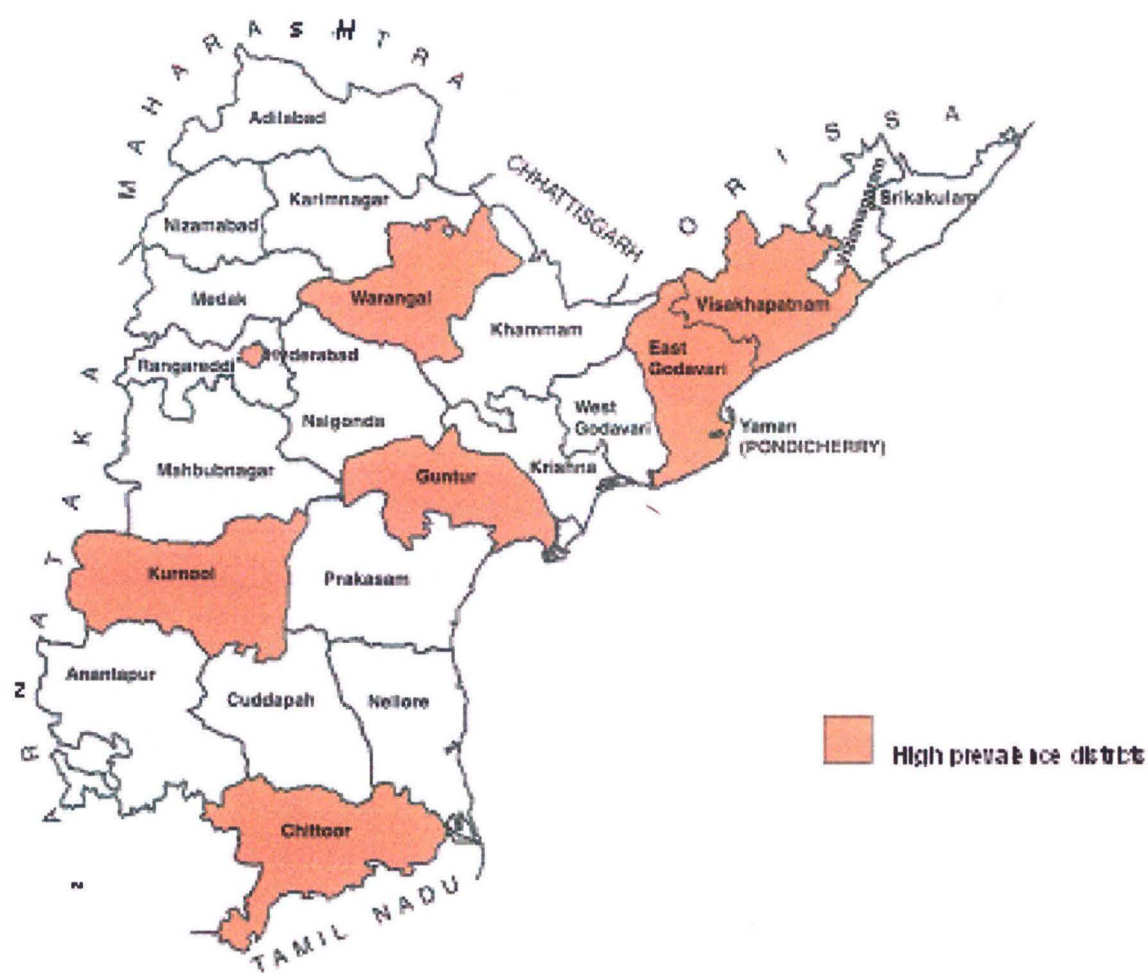
Fig: 2.6



Source: NACO 2001

While looking at percent testing positive for HIV at STD sites by **occupation**, Tamil Nadu, 2001, we find as in Maharashtra, workers in Hotel and tourist industry have the highest prevalence of the STD groups tested in Tamil Nadu. Truck drivers form the second group. The unemployed form the third largest group in HIV infection with 12.5% in Tamil Nadu. This group is often without work for some time, after migrating to larger towns and cities and become vulnerable to HIV. The high prevalence of HIV discovered among housewives is 11.4%. This high rate of infection is another signal of general expansion of HIV.

# HIV positive districts in Andhra Pradesh in 2001



MAP NOT TO SCALE

Source : National surveillance data  
NACO,2001

### Andhra Pradesh

Andhra Pradesh is currently one of the six hard-hit HIV/AIDS prevalence states. Through mid-2003, 8% of the country's reported cases of HIV/AIDS were in Andhra Pradesh and the number of cases is rising rapidly. Like Maharashtra and Tamil Nadu, the state has highest proportion of those with STDs, who have tested positive for HIV/AIDS.

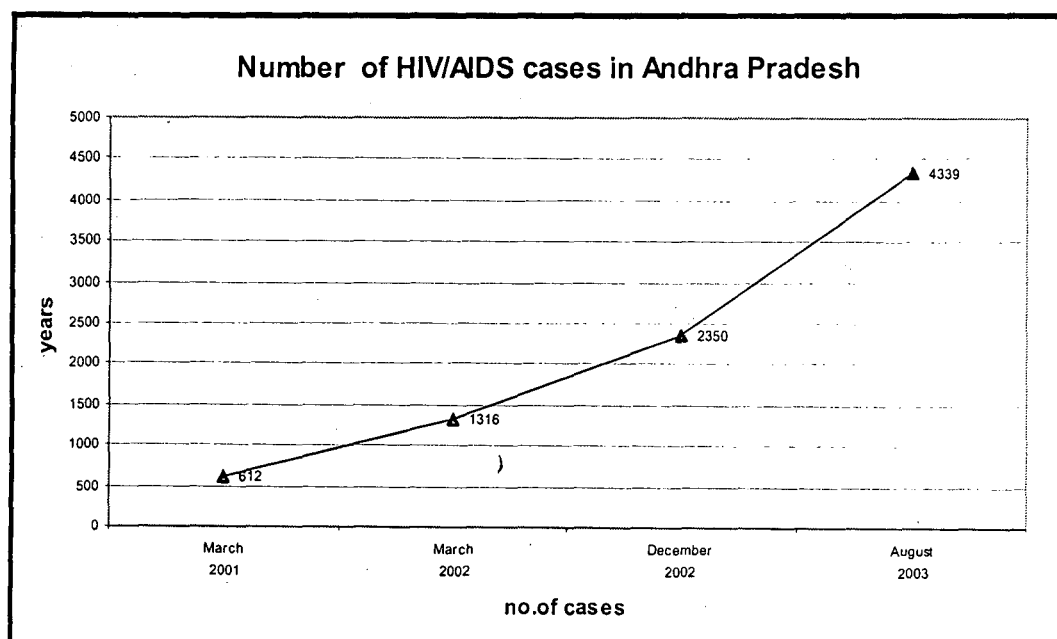
The following figure shows reported cases of AIDS in Andhra Pradesh from 1986-2003.

Table: 2.6

<b>REPORTED CASES OF AIDS IN ANDHRA PRADESH FROM 1986-2003</b>		
Year	Month	No. of cases
2001	March	612
2002	March	1316
2002	December	2350
2003	August	4339

Source: Behavioral Surveillance Survey 2001 NACO

Fig: 2.7



Source:

Behavioral Surveillance Survey 2001 NACO

The rise in reported cases from 612 in March 2001 to 4,339 through August 2003 shows that the disease is quickly gaining ground. Of those 4,339 cases, 1989 were added in the first eight months of 2003 alone.

According to the figure published by NACO about 30.4% of STD patients are tested positive for HIV (2002) in Andhra Pradesh. While this figure for women in ANC with HIV positive percentage is 1.3%, which is a very high rate of women infected in general population. The high rate of HIV infection among women in antenatal clinics indicates that the disease is being carried to the general population by the "bridge group".

Andhra Pradesh recorded the highest frequency of sex with non-regular partners in the country. Among men, 19.2% said they had sex with a non-regular partner in the previous year, as did 7.4% of women.

The following table shows the percent of adults having sex with a Non-regular partner in the past year, India and Andhra Pradesh, 2001.

Table: 2.7

<b>Percentage of adults having sex with non-regular partner in the past years India and Andhra Pradesh</b>			
	Male	Female	both sexes
INDIA	11.8	2	6.6
Andhra Pradesh	19.2	7.4	13.3

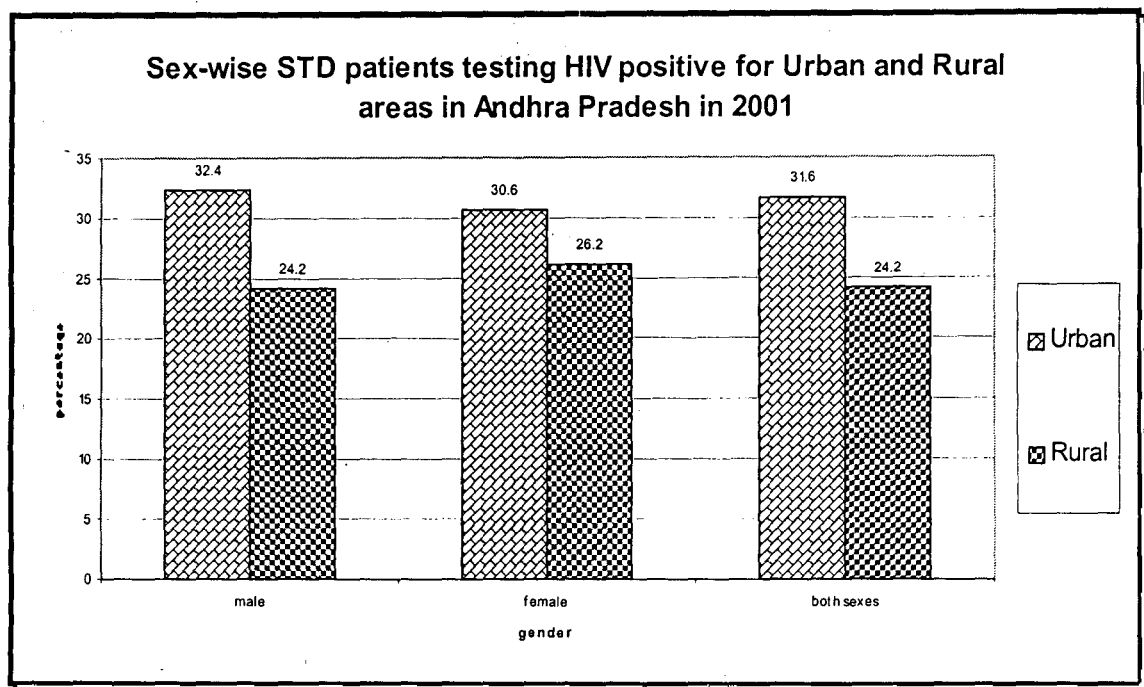
Source: Behavioral Surveillance Survey 2001 NACO

\* Bridge groups, such as husbands, who use services of sex workers, infect their wives with HIV, who then pass the disease to babies. (NACO).

Behavioral surveillance survey (BSS) 2001, conducted by NACO, Showed that Andhra Pradesh had one of the highest levels of STD prevalence in India. More than 20% of STD patients in urban areas and 30% in rural areas tested positive for HIV.

The following graph shows percent of STD patients testing positive for HIV in Urban and rural areas by sex in Andhra Pradesh 2001.

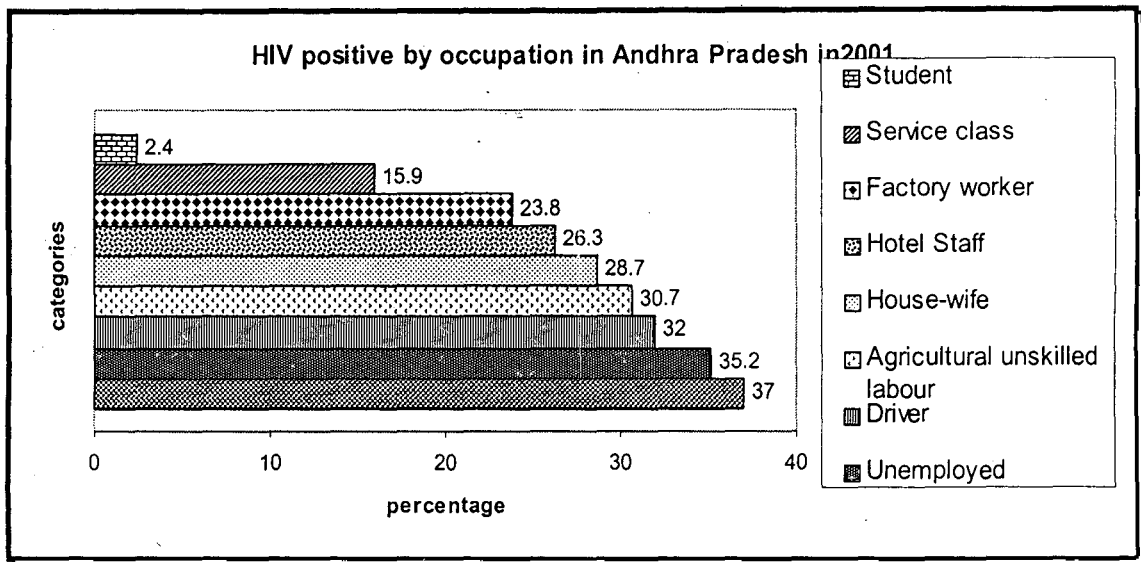
Fig: 2.8



Source: NACO, 2001.

Percent testing positive for HIV at STD sites by occupation, Andhra Pradesh, 2001 shows

Fig: 2.9



Source: NACO, 2001.

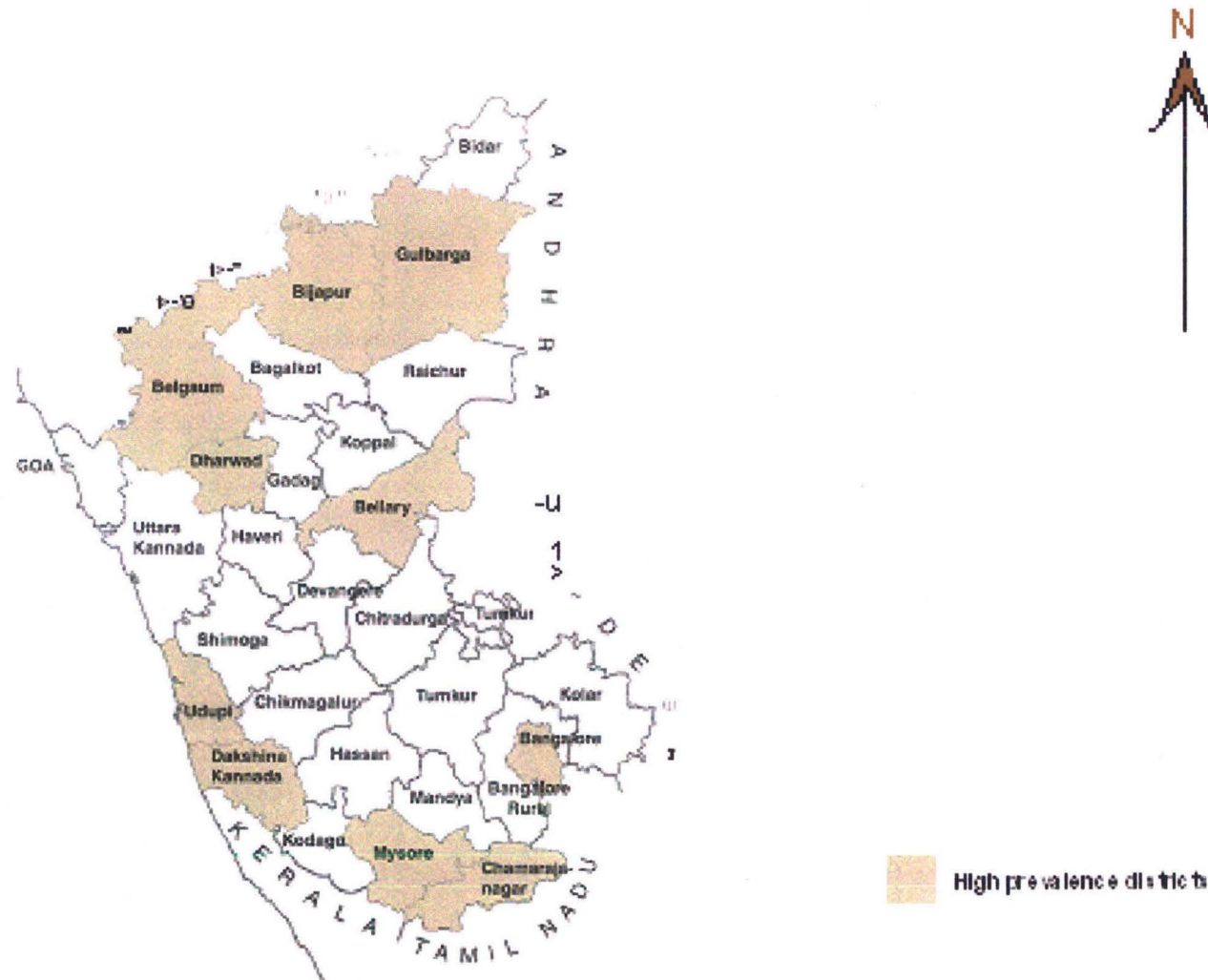
People from the business class have the highest prevalence of the STD patients tested in Andhra Pradesh. The unemployed form the second largest group followed by the truck drivers who form the 3<sup>rd</sup> largest group.

### Karnataka

The first case of AIDS in the state was detected in 1988. The state now ranks fifth on the number of reported AIDS cases in the country.

**The following graph shows reported cases of AIDS in Karnataka from March 2001 to August 2003.**

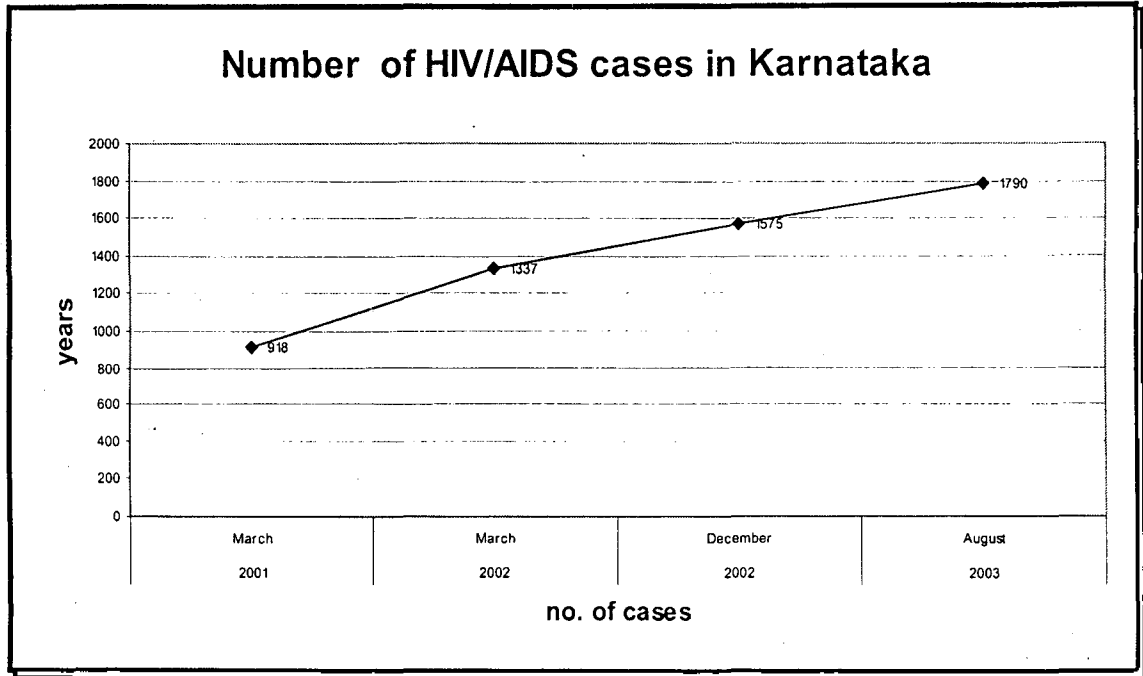
# HIV positive districts in Karnataka in 2001



MAP NOT TO SCALE

Source : National surveillance data  
NACO,2001

Fig: 2.10



Source: NACO, 2003.

Graph shows that rise in the number of cases from 918 in March 2001, to 1,790 through August, 2003 shows that the disease is rapidly gaining ground. Of these 1,790 cases, 215 were added in the first eight-month of 2003 alone.

The percent testing positive for HIV at sentinel sites, in Karnataka 2002, shows that STD patients include 13.6%, IDUs are 2.3%, whereas women in ANC form 1.8% which is a very alarming figure. Of the 49 high prevalence HIV/AIDS districts in India 10 are in Karnataka.

According to the data available Karnataka recorded the highest prevalence of HIV among ANC attendees in India.

According to the behavioral surveillance survey (BSS), conducted by NACO in 2001 nearly 2/3<sup>rd</sup> of the clients of female sex workers were either married or living with their spouse or



with some other partner. Thus their regular partners become exposed to the threat of HIV as well.

### Marital status of clients of female sex workers Karnataka 2001.

#### Not currently married

1.living with sexual partner	2.2%
2.Not living with sexual partner	35.3%

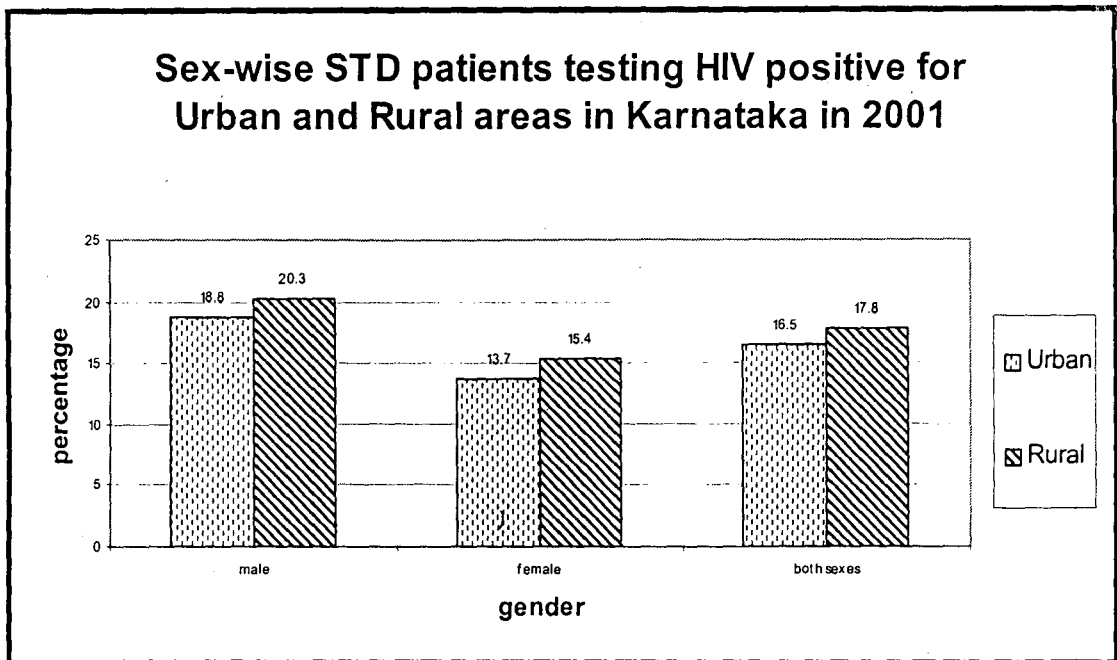
#### Currently married

1.Not living with spouse or other sexual partner	2.2%
2. Living with other sexual partner	5.6%
3. Living with spouse	54.6%

Source: BSS, 2001,NACO.

Percent of STD patients, testing positive for HIV in Urban and rural areas by sex, Karnataka 2001.

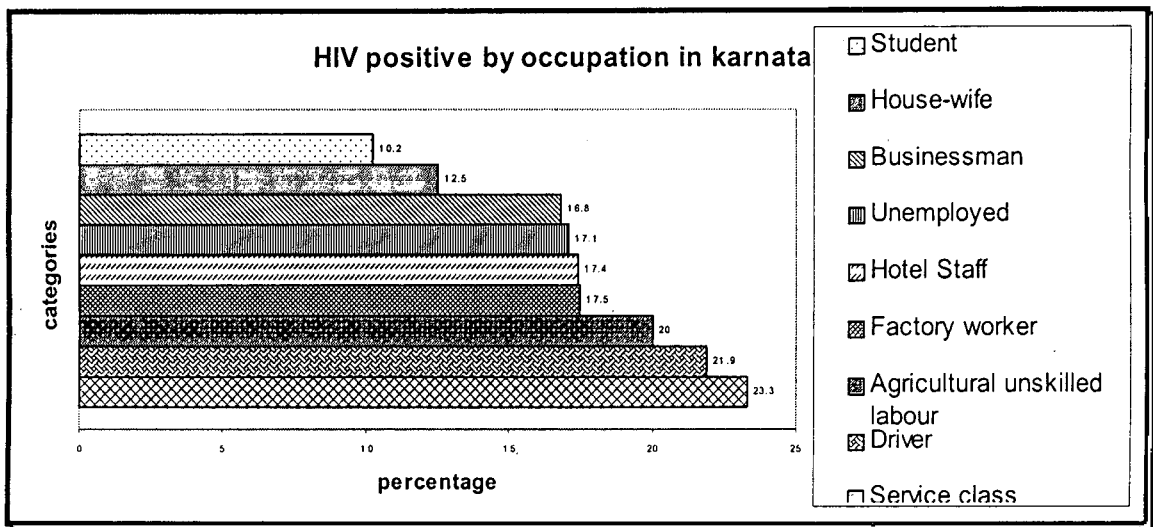
Fig: 2.11



Source: NACO 2001

The graph shows high prevalence in rural areas in male, female and both the sexes. While the figure in urban areas in male is high and it is significantly less in urban females.

Fig: 2.12



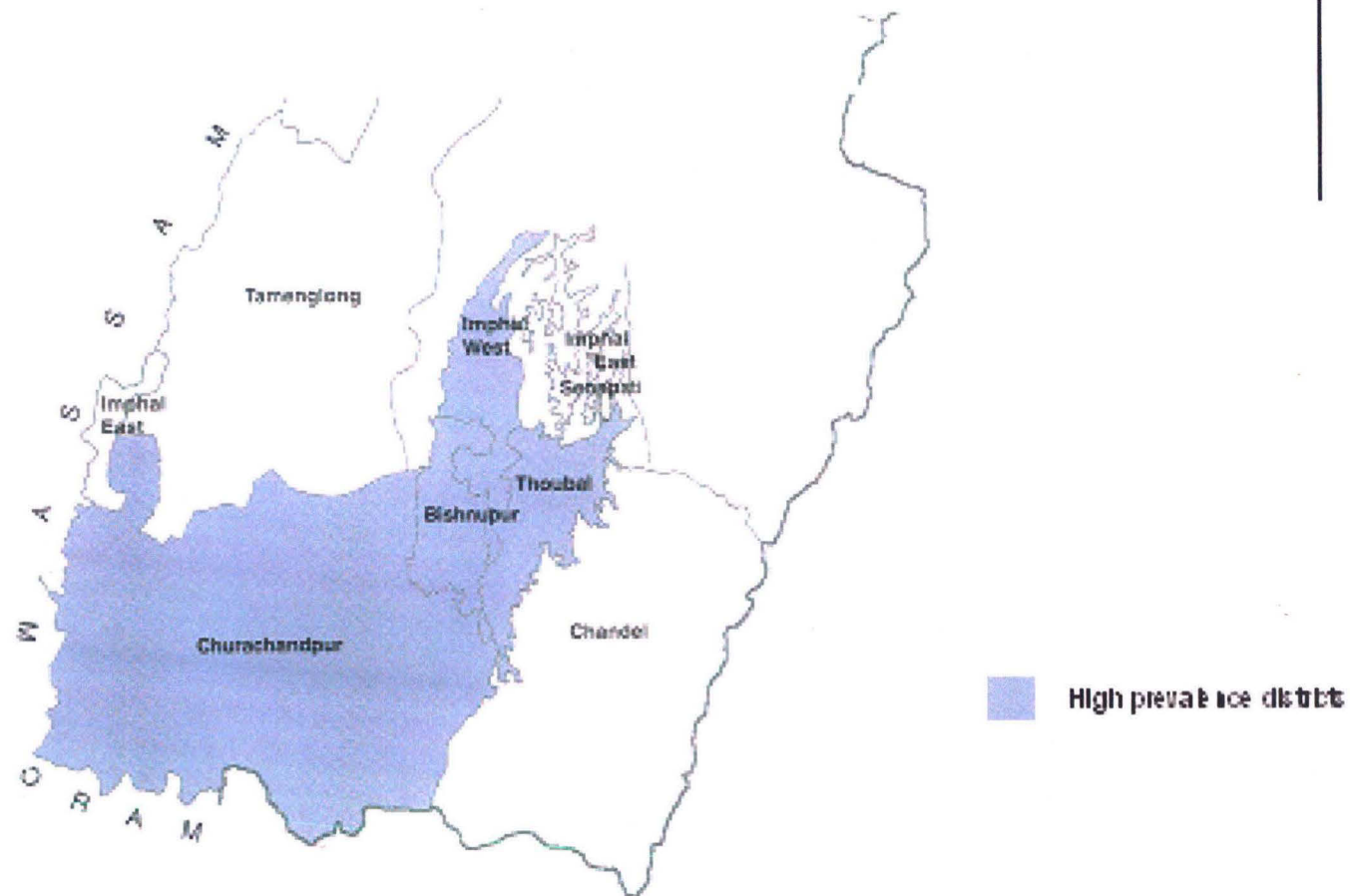
Source: NACO 2001

Percent testing positive for HIV at STD clinics by occupation, in Karnataka 2001 shows that people from the service class have the highest prevalence group tested in Karnataka, Drivers form the second largest group in HIV infection with 21.9% infected.

### Manipur

The first case of AIDS in the state was detected in February, 1989. Manipur now has over 2% of the country's reported cases of AIDS despite having only 0.2% of the national population. The epidemic began among groups with a high risk of infection, particularly injecting drug users. Here the infection level of drug users is among the highest India.

# HIV positive districts in Manipur in 2001



MAP NOT TO SCALE

Source : National surveillance data  
NACO, 2001

Officially reported AIDS cases from hospital and clinics across the state are only a small fraction of the total. The reported cases of AIDS in Manipur has increased through 790 in March 2001 to 1095 in March 2002 while it went to 1,238 through August 2003 (NACO).

**Percent testing positive for HIV at sentinel sites at Manipur 2003 shows the following data.**

Table: 2.8

<b>Percentage of HIV positive at Sentinel sites Manipur 2003</b>	
<b>Groups</b>	<b>percentage</b>
IDU	39.1
STD	9.6
ANC	1.1

Source: NACO, 2001

Of the 49 high prevalence HIV/AIDS districts in India four are in Manipur. The risk of HIV through sex with a drug user is closely related to the frequency of needle sharing, particularly given the high infection rates among IDUs – more than 50% in Imphal and Churachandpur.

The proportion of pregnant women who test positive for HIV/AIDS is alarming in Manipur, with rates as high as 8.8% has been recorded in 2002. These are very high rates for women who are not believed to engage in risky sexual or drug using behaviors and should be at a low risk of contracting the disease.

Analyzing the data on percent of IDUs testing positive for HIV in Urban and rural areas by age group, Manipur 2001.

Table: 2.9

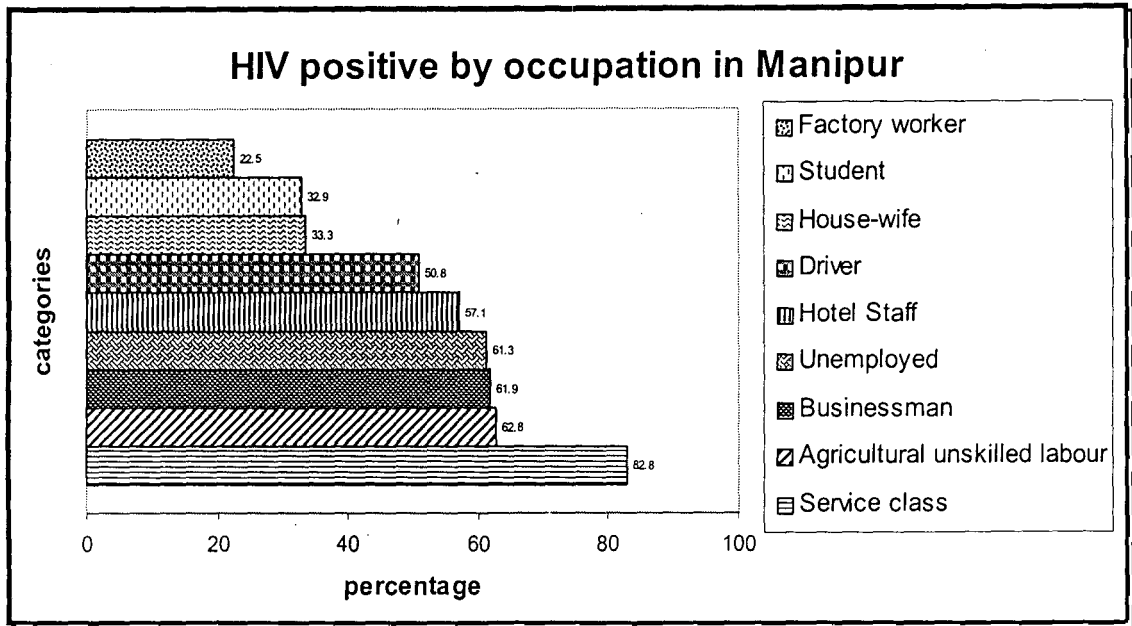
<b>Percentage of IDUs testing positive for HIV in urban and rural areas by age group</b>		
<b>Age group</b>	<b>Percent urban</b>	<b>percent rural</b>
< 20	33.3	16.7
20-29	52.6	60.2
30-44	60.8	64.2
45 +	40	0

Source: NACO, 2001.

Manipur recorded on the highest HIV prevalence rates among IDUs in the country. Drug users who share needles pose a particular problem in the state. Among IDU's those in age group 20-44 in the rural areas had slightly higher rates of infection than in urban areas. This gives a serious public health issue as rural populations have less access to medical diagnosis and treatment.

Now we will analyze data of percent testing positive for HIV at IDU sites by occupation, Manipur 2001. The occupation of IDUs who tested positive for HIV illustrate that the disease can affect everyone new infection pass rapidly from drug user to drug user and then to their sexual partner.

Fig: 2.13



Source: NACO, 2001.

IDUs in the service class had the highest prevalence of the groups tested in Manipur, Agricultural/unskilled workers form the second largest groups with 62.8% prevalence, followed by those in business and unemployed.

### Nagaland

Nagaland detected its first AIDS case in 1994. It is now one of the states with the highest HIV/AIDS prevalence in India. Although the prevalence infection among intravenous drug users has been a major concern, the disease has now spread to the general population.

If we analyze the reported cases of AIDS in Nagaland we see a gradual increase from March 2001 to August 2003.

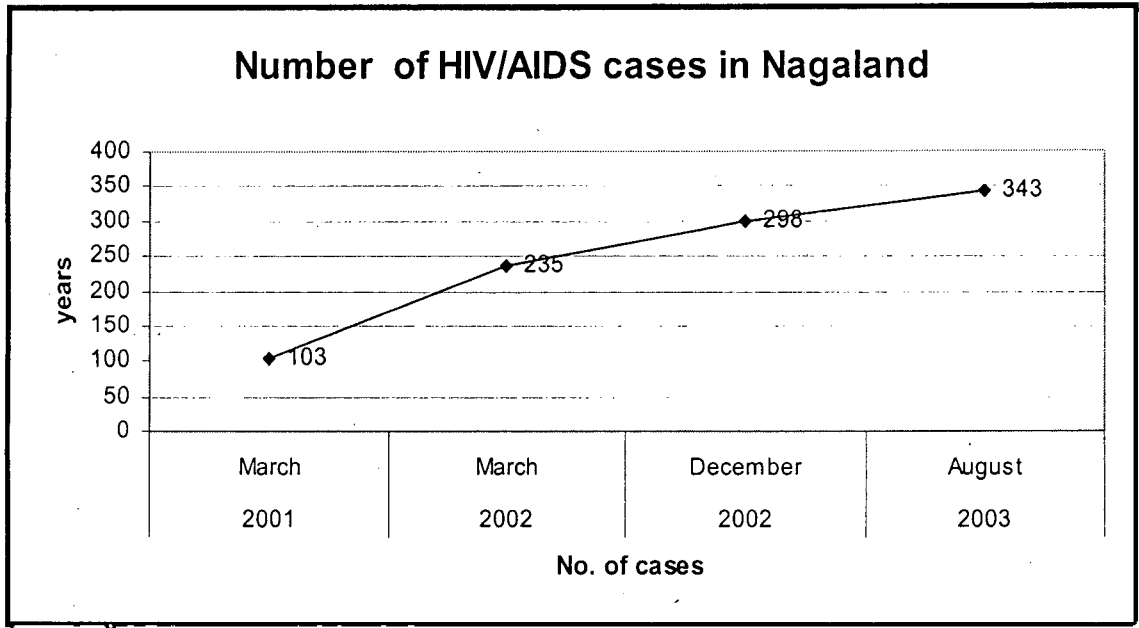
# HIV positive districts in Nagaland in 2001



MAP NOT TO SCALE

Source : National surveillance data  
NACO,2001

Fig: 2.14



Source: NACO, 2001.

The graph shows that the rise in number of case from 103 in 2001 to 343 through August, 2003 shows that the disease is rapidly gaining ground. Of these 343 cases 45 were added in the first eight-month of 2003 alone.

In Nagaland percent testing positive for HIV at sentinel sites, Nagaland 2001 tells that almost 10.3% are IDUs, follows by STD patients who constitute 2.4% of the population.

Lets analyze the data of percent of IDUs testing positive for HIV in Urban/Rural areas, by age groups in 2001.

Table: 2.10

Percentage of IDUs testing positive for HIV in urban and rural areas by age group		
Age group	Percent urban	percent rural
< 20	4.4	0
20-29	7.8	5.2
30-44	15.1	0

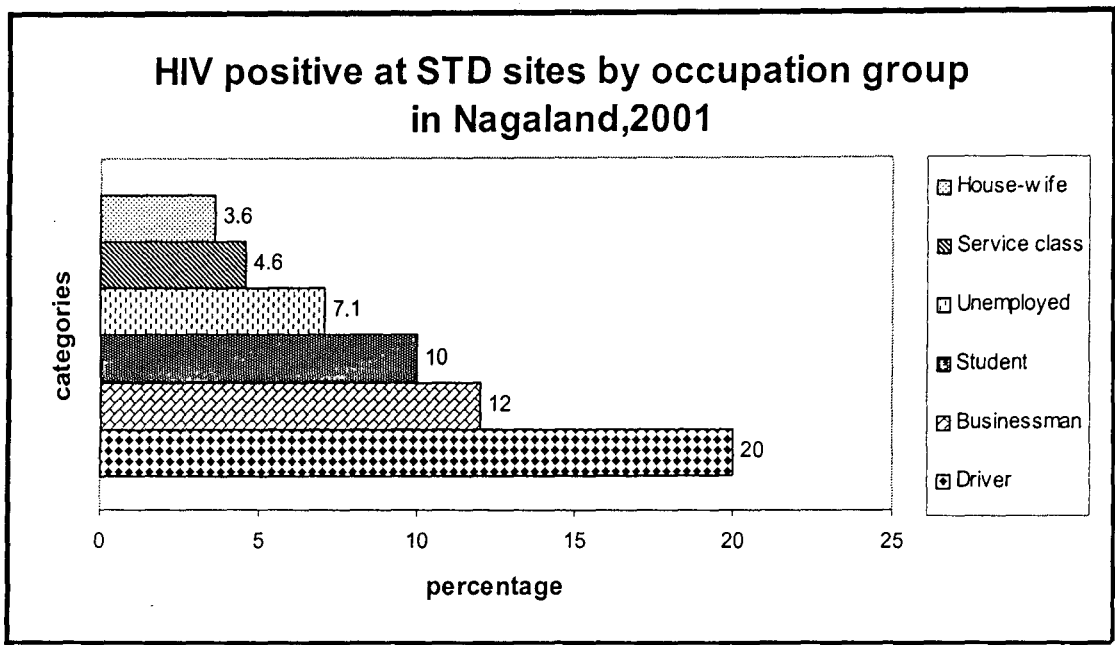
Source: NACO, 2001



HIV infection in Nagaland is a more significant problem in urban areas. According to sentinel site data, among the different age groups people 30-44 age group in urban areas constitute the largest percentage followed by 20-29 years age group in urban areas.

The occupation of patients at STD clinics who tested positive for HIV illustrates how the disease spreads, especially in the initial stages following table provides data on percent testing positive HIV at STD sites, Nagaland 2002 by Occupation.

Fig: 2.15



Source: NACO, 2001

Among those treated at STD clinics, truck drivers have the highest prevalence of HIV in Nagaland. Drivers who travel distances to different locations bring the infection with them. A telling statistic is the high prevalence of HIV discovered among housewives is at 3.6%. This high rate of infection is another signal of expansion of HIV into the general public.

**Conclusion:**

From the discussion above one thing is clear that the number of HIV cases in India has been increasing rapidly from 1986 to 2003. These number of cases varies across different states in India, though the first case of HIV was detected in a sex worker in Chennai, in the later years it was Maharashtra which became the leading state in HIV/AIDS cases in India but again in 2003 Tamil Nadu has come up with largest number of AIDS case in the country (almost 24000 cases according to NACO surveillance data 30<sup>th</sup> November, 2003). Though the AIDS cases has been different among different occupation groups in different states. In Tamil Nadu and Maharashtra hotel staff were reported with highest percentage of cases followed by the drivers and unemployed. In Andhra Pradesh it is the business class who were reported with highest percentage of HIV at STD clinics followed by unemployed. But in Karnataka service class do drivers follow the highest sufferer. In Manipur also service class had higher percentage of HIV cases in IDU sites while in Nagaland drives were reported having highest percentage of HIV at STD sites.

# CHAPTER III

## **Socio-economic and demographic attributes influencing HIV/AIDS and level of awareness among common Indian mass**

**Introduction:** In the earlier period AIDS virus was largely found in the commercial sex workers which later started spreading towards the truckers, migrant groups and prison population. The surveillance data of NACO in the later years shows that the virus has started spreading on high risk groups to the general population and also moving towards rural areas from urban places. This spread from urban to rural areas is more dangerous as the literacy rate is low in rural areas as compared to the urban areas and thus leads to low awareness level among the rural masses. Since no medicine has been invented till now which can cure the people from AIDS, awareness regarding AIDS plays a major role as this is only knowledge which can prevent further spread of AIDS.

In the first part of this chapter there has been a discussion regarding socio-economic and demographic attributes that are influencing the spread of HIV/AIDS in India and in the next part of this chapter a detailed analysis has been done to see the level of awareness among Indian masses regarding AIDS.

There are many socio-economic and demographic attributes that put India in the danger of experiencing a wide spread epidemic if prevention and control measures are not scaled up and expanded throughout the country:

### **1. High Risk groups**

Commercial sex workers, truckers, migrant groups and the prison population are among the high-risk groups.

Flesh trade has been one of the ancient businesses in India. Poverty has been the major factors among other factors (like destitution, divorce, widowhood etc.) which drag the people in the business of flesh trade with the increasing poverty and population. More and more people started this sex business in order to sustain their family. Women and girls find themselves coerced into sex trade to gain access to basic family needs such as food, shelter, and security but in this way they are highly vulnerable to rape.<sup>26</sup> It should be kept into mind while discussing the high-risk groups that the first case of HIV/AIDS was detected in 1986 in Chennai in a commercial sex worker. These commercial sex workers who are doing their business for money can not impose on their clients to use the condoms and thus make the population more vulnerable to the full blower AIDS epidemic. Similarly, the migrant groups and truckers who are away from the family frequently visits to there CSW and thus take the HIV virus in their body because of ignorance and when they go home spread this virus to their wives at home thus these all group of people are called high risk groups who are spreading the HIV/AIDS virus from high risk group to the common population thus they require special attention.

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<sup>26</sup> Piot P. HIV/AIDS in Complex emergencies – a call for action, WHO, Health in Emergencies, 7 (Sept – 2000).

## 2. Migration and Mobility

Migration, mobility and HIV/AIDS are major global phenomena at the beginning of the new millennium. Since the start of the HIV/AIDS epidemic the government was concerned people moving between countries might be spreading HIV. Today however, there is an increased recognition that migrants and mobile people may be more vulnerable to HIV/AIDS than immobile people.

They may acquire HIV while on the move and take the infection back with them when they return home, often without even knowing it and they also face greater obstacles in accessing care and support if living with HIV or AIDS.

“Mobile people can be described broadly is people who move from one place to another temporarily, seasonally or permanently for a not of voluntary and/or involuntary reasons.”<sup>27</sup>

“Key employment groups involving mobility include truckers, sea farers, transport workers, agricultural workers, itinerant traders, mobile employees of large industries (e.g. mining, oil companies, and sex workers”.<sup>28</sup>

“Migrants are mobile people who take up residence or who remain for an extended stay in a foreign country”<sup>29</sup>.

Studies a certain highly mobile groups (e.g. truck drivers, itinerant traders of both sexes, military seafarers) have identified travel or migration as a factor related to infection.

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<sup>27</sup> Reasons may include family reunion, professional or economic opportunity, poverty, war, human rights abuse, ethnic tension, violence, famine, prosecution, medical or health care needs. UNAIDS technical update, refugees and AIDS, 1997

<sup>28</sup> The military, including peace – keeps, can also be a mobile population, AIDS and the Military UNAIDS paint of view, May 1998.

<sup>29</sup> Martin, International Organization for Migration, 2000

“Regions which reports higher seasonal or long term mobility also have higher rates of infection, transport routes and border regions also counted under this category.<sup>30</sup>The refugees and internally displaced people by conflicts or emergencies are also highly infected groups. Thus these mobile and migrant group of people require strategic planning.

### **3. Injecting Drug Users**

In most Asian countries, injecting drug users are the first community to be affected by HIV/AIDS. Studies indicates that a sharp increase in injecting drug use is to be expected since many drug users seem to be switching inhaling to injecting drugs. This phenomenon is more localized in the north eastern states of India and the injecting drug users have started showing sharp increase in HIV prevalence. Appropriate strategies are needed to address the double impact of drug use and unsafe sexual practices.

### **4. Low level of Literary among the Masses**

In India literacy level is low among the rural masses and in comparison to the urban masses, literary is even lower among the rural women in comparison to their male counterpart. Low level of literacy keeps people less aware of problem of AIDS. Thus the unskilled migrant population when visit to their home in rural areas use to spread the HIV/AIDS virus to their wives because of unawareness. People do not move to the primary health center and keep on hiding their problem and make it more dangerous.

### **5. HIV/AIDS related Discrimination, Stigmatization and Denial**

In India as else where, discrimination, stigmatization and denial by the family member as well as from the health personnel are the major problems being encountered by the HIV affected people.

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<sup>30</sup> Anderson. J, Melville R, Jeffries D J et al (1996) Ethnic differences in women with HIV infection Britain and Ireland.

In a research study conducted in India jointly by United Nations with technical support of Tata Institute of social sciences, Mumbai found that “36% respondents felt that it would be better if infected individuals killed themselves.”<sup>31</sup>

All most – 35% of respondents believed that the infected people deserved their fate.<sup>32</sup>

In the same research study 34% respondent said they would not associate with the people having AIDS, while about one fifth stated that AIDS was a punishment from God. The same study revealed that almost 90% of respondents harbored at least one hostile view and more than half held three or more such views.

Negative responses and attitude towards people living with HIV/AIDS are strongly linked to general level of knowledge about AIDS and HIV, and the mode and route cause of transmission of HIV virus. In most of the society, AIDS is associated with groups whose social and sexual behavior does not meet with public approval.

“In the study by Ambati, Ambati and Rao (1997), 60% of the respondents believed that “only” gay men, prostitutes and drug users can get AIDS”.

The stigma and discrimination is so high in our society against the AIDS affected people that even the health workers and doctors refuse/deny to provide treatment to them and thus provide a chance for the spread of AIDS further.

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<sup>31</sup> UNAIDS material on “India: HIV and AIDS related Discrimination, Stigmatization and Denial. Page No.

<sup>32</sup> Ambati, Ambati and Rao, 1997



## **6. Vulnerability of women and children**

HIV infection rate has been rising among the women and infants day by day. The high level of rise of AIDS cases among the women is largely because of unequal rights between men and women in Indian society. Women's rights have been suppressed by providing them with a low status and their limited access to financial and economic assets. This weakens women's ability to protect them and negotiate for safer sex.

When the women fell sick because of any sexually transmitted disease, she is always asked to hide it from others thus the problem becomes more dangerous.

Since women are discriminated in providing equal rights they are suppressed in deciding whether they want to give birth to the child, further in lack of awareness she gives birth to an infected child or even if the child is HIV negative, the breast-feeding of his mother infects him.

## **7. Spread of Epidemic from Urban to rural areas:**

Around 70% of India's population live rural areas, which were once thought to be immune to the problem of HIV/AIDS. HIV sentinels surveillance data by NACO shows that the epidemic is migrating with the migrants from urban to rural areas. Low level of literacy and thus low level of awareness among the rural masses is leading to the high prevalence of epidemic in India and making the problem more alarming.

## **8. HIV/AIDS among the Prison Population:**

The AIDS virus has been found in prisons in most societies in the world and India is no exception. This is a problem of utmost concern not only for the prisoners and prison staff, but also for the society in general.

Many of those people who are in prison already infected from outside. Prison conditions are often ideal breeding grounds for onward transmission of HIV infection. Prisons are frequently over crowded that commonly operate in an atmosphere of violence and fear. To release from these tensions they are often found in drug use or in sexual activity (man who have sex with men). When drugs are injected, through needles which are often indigenous home made devices, or crafted from things such as ball point pens, are largely used and reused and are shared by a number of prisoners. Similarly unprotected sex among men leads to spread of HIV/AIDS in the prison.

HIV/AIDS in prisons remains a difficult and controversial subject. Sex and drug use are dealt in prison with harsh disciplinary measures, and not with the health measures. There are not enough resources to provide basic health care in prison such as HIV/AIDS program.

But the situation is an urgent one and it involves the rights to health, security to person, equality before the law and freedom from inhuman and degrading treatment to the prisoners, which can immediately check the problem.

### **9. Trans-gender and the Problem of AIDS**

The prevalence rate of HIV/AIDS has been very high among the trans-gender groups who are often in the business of sex. Unaware of the problem of spread of HIV/AIDS they frequently go for unsafe sex thus use to spread the virus among the common masses especially among the migrant men.

Thus we see that the socio-economic and demographic attributes in India are contributing to a great extent to the spread of HIV/AIDS in India. In the second part of the chapter the awareness or knowledge of HIV/AIDS will be discussed in details as we find that it is

nothing else but the ignorance of the people about the mode of transmission of HIV virus which is spreading the AIDS very speedily to the vulnerable or high risk group to the common masses and even in children.

### **Knowledge or Awareness regarding HIV/AIDS**

As we know there is no medicine developed till now in the world which can cure AIDS. Thus prevention is the best cure to stop the further spread of the virus to the masses. Their prevention method includes:

- (1) Having safe sex with only one faithful partner
- (2) Keeping abstinence
- (3) Using safe blood and blood products
- (4) Should not use the infected syringes by the drug users
- (5) Giving proper medicine to the mother to stop spread of HIV to her child.

The prevention of further spread of HIV virus is possible only through the awareness regarding HIV/AIDS properly. Knowledge of HIV/AIDS has increased in recent years but is still not universal.

For analyzing the data on awareness both NFHS (Round I and Round II) and NACO Sentinel surveillance data has been used. But since the sampling size of population in both the sources has been different, the data for the two sources are not comparable. The data of NFHS-I and NFHS-II has been analyzed first followed by NACO surveillance data.

**Awareness of AIDS during NFHS-I and NTHS-II Survey:** Survey on awareness regarding AIDS was firstly done in NFHS round first in 1992-93. But during this round AIDS awareness questions were asked only in 13 states so it is not possible to assess trends in AIDS awareness between NFHS-I and NFHS-II for India as a whole. However, in all the 13 states the awareness regarding AIDS has increased substantially between the two surveys. A particular dramatic increase in AIDS knowledge has been observed during the two rounds in Tamil Nadu, Delhi, Maharashtra and Goa.

During the first round of NFHS i.e. in 1992-93 the knowledge regarding AIDS was very low. Even in the capital Delhi only 35.8% women (even married) had heard of AIDS. Among the other major states, where the data about AIDS awareness was collected (Assam, Gujarat, Maharashtra, Tamil Nadu and West Bengal) the 'level of knowledge was highest in Tamil Nadu. But here also only 23.4% women reported of knowledge regarding HIV/AIDS. In Assam and West Bengal less than 10% had heard of AIDS while Goa had relatively high percentage (42% women ever married). In Northeastern states Mizoram and Manipur where the incidence of AIDS is reported to be high, a large majority of women had heard of HIV/AIDS (85 and 73% respectively). In Arunachal Pradesh and Tripura, however, the percentage was very low.

During NFHS round II (1997-98) 60% of women in India had not heard of AIDS. Knowledge of AIDS was somewhat higher in age group 25-35 among ever-married women. Urban environment influence on the women regarding knowledge of AIDS and thus almost 70% of women in urban areas were heard of AIDS as against only 30% in rural areas. Knowledge of AIDS was only 18% among the illiterate women while it was 92% among women who had at least completed high school. Similarly the knowledge of AIDS varied

from 20% among women in household with low standard of living to 74% among women in household with a high standard of living.

A comparative account of Data available during first and second round of survey has been done to see the percentage survey has been done to see the percentage increase in HIV/AIDS knowledge in India.

Percentage of ever-married women who have heard about AIDS by states, India 1992-93.

Table: 3.1

State	Percentage NFHS-I	Percentage NFHS-II
Delhi	35.8	79.2
West Bengal	9.8	26.4
Arunachal Pradesh	16.2	60.4
Assam	8.4	33.7
Manipur	72.4	92.9
Meghalaya	26.7	44.2
Mizoram	84.8	93.2
Nagaland	40.9	72.4
Goa	41.7	76.3
Gujarat	10.6	29.8
Maharastra	18.6	61.1
Tamil Nadu	23.4	87.3

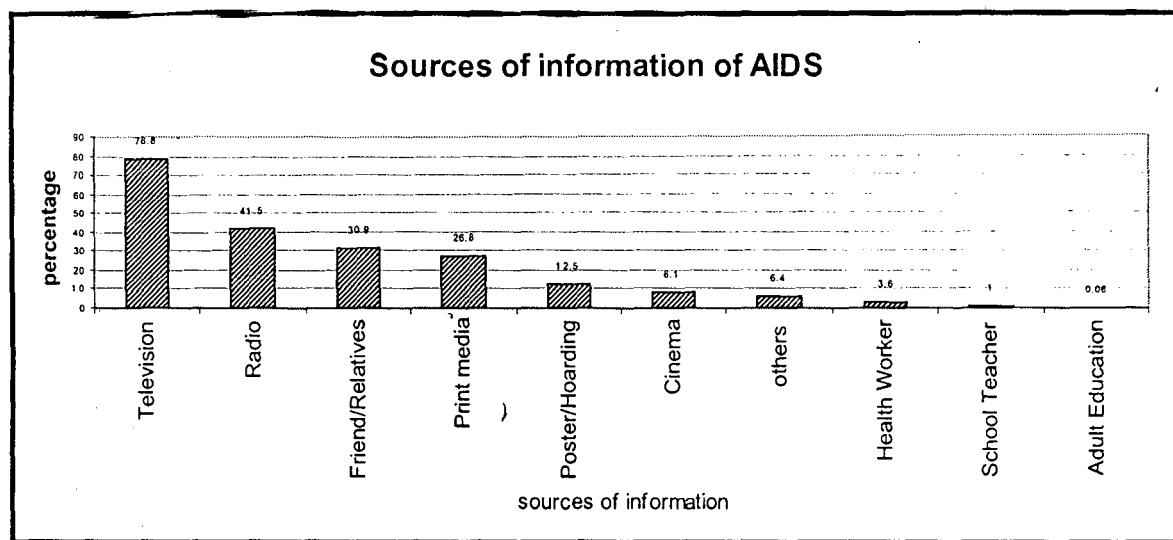
Source: NFHS-I, NFHS-II

The data shows that the percentage of ever married women who have ever heard of HIV/AIDS has increased substantially. A dramatic increase in the knowledge of AIDS has been observed in Tamil Nadu (from 23 to 87%), Delhi (from 36%-79%), Maharashtra (from 19-61%), and Goa (from 42-76%).

### Sources of knowledge about AIDS

During the round of NFHS I electronic media especially television was said to be the important source of knowledge of AIDS both in urban as well as in rural area. During NFHS-I (1992-93) more than 4/5<sup>th</sup> of women who had heard about AIDS in Delhi, Goa and Maharashtra heard it through the television. Television was a source of knowledge for 60-70% of women in Arunachal Pradesh, Assam, Tamil Nadu and Gujarat. Role of television was found limited in Manipur, Meghalaya and Mizoram. Apart from television newspaper provided an important source of knowledge in almost all the states.

Fig: 3.1



Source: NFHS-II Survey of ever-married women 15-49

During round of NFHS-II (1997-98) television remained the most important source of information about AIDS among the ever-married women (in almost 79% women) other important sources were the radio 42%, friends or relatives (31%) and newspapers or magazines (27%). Only 4% received information about AIDS from a primary health worker. The percentage that received AIDS information from a health worker is much higher in Mizoram, Sikkim, Himachal Pradesh, and Goa than in other states. But even in those states only 10-13% of women mentions health workers as a source of information. Friends and relatives are a relatively important source of information in North eastern & southern states, as well as in Orissa, Goa and Maharashtra.

During NFHS-I, in almost every state, "safe sex"\* is spontaneously mentioned most frequently as a means of avoiding AIDS. More than half of women in Delhi, Meghalaya, Mizoram, Goa, Maharashtra and Tamil Nadu stated that AIDS can be prevented by practicing safe sex and they mentioned use of condom as a means of avoiding AIDS. While in Northeastern states a substantial proportion of women mention that AIDS can be avoided by sterilizing needles and syringes? In every state other precautionary measures such as checking blood prior to transfusion, sterilizing needles/syringes before injection and avoid pregnancy if infected with AIDS were mentioned.

During NFHS round II among women who have heard about AIDS, 33% do not know any way to avoid infection. This percentage was higher among rural women than among urban and among women not regularly exposed to mass media than among other. The percentage who do not know any way to avoid becoming infected with AIDS decreases sharply with

increasing levels of education and household standard of living. Muslim women were less aware in comparison to the women of other religion.

The scenario of the percentage of ever-married women who know any way to avoid AIDS reveals even a worse picture. Half of the states that have reported a well above national percentage do not know any way to avoid AIDS. Even in Manipur where more than 90% women reported to hear of AIDS, of them about 30% have reported to be unaware about any way to avoid AIDS.

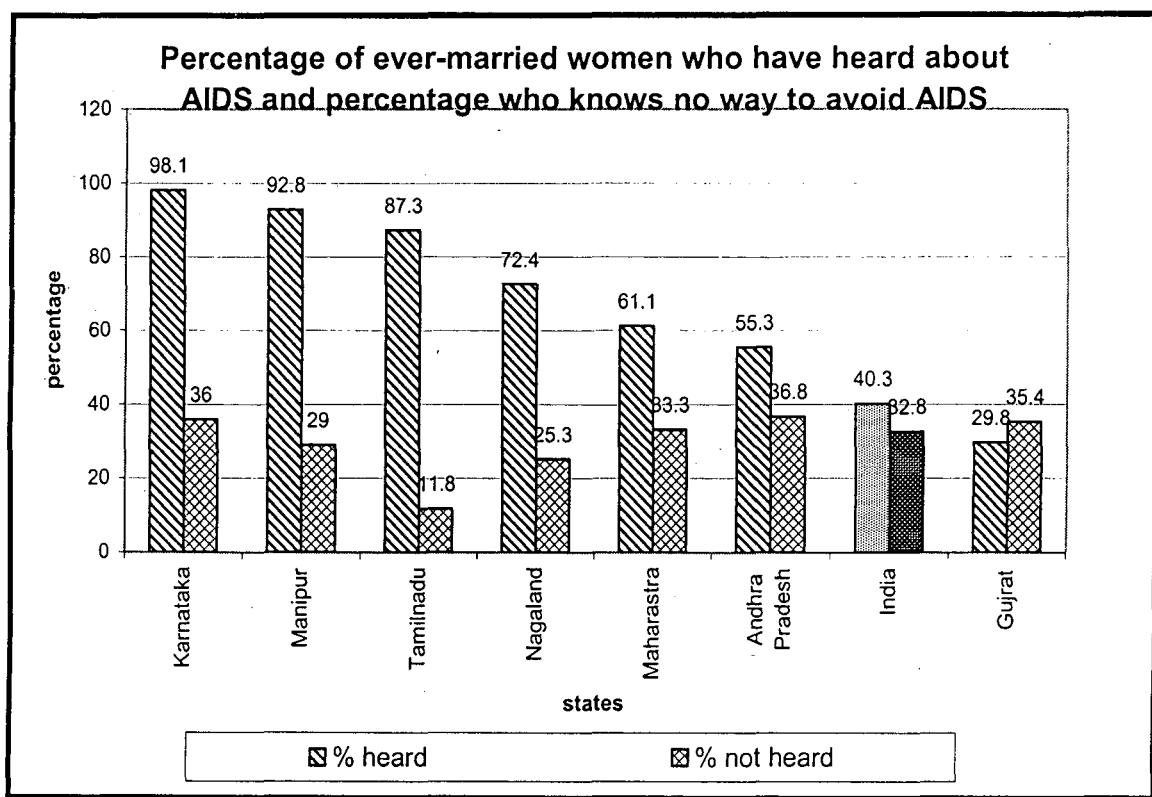
**Table: Percentage of ever-married women who have ever heard about AIDS and percentage that knows no way to avoid it**

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\* "safe sex" was not defined for respondents so different respondents might have had different prevention measures in mind when using the term.



Fig: 3.2



Source: NFHS -II

In India, only 24% of women aged 15-49 years know all three modes of vertical transmission and considerable interstate differential can be observed. In Manipur half the women aged 15-49 years reported to be aware about all the three modes of vertical transmission contrast to Gujarat with merely 11% women are aware of all three modes of vertical transmission of HIV/AIDS.

## KNOW ALL THREE WAYS OF VERTICAL TRANSMISSION OF HIV/AIDS.

Table: 3.2

States	% age of all women aged 15-49yrs
India	24
Andhra Pradesh	46.8
Gujarat	11.9
Karnataka	40.6
Maharastra	31.4
Manipur	50.2
Nagaland	26.2
Tamil Nadu	42.2

Note: Vertical transmission during pregnancy, at delivery and through breast milk.

Source: Multiple Indicator survey (MICs), 2000, (Taken from Health Magazine Feb-March, 2003 Vol. 28, No. 6 from "High HIV prevalence States; an analysis of the HIV/AIDS scenario").

### Awareness of AIDS

In Jain (83%), Christian (78%), Buddhist/New Buddhist (69%), and Sikh (54%), is high in comparison to women in Hindus, Muslim or the women belonging to other religion. (28-39%) during NFHS survey round II (1998-99). During the same survey only 17% of schedule tribe women have heard about AIDS compared with 32% of scheduled caste women, 42% belonging to other backward classes and 48% in 'other' women.

The level of awareness during the current year has been available from NACO surveillance data 2001, which has been discussed below in details.

The National AIDS Control Program was launched in 1992. The increasing prevalence of HIV/AIDS in the country necessitated the launch of a second phase of the National Program in 1999 (NACP-II). The major objectives of NACP~ II are reduction in spread of HIV infection in the country and strengthening the country's response to HIV / AIDS on a long-term basis. Specific objectives of the program were to change the behavior, especially

among high-risk groups and protection of human rights.

The national baseline BSS survey among the general population was conducted in all 35 States and Union Territories of the country. This baseline provides the basic information needed for the strategies and priorities for the programs under NACP- II during its five years of implementation.

#### **METHODOLOGY AND SAMPLING DESIGN ADOPTED DURING NACP II**

The 35 States and Union Territories in the country were categorized into 22 sampling units for the purpose of the survey. West Bengal and Andaman & Nicobar Islands were clubbed into one group, as were Kerala and Lakshadweep, Tamil Nadu and Pondicherry, Goa and Daman & Diu and five North Eastern States of Meghalaya, Mizoram, Arunachal Pradesh, Nagaland and Tripura. In addition Uttaranchal was included in Uttar Pradesh, Jharkhand in Bihar and Chattisgarh in Madhya Pradesh for this baseline survey.

A total of 3832 respondents aged 15-49 years (1916 male and 1916 female) in each sampling unit were covered during the survey. There were an equal number of respondents from urban and rural areas in each sampling unit.

During the baseline survey a total of 84182 respondents were contacted in the entire country and of these, 42062 (49.9%) were residing in urban areas while 42120 (50.1 %) were from rural areas.

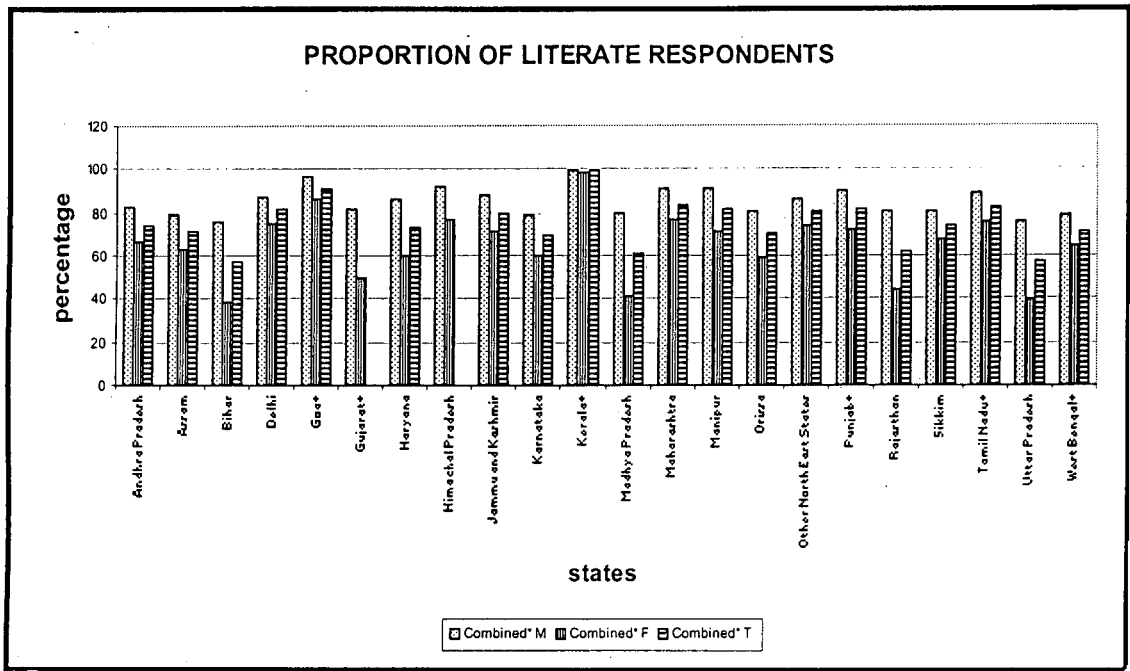
Among the respondents who were interviewed, 42554 (50.5%) were females while 41628 (49.5%) were male respondents. The proportion of males and females in both the urban and rural were similar to the overall proportion.

The median age of respondents was taken as 29 years for females and 30 years for males for the entire sample. The median age ranged between 28-30 years for the individual States and for males/females and urban/rural areas. The largest proportion of the sample was taken from the population aged between 25-39 years.

Nearly three out of every four respondents in the survey were currently married (ranging from a low of 56.2% in Goa to a high of 80.4% in Bihar). Among the currently married, the proportion of females and rural residents were high compared to males and urban residents

respectively.

Fig: 3.3



Source: NACO, 2001.

**Average literacy levels** of the respondents were high (75.1%). In overall population, males and urban residents had higher literacy rates compared to females and rural residents. Literacy rates ranged from a low of 33.1 % among rural females from Madhya Pradesh to a high of 99.3% among urban males in Kerala.

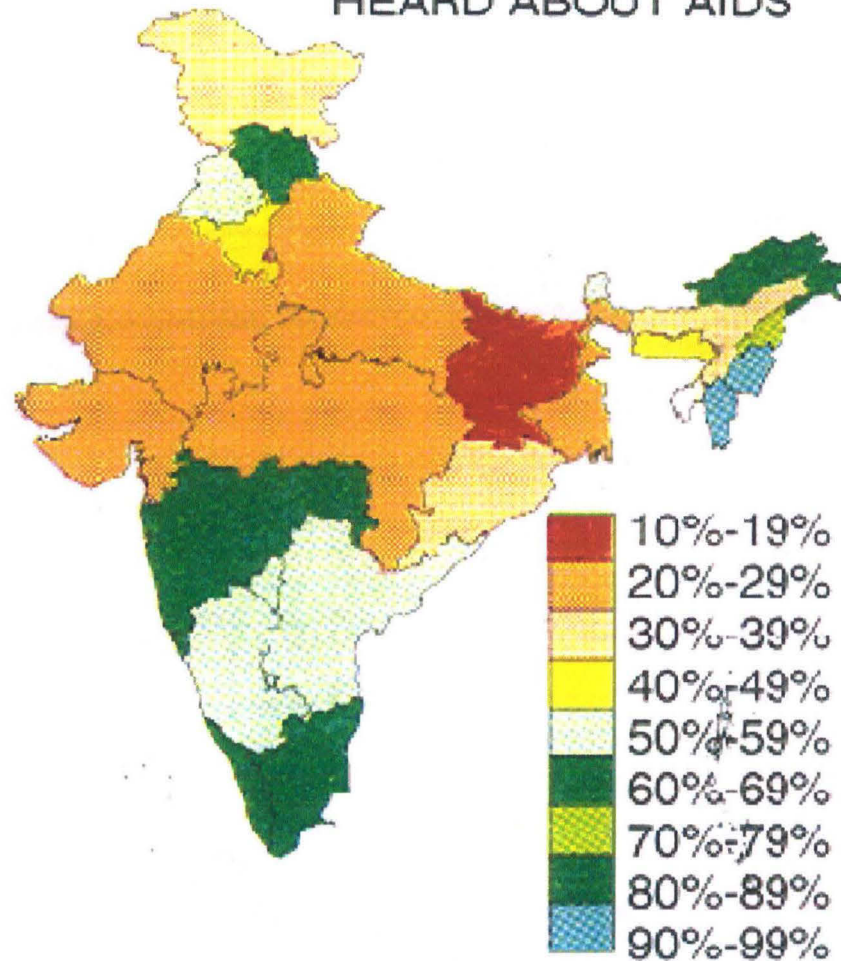
In terms of employment, among the male respondents, 18.4% were unemployed (including respondents currently studying) while among women, 65.9% were housewives and an additional 13.4% were unemployed (including students).

#### **Awareness of Transmission and Prevention of HIV/AIDS**

Regarding awareness of **Transmission and Prevention of HIV/AIDS**,

# AWARENESS ABOUT AIDS

PERCENTAGE WHO HAVE  
HEARD ABOUT AIDS

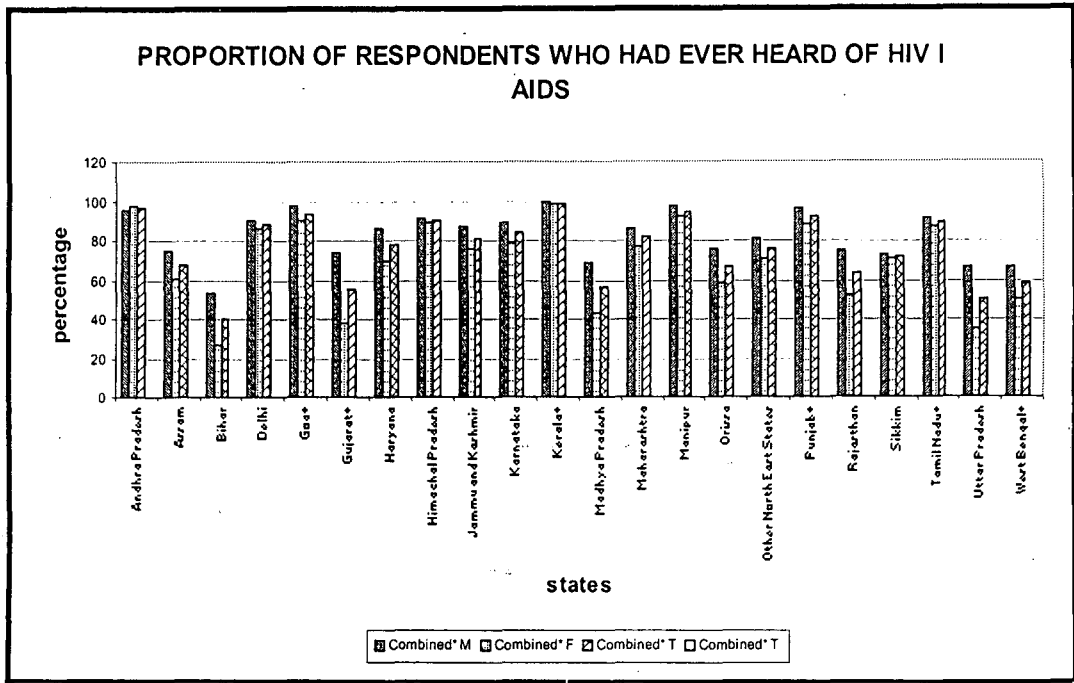


MAP NOT TO SCALE

Source: National Family Health Survey, 1998-99

overall, 76.1 % had ever heard of HIV/AIDS (82.4% - males and 70% - females). In the urban areas, 89.4% respondents had heard of HIV/AIDS as against 72.3 % in rural areas.

Fig: 3.4



Source: NACO, 2001.

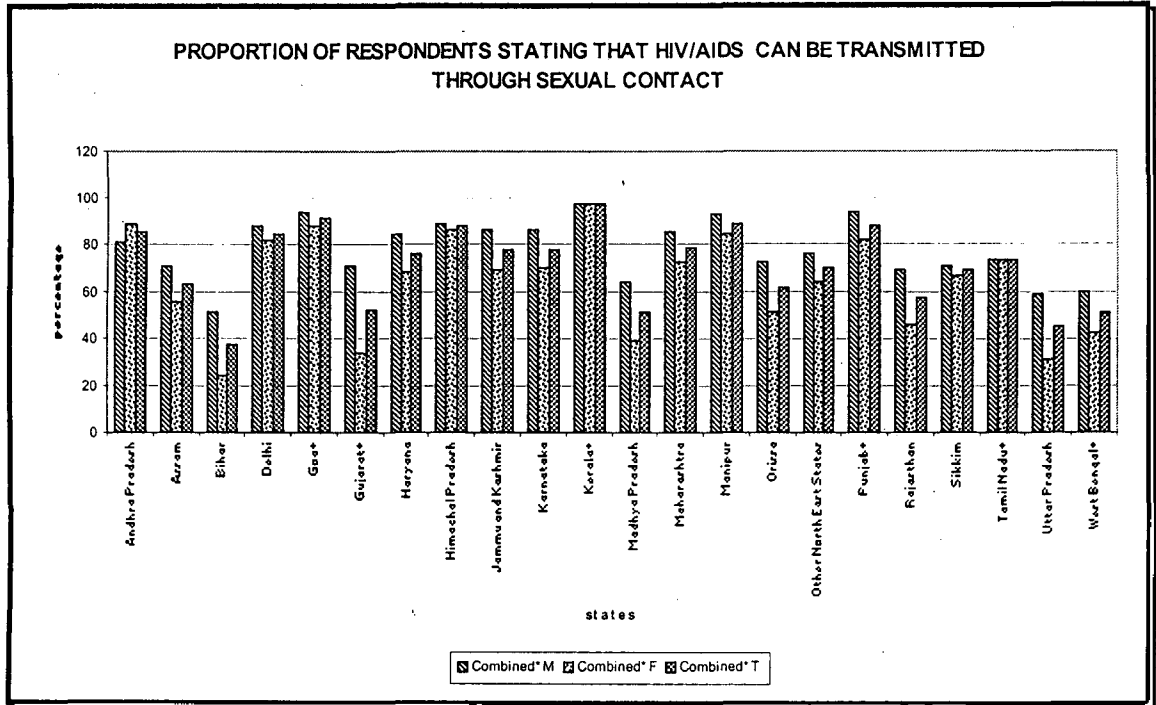
Generally males reported higher awareness rates in most States except in Andhra Pradesh and Kerala (urban areas) and Andhra Pradesh (rural areas), where females were more aware of HIV/AIDS compared to males. However these differences were only marginal. The lowest awareness rates were recorded among rural women in Bihar (21.5%), Gujarat (25%), Uttar Pradesh (27.6%), Madhya Pradesh (32.3%) and West Bengal (38.6%). Rural - urban disparities were marked in Madhya Pradesh, Bihar and West Bengal. Respondents from Kerala (98.9%), Andhra Pradesh (96.3%), Manipur (94.6%), Goa (93.6%) and Punjab (92%) reported highest awareness rates

## KNOWLEDGE REGARDING MODE OF TRANSMISSION

71% of the respondents in the country were aware that HIV/AIDS is transmitted Through

Sexual contact.

Fig: 3.5

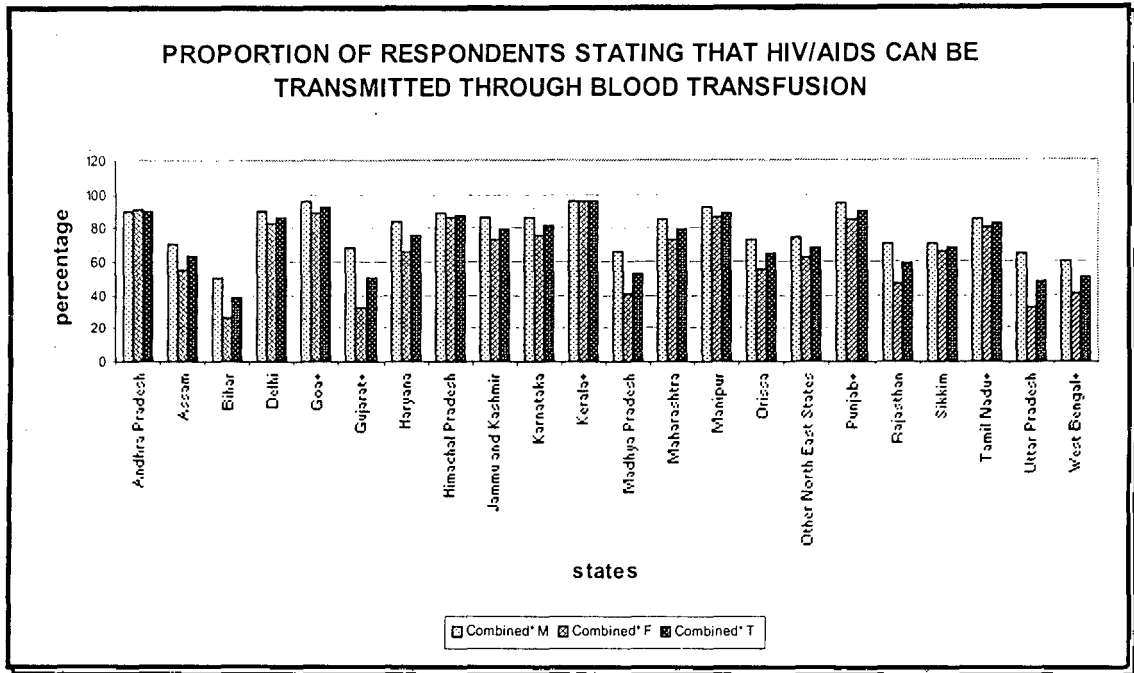


Source: NACO, 2001.

Awareness rates were higher among urban residents and males. Lowest awareness rates were reported among rural women in the States of Bihar (18.7%), Gujarat (22.7%), Uttar Pradesh (24.3%), and Madhya Pradesh (29.1%), and West Bengal (30.9%). Awareness of the sexual route of transmission was highest in Kerala. (97.7%) followed by Goa (91.3%).

Among all the interviewed respondents, 72.5% were aware that HIV/AIDS could be transmitted through blood transfusions.

Fig: 3.6



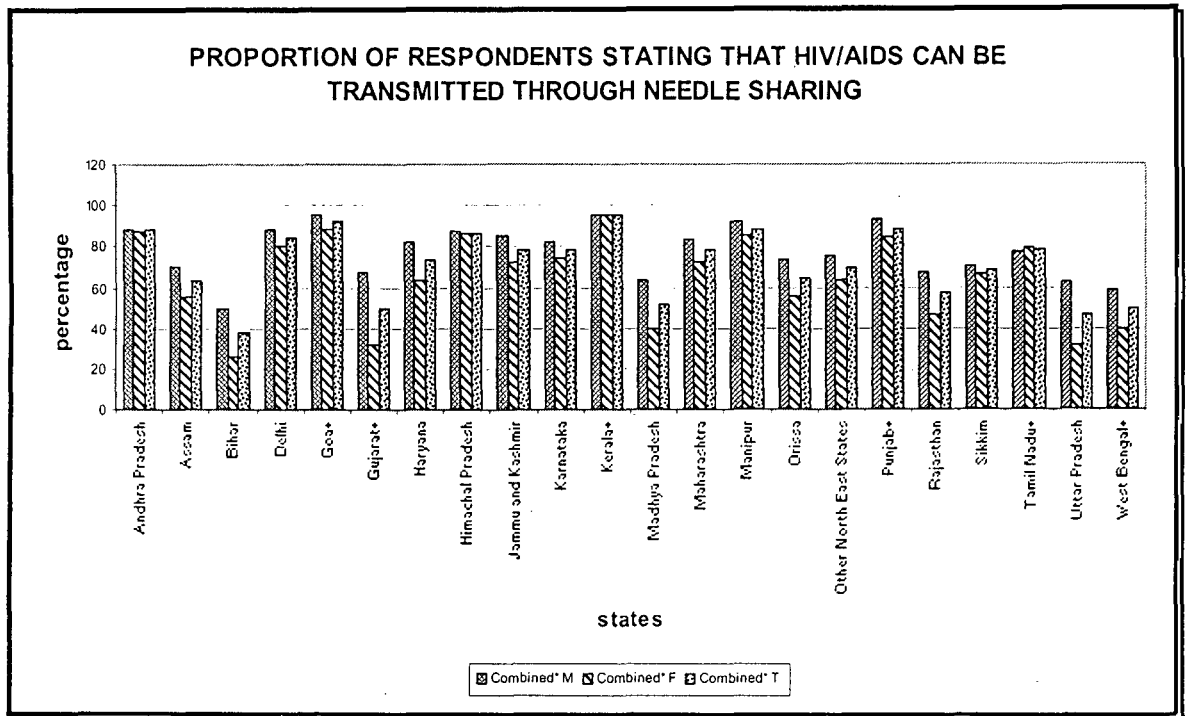
Source: NACO, 2001.

Nine out of ten males in the urban area were aware of this mode of transmission. Lowest awareness was recorded among rural women from Bihar (20.6%), Gujarat (21.5%), Uttar Pradesh (24.7%), West Bengal (29.6%) and Madhya Pradesh (31%). Overall, awareness rates were highest in Kerala (96.4%), Goa (92.4%) and Andhra Pradesh (90.6%). Urban males had consistently high awareness rates in all States



. In most States across the country awareness of transmission of HIV/AIDS through sharing needles was consistently high.

Fig: 3.7

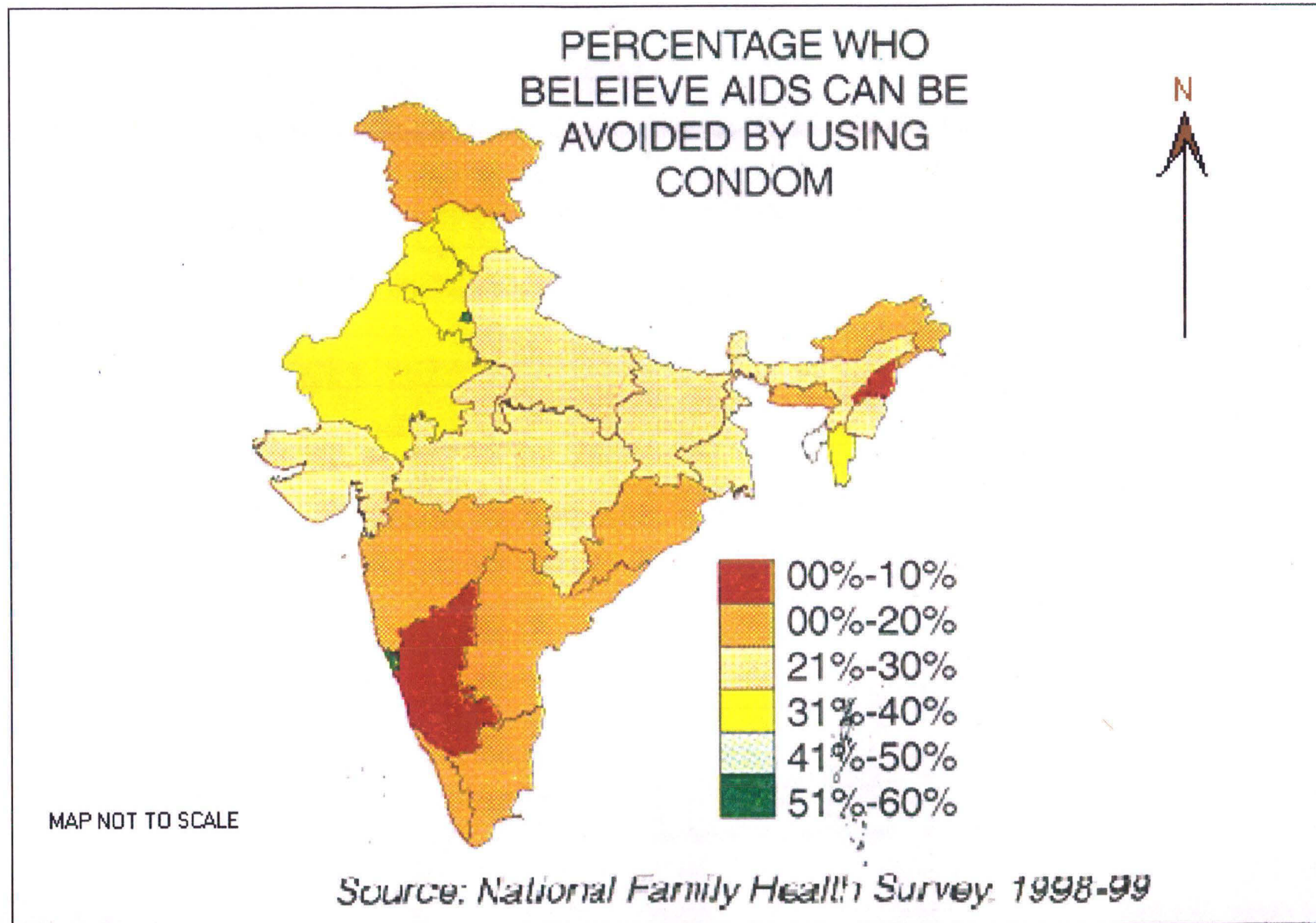


Source: NACO, 2001.

Pooling data from all States, 77.6% males and 64.9% females were aware of this mode of transmission. Urban respondents and male respondents had better awareness compared to rural and female respondents respectively. Urban males from Goa (98.5%), Jammu and Kashmir (97.9%), Manipur (96.3%), Himachal Pradesh (95.7%), Punjab (95%) and Kerala (94.8%) reported highest awareness rates while rural women from Bihar (20.2%), Gujarat (21.2%), Uttar Pradesh (24%), West Bengal (29%) and Madhya Pradesh (29.7%) reported the poorest awareness rates

Compared to the other routes of transmission, MOTHER-TO-CHILD TRANSMISSION was less known to the respondents across most States and Union Territories in the country? Awareness was highest in Goa (90%). Only 20.1% female respondents from rural Bihar,

# AWARENESS ABOUT AIDS

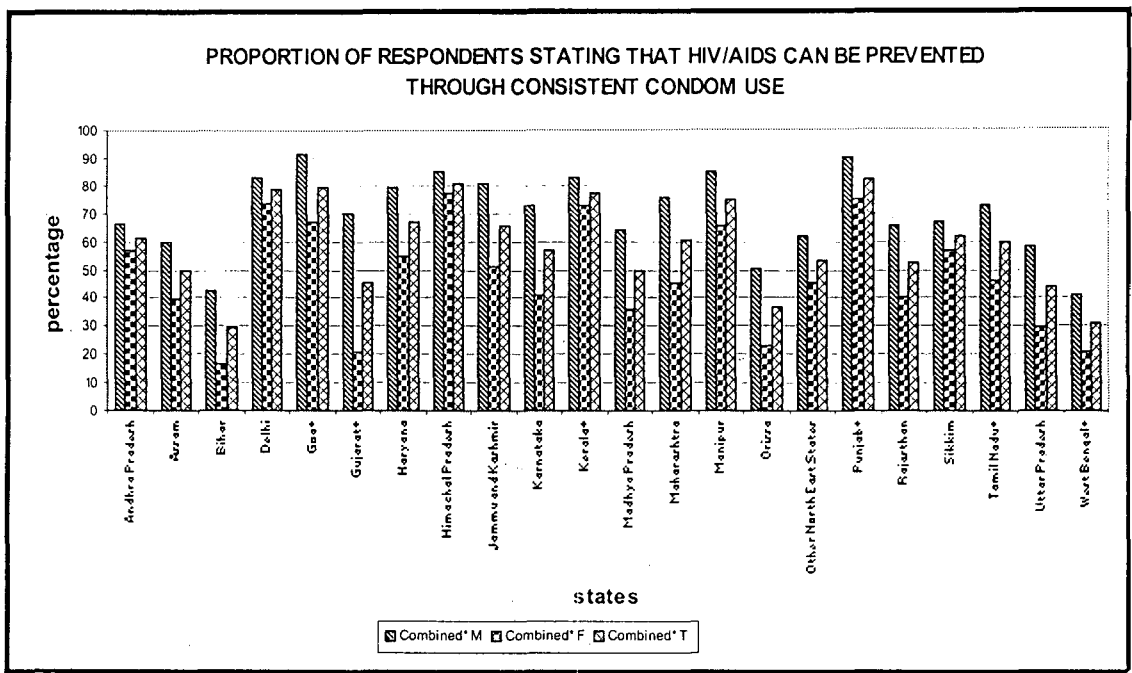


20.6% from Gujarat and 23.6% from Uttar Pradesh were aware of this mode of transmission of HIV/AIDS.

Only half (54.4%) the respondents in the country were aware that HIV/AIDS could be transmitted THROUGH BREAST-FEEDING. Only 18.6% rural female respondents from Gujarat, 19.4% from Bihar, 20.2% from Uttar Pradesh and 22.4% from West Bengal were aware of this mode of transmission. The rural-urban differences were marked in Bihar, Gujarat and Madhya Pradesh.

### AWARENESS REGARDING USE OF CONDOM AS A PREVENTION METHOD OF HIV TRANSMISSION

Fig: 3.8



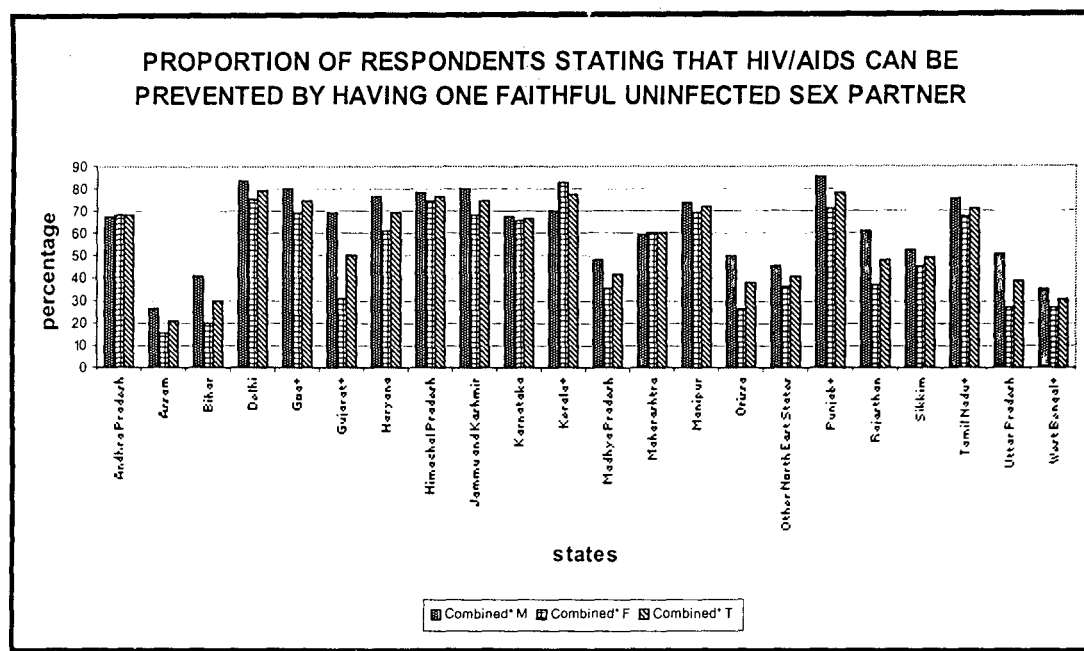
Source: NACO, 2001.

Regarding the benefit of consistent and correct use of condom for prevention of transmission of HIV/AIDS, it was observed that greater than 75% respondents were aware of this method of prevention in Delhi, Goa, Himachal Pradesh, Kerala, Manipur and Punjab. However among rural female respondents, this awareness was very low with only 12.4%

(Bihar), 13.4% (Gujarat) and 14% (West Bengal) being aware of this important mode of prevention of transmission.

More than half the respondents in the country (57%) were aware that having **one faithful and uninfected sex partner** could prevent transmission of HIV / AIDS. Urban respondents (both male and female) had better awareness of this aspect compared to rural and female respondents.

Fig: 3.9



Source: NACO, 2001.

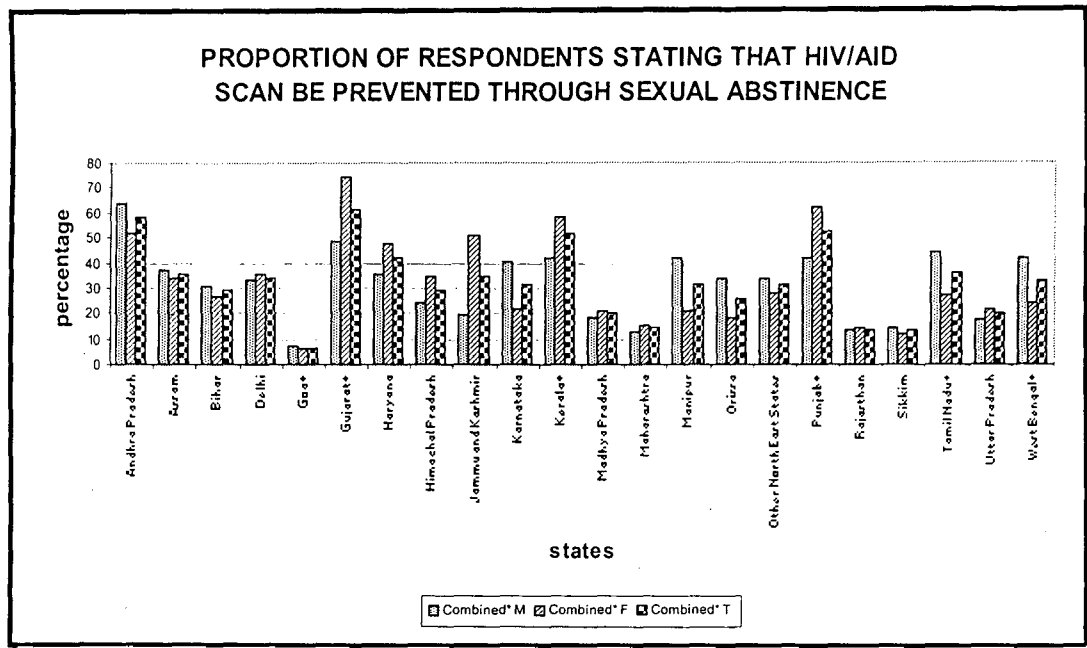
The awareness levels were very poor among rural female respondents from Assam (14.4%), Bihar (15.2%) and West Bengal (18.9%). Highest awareness rate was recorded among males from urban Punjab (87.2%).

46.8% in the entire country were aware of the TWO IMPORTANT METHODS of prevention of transmission i.e. CONSISTENT CONDOM USE AND SEXUAL RELATIONSHIPS with faithful and uninfected partners. The proportion of respondents

aware of both methods was lowest among rural females in West Bengal (8.3%), Orissa (10%), Bihar (10.2%), Assam (10.5%), Gujarat (11.4%), and Uttar Pradesh (16.2%).

A significantly larger proportion of respondents were aware that sexual ABSTINENCE played an important role in prevention of transmission of HIV / AIDS, compared to the other modes of prevention of transmission through the sexual route.

Fig: 3.10



Source: NACO, 2001.

71.2% respondents in the country were aware of this prevention mode. Highest rates were recorded in Kerala (94.8%) and Goa (91.8%) while the lowest awareness rate was recorded in Bihar.

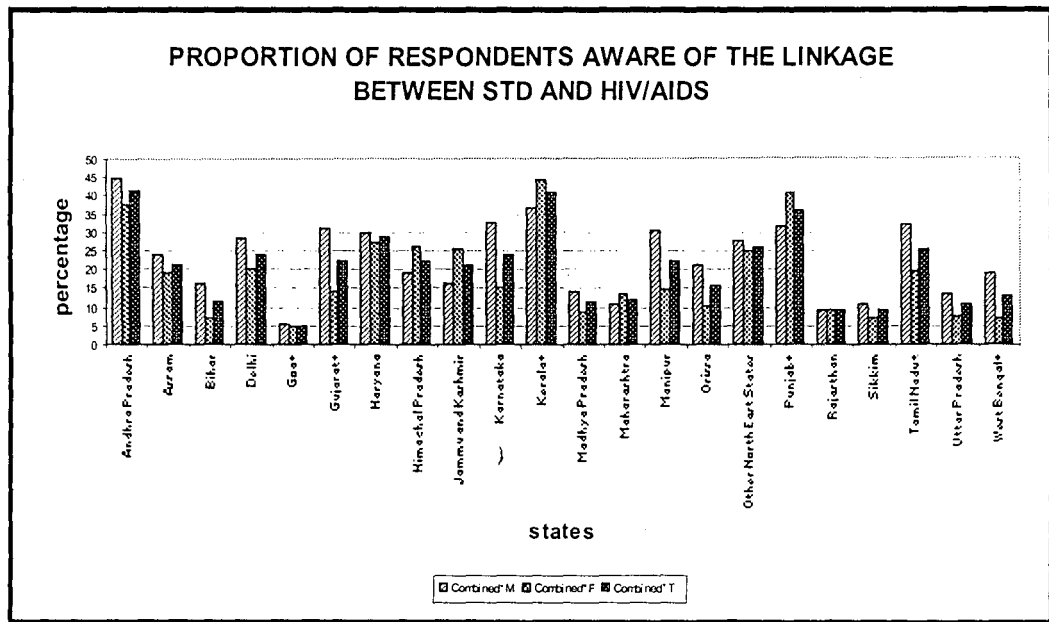
Most respondents in the country harbored some incorrect beliefs regarding transmission of HIV/AIDS. Less than one out of 4 interviewed respondent knew that HIV/AIDS COULDN'T BE TRANSMITTED THROUGH MOSQUITO BITES OR by sharing a meal with an infected person. Awareness was consistently low across gender and

place of residence. Knowledge was low among rural females in, Bihar (4.1%), Uttar Pradesh (4.3%), Gujarat (4.5%), Madhya Pradesh (5%), Orissa (5.6%), Karnataka (5.9%), Tamil Nadu (5.9%) and Assam (6.5%). Rural - urban disparities were highest in those States where the level of awareness was low, as were the gender differences. In fact this was the general observation with most parameters where awareness was low. Less than 10% respondents in the entire country were aware that HIV/AIDS cannot be transmitted by mosquito bites and sharing meals with an infected person and that a healthy looking person may be suffering from HIV/AIDS.

## AWARENESS, PREVALENCE AND TREATMENT SEEKING BEHAVIOUR IN STDs

Less than a third of all respondents (32.1%) had heard of STDs in the entire Country. Awareness was consistently low across the country irrespective of whether respondents were male or female or resided in urban or rural areas. Overall, awareness on the linkage between STD and HIV was low in the entire country (20.7%).

Fig: 3.11



Source: NACO, 2001

Only respondents from Andhra Pradesh (41.1%), Kerala (40.9%) and Punjab (36.1%) had better awareness on the higher risk of HIV/ AIDS if a person was suffering from STDs.

**AWARENESS OF THE COMMON SYMPTOMS OF STDS AMONG BOTH MEN AND WOMEN** was uniformly low in the country. Less than a third of males and females were aware of common symptoms of STDs among women and the same proportion were aware of symptoms among men. Pain and burning during urination along with ulcer were the most commonly heard symptoms by both male and female respondents. However less than 10% actually mentioned these symptoms.

A small proportion (3.4%) of respondents stated that they suffered from genital discharge in the preceding 12 months, in the entire country (5.4% females and 1.5-% males). There was a wide variation across States with a high of 4.9% in Andhra Pradesh (males) to a low of 0.1% in Goa. Among females, prevalence rates ranged from a high of 14.1 % in Haryana to a low of 0.4% in Goa in more than 60% of the surveyed States. Higher prevalence was reported among rural residents compared to urban residents.

An even smaller proportion (2%) reported suffering from a genital ulcer in the country. Prevalence among males ranged from a low of 0.4% in some North Eastern States to a high of 5.6% in Delhi as against a reported prevalence of 0.4% in Goa to 4.2% in Andhra Pradesh, among women.

Proportion of respondents who reported genital discharge or ulcer within the reference period of past one year was only 4.6%, ranging between 0.5% in Goa to 10.5% in Delhi and Haryana. Across most of the States, self-reported STD prevalence was higher in the rural areas than the urban areas. Prevalence among females was reported to be higher than males across most of the States.

Nearly a fourth of respondents who suffered from a genital discharge /ulcer in the preceding 12 months sought redress from Government facilities. Only in the North Eastern States, Himachal Pradesh and Orissa did significantly more. This trend was also observed when respondents were asked about the facility they would prefer to go to for seeking treatment for any symptom of STD in the future. A high proportion (60.5%) stated that they would prefer to use Government facilities. This proportion was similar across rural and urban areas as well as males and females in nearly all the States

### **Awareness, Availability and Accessibility of Condoms**

A high level of awareness of condoms was observed in most States. 4 out of 5 respondents stated that they had either heard of or seen a condom. Overall, 90.4% urban respondents (94.7% male, 86.2% female). And 76.9% rural respondents (84.5% - males, 69.5% - females) stated that they had seen or heard of a condom.

Respondents were also asked to identify sources from where they could procure condoms. Respondents had the option of multiple sources, 93.6% respondents in the country stated that they could procure a condom from a pharmacy (95.8% male; 91.2% - female), while 89.3% cited Clinic Hospital (90% - male; 88.5% - female). Three out of four respondents stated that condoms could also be procured from a Family Planning Clinic (76.9% - male, 72.7% female). There was a wide variation among the other sources cited by the respondents across the different States.

3. Good access to condoms was defined as access within 30 minutes traveling time from their normal place of residence (irrespective of the mode of travel). More than a third (37.4%) respondents stated that it took them more than 30 minutes to procure a condom - a measure of poor access. 19.2% of urban females as against 8.6% of urban males and 48.9% of rural females as against 43.5% of rural males reported that it would take them more than 30 minutes to procure a condom. In most States (except Delhi and Kerala), nearly half the respondents residing in rural areas had poor access to condoms.



## Media Habits

It was observed that radio listeners were low across most of the reporting units in the country. Only in the States of Manipur (78.2%) and the other Northeast states (54.8%) did more than half the respondents state that they listened to the radio at least once a week during the past month. Reported listener-ship rates were low in Gujarat, Madhya Pradesh, Punjab, Bihar, Himachal Pradesh and Goa. In all these states, listener-ship was less than 30%. These findings are similar to the observations of the Indian Readership Surveys

2. Radio listener-ship was higher in rural areas in most of the States and a higher proportion of males listened to the radio compared to females during a one-month recall period. This trend, in relation to gender was observed in all the sampled populations.

Despite major inter - state differences, TV viewers across 11 States was more than 70%. Urban viewer-ship was relatively much higher compared to rural viewers.

4. Reading habits varied considerably across the States. States with higher literacy of respondents reported higher readership rates of at least once a week during a month's recall period. More than 40% respondents in Delhi, Himachal Pradesh, Manipur, other North Eastern States, Goa, Maharashtra, Kerala and Tamil Nadu read newspapers / magazines at least once a week. States with the lowest literacy rates recorded lowest readership rates also.

The overall findings indicate that TV has emerged as the most commonly used medium in the country. Radio was observed to be the least popular medium as significantly lower rates were reported for radio listener-ship compared to TV or newspapers/magazines.

## Other Salient Observations

1. Relatively low proportions of respondents were exposed to inter personal communication

on HIV/AIDS/STD during a one-year reference period. Only 14.3% reported such an exposure in the entire country. Respondents from Gujarat, Manipur, Sikkim and Orissa reported better exposure to such communication compared to the other States.

2. Only 1 in 10 interviewed respondents (10.9%) stated that they had been communicated messages on condom use through inter personal channels. In Manipur and Sikkim nearly a fifth of the respondents had benefited from such channels

3. Overall, 8.7% respondents reported that they knew or heard of somebody suffering from HIV/AIDS. The highest proportion was in Manipur (37%) and Andhra Pradesh (36.7%). In many States less than 5% respondents knew or heard of somebody suffering from HIV / AIDS

4. Nearly 1 out of 10 respondents (9%) in the country knew or heard of someone who died of AIDS. Such experiences were most commonly reported from Manipur (37%), Andhra Pradesh (31.2%) and Maharashtra (20.8%).

5. Only 10.4% respondents in the country were aware of an HIV/AIDS testing facility in their vicinity. In Punjab, a third (33.8%) were aware of such a facility where they could get a confidential test done

## **Conclusion**

The findings of this baseline survey show that there are significant differences in awareness levels regarding HIV (AIDS/STDs and sexual behaviour among different States in the country. Significant differences were generally observed in relation to gender and to place of residence. In most instances females and rural residents were more disadvantaged compared to their counterparts. Awareness regarding condoms was more uniformly distributed across the different population groups in the country. Some gray areas in relation to awareness levels in HIV / AIDS/STDs emerged from the survey and these areas need to be tackled on a priority basis to improve knowledge of the general population in India, more specifically the women and rural residents

# CHAPTER IV

## **CASE STUDIES REGARDING HIV/AIDS: EXAMPLES TAKEN FROM INDIA**

### **Introduction**

The AIDS epidemic in India has completed almost its seventeen years, but the government formulated health programs and policies are not yet successful in preventing further spread of the virus. This is not solely the weaknesses in government led health program and policies but its largely because of the discrimination, stigma, and denial (DSD) for the disease as well as, illiteracy and low level of awareness of the people regarding the spread and prevention of the virus.

Initially, it was thought that only the high risk groups (CSW, MSM, IDUs, Truck drivers) are more vulnerable to the disease, thus government led program were more focussed on these groups, and little was done to stop the disease to spread in the general population are thought safe. This provided the time to grow up the HIV virus properly and it worsens the situation.

The case of Sonagachi red light area in Calcutta is a good example when the government led HIV intervention program (with aid of international Organisation like UNAIDS, and country based NGOs) proved successful. There the project provided the sex workers with the peer education, provision of healthcare, knowledge of STDs and use of condom for the prevention of HIV, besides giving schooling for the children of sex workers.

But this type of intervention programs could not be seen in other areas and basically for the general population.

In this chapter some case studies has been sited which provides (DSD) for the real situation existing in India regarding the HIV problems.

Firstly two case studies of commercial sex workers (high risk group) Sonagachi red light area Calcutta and Tamil Nadu sex workers has been discussed in a comparative manner to show the success and weaknesses of the Government led intervention program. Later some studies have been selected from the general group of population, which has been studied by ILO and UNAIDS. These case studies by ILO provides the socio-economic situations of the HIV positive people in India and the DSD attached with the diseases making the problem more critical.

### **Case Studies from High Risk Group (CSW)**

Sonagachi sex worker project was initiated by the All India Institute of Hygiene and Public Health (AIHH & PH) in 1992 as the STD / HIV intervention program (SHIP), in consultation with National AIDS Control Organisation (NACO) of India, the Ministry of Health and Family Welfare of West Bengal and WHO.

Later NORAD, DFID, HORIZONS / USAID and two NGO partners were also included in the project. Most importantly, the Sonagachi sex workers formed their own Organisation in 1995, the "Durbar Mahila Samanwaya Committee (DMSC), which has become the major mover of the program. Thus the HIV prevention project became a social movement which later involved the CSW from all parts of India as well as from Nepal and Bangladesh (Females who are working as CSW in Sonagachi). This social movement tried to convert the

sex work as an industry regulated business with mechanisms to sustain safer sex practices which is far beyond getting acceptance in a developing country like India.

The Basic aim of this project were:

- to reduce level of STDs
- increase condom use
- Develop an effective strategy that could be replicated elsewhere.

There are an estimated 6,000 sex workers who live in the Sonagachi area and an estimated 20,000 men who are their clients. The woman entertains 4 clients on an average in a day. Almost 90% of the women came to this trade as victims of destitution, desertion / divorce or other lack of family support. The women in the brothels are powerless, completely controlled by the Madams and pimps with the broad support of a network of policemen, politicians, landlords and other underworld elements.

At the start of the project in 1992, less than 3% of the women used condoms. STDs were found to be highest amongst them and over 80% were found to be infected with one or more STD causative agents. The HIV positivity rate was 1.1%. The main thrust of the project, therefore, was condom use promotion and AIDS awareness raising through the agency of peer educators. For the purpose of STD control, a clinic was set up in the heart of the area.

By 1995 the condom use had gone up to 82% of which 50% was habitual condom use and 32% was frequent condom use. The following table shows the percentage of sex workers using condoms always or often with clients.

**Table: 4.1 PATTERN OF CONDOM USE WITH CLIENTS' OVERTIME**

<b>Sex worker's condom use</b>	<b>1992</b>	<b>1993</b>	<b>1995</b>	<b>1998</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Always uses condoms	1.1	47.2	50.1	50.4
Often uses condoms	1.6	22.1	31.6	40.1
Total	2.7	69.3	81.7	90.5

*Source:* UNAIDS Case Study, November 2000, "Female Sex Workers, HIV Prevention Projects." From UNAIDS Best Practice Collection.

Table reflects that while clients who always use condoms was just 1.1% in 1992 increased to 50.4% in 1998, those who often use condoms increased to 40.1% in 1998 from just 1.6% in 1992. Total percentage of the those who use condoms increased to 90.5% in 1998 from just 2.7% in 1992 which was a very significant increase.

The knowledge of STDs and AIDS, respectively has been 70% and 31% in 1992 which gone up to 97% in both cases by 1995. Prevalence of genital ulcer disease, which had been around 6% in 1992, had come down to 3% in 1995. Syphilis alone had witnessed a decline from around 25% in 1992 to 14% in 1995.

In this project, the will of the women was there to safeguard their own health but this project faced some revenue constraints for further improvement, both in condom use and STD prevalence. The women are bonded to the madams who are unwilling to permit insistence on condoms, brothel rules and client insistence on sex without condoms were some of the problems in the path of improving health care of the sex workers. The competitive nature of the trade and resulting insecurity among the women was also found to act as a constraint on adopting behavioral changes. The infrastructure constraints, such as lack of space and the shared nature of the space available, further impeded condom use negotiation with clients.

The community mobilization process, however has had unexpected effects on the entire scenario. The sex workers have begun to undergo an increase in self-esteem and have begun a search for a professional identity and better work environment and a process of self-organization.

They are now with the knowledge and ability to protest against uninformed blood testing and unethical vaccine trials. They are now demanding for repealing of the Prevention of Immoral Traffic Act, which actually strengthens the police, and they victimize the sex workers.

Thus the Sonagachi project which was started as an AIDS Control Program, is, now, undergone several changes like:



- (a) The collaboration of governmental and non-Governmental organizations has become broad.
- (b) The Sonagachi sex workers forum has begun networking with other sex workers forums within the state and outside, to provide it a more democratic base.
- (c) There is a demand to legalize the sex trade in order to ensure health, hygiene, and safety of the women and prevent children and women (adolescents) to come into this trade.
- (d) To change in Government policy and modifications in legislation.
- (e) STD management has changed from Laboratory based diagnosis to syndrome based management.

### **Realities and Situational Assessment of Sexual Behaviour in Tamil Nadu**

This was a project conducted by the various NGOs partners of AIDS prevention and Control Project, Voluntary Health Services Chennai. The study conducted during 1997-98, covered different urban locations of Tamil Nadu, and provides overall pictures of the women involved in prostitution (WIP) and other related issues of HIV/AIDS.

The basic objective of the study were:

- (a) To explain the patterns of high-risk behaviour and analyze the determinants for such behaviour.

- (b) To describe the life style, family structure, economic factors, social life and problems faced by the WIP, pimps and brokers.
- (c) To understand about their knowledge, misconceptions, health perceptions, health seeking behaviour and other risk perceptions with reference to the health indicators especially on STD / HIV / AIDS.
- (d) To describe the availability and accessibility of condoms and health care providers in the target area.

In this case study the WIP had a mean age of 28 years and 80% of them were married. Among them 26% were separated from their husbands. 70% of the WIP had children. 67% of the WIP were literate but almost all of them had high aspiration for their children's education.

Prostitution is mainly attributed to poverty and one third of the WIP are engaged in this occupation to increase their income. Other reasons were failure in love affair, running away from home, separation from husband, etc. The average monthly income of the WIP is Rs.1, 431, however their saving habit is almost nil, on the other hand the monthly income of the pimps and brokers was almost 2 ½ times that of WIP.

#### **Life Style of the WIP:**

Poor housing facilities, unhealthy living environment, unhygienic food habits are some of the common features of the WIP. The living condition and monthly income of family based and lodge-based WIP were slightly better than the street based one. The habit of consuming

alcohol was found common among all types of WIP. The place of soliciting and housing sex differed from bus stand, railway stations, street corners, park and open places, brothels, house of WIP or customer and lodges / hotels.

### **Health –seeking Practices:**

WIP were very less health conscious and the most common problem faced by them were related to the genital organs. The WIP use to take Penicillin and Rossilin tablets as or prophylactic measure against STD / HIV.

The study revealed that the general awareness regarding STD was high among the WIP, pimps and brokers and health seeking behaviour was also good among the pimps and brokers (83%) and WIP (75%). They preferred private hospitals for treatment of STD.

The general awareness regarding HIV / AIDS spread was very high and the mode of transmission as well as prevention was also very high. But still some misconceptions are found regarding the disease. They informed that use of condoms was basically to reduce the risk of HIV / AIDS but consistent use of condom was reported from those WIP who were from younger age and higher income group. Only 38% of the WIP reported consistent use of condom and only 14% of the WIP could successfully negotiate condom usage. Carrying and buying condoms were some of the problem because of which most of the WIP like to get it from NGOs or Government health clinics. While 75% of the pimps and brokers were willing to distribute condoms to both the WIP and customers.

These two case studies are concentrated in the high risk group people. These two case studies have been analyzed in comparison to each other to see the similarities and dissimilarities between the two as well as the lessons these case study provides us, can become the remedies for the government policies and programs.

**Similarities:**

- (a) In both the case studies the women's personal profile is almost same, i.e., their mean age is similar.
- (b) In both the case studies many are married and having children also.
- (c) Women are drawn to the prostitution because of poverty, or separation / divorce / desertion from the family and are destitute, in both the cases.
- (d) The monthly incomes of the sex workers are very less in comparison to the pimps and brokers.
- (e) Because of the introduction of Suppression of Immoral Traffic Act (SITA) in 1956 IN India (which made the business illegal). They are more exploited by the police.
- (f) They are known to the STDs apart from HIV / AIDS and are willing to use the condoms and many of them have started using it on a regular basis.
- (g) In both the cases, they want to educate their children more than themselves.

**Dissimilarities:**

- (a) In the Sonagachi sex workers project, CSW have a better condition because they have formed their own society to fight with the situation and made it a social movement but in Tamil Nadu, WIPs are not organized to fight with their situation.
- (b) Sonagachi project received more focus because of the involvement of international organisation; NACO and Ministry of Health of West Bengal and apart from these NGOs are also actively involved which is not yet seen in Tamil Nadu.
- (c) Sonagachi CSW are provided with the peer education to fight with HIV / AIDS and STDs and their children are also taught by the teachers, but peer education is not yet the part of life in Tamil Nadu WIP.
- (d) In strong organisation of Sonagachi area, the CSW are successful for negotiating for condoms with their clients (almost 90% use condoms now) but in absence of any such organisation Tamil Nadu WIPs are not able to do that.
- (e) Sonagachi CSW are provided with condoms from the NGOs and the Tamil Nadu WIPs gets it from government primary health centers. Though in both the cases condoms distribution is less than the demand. In Sonagachi area the constraints are less.
- (f) The Sonagachi CSW are fighting to make the sex trade legal to save themselves from the police but no such step have been taken from the Tamil Nadu WIPs.

### **Lessons Learnt from the two Case Studies**

There is a lack of political will and collaboration among different Government and Non-Government organizations to fight with the problems. Thus, the strong project like Sonagachi project could not be implemented in other part of the country. There is a financial constraint in providing proper medical facilities and free distribution of condoms. Even if the CSW want to use it, but they can not do that. The CSW preferred private clinics for the check ups and getting treated because the government health clinics though free, does not provide the services required by the people. Moreover there is lack of proper medicine or required equipment or machines. These all need to be checked. There is a need to check some of the aspects of suppression of immoral traffic act, which is making the policeman to behave harshly with the people. Like Sonagachi area there is no will or organisation of WIP of Tamil Nadu of there own thus they are exploited individually by the pimps, brokers and their clients. But this require the government intervention which can provide support or back up to the WIP of not only Tamil Nadu but other parts of India also for making their own strong organisation where they can fight for their condition. This is the way the CSW can be saved from the exploitation. Like Sonagachi area peer education should be provided to the sex workers of other parts of the country and their children should be provided with the proper education. Government can open new opportunities of employment in different parts of the country for the poor women so that they do not join the trade of sex in constraint of money. One of the obstacle for strong implementation of AIDS policy in India is the stigma attached to it and thus lack of free and open public discussion about it. It requires more awareness regarding AIDS and other STDs. In lack of money, even if CSW are aware of condom as a means to protect themselves from AIDS and other STDs they can't buy it. Thus government

should lower the price of these products. The free distribution and social marketing of condoms requires more attention. Though in a developing country like India where the sex trade is called as an immoral act, legalization of the trade attracts obstacles but still what government can do is to remove the stigma attach to it, thus severity of the problem can be reduced. But it requires mass movement and help and co-ordination from the NGOs. The project of Sonagachi is a very good example of the success of the story if different organisation join hands to remove the problem.

Now in the second part of the Chapter, some case studies are taken from the ILO report, which is not based on the high-risk group rather based on the general public and the problem being faced by them. These problems are influenced by their socio-economic condition. But the stigma and discrimination attached for HIV / AIDS makes the problem more severe.

#### **Case 1. Maharashtra:**

Ms. Urmila who is an educated woman from an upper class Maharastrian family was married to a mechanical engineer. Life was quite comfortable for her and well looked after from their in-laws. But every thing changed dramatically when she was diagnosed HIV positive during her fifth month of pregnancy. Soon after her husband too was tested positive for HIV, then a time of acute depression came in her life when they were not supported by the husband's family members. But both husband and wife supported each other. Due to lack of proper guidance by the doctors and lack of counseling, she delivered an HIV infected child. Soon after she lost her husband. Since she was given a lot of misleading information about how to combat HIV, she spent lots of money during her pregnancy. After the death of the husband, her in-laws who took away her and her son's properly right made him to sign the documents.

She was asked to leave the home. She went to her parent's home. Soon after she joined a NGO. Working in the field of HIV / AIDS and started working as a community health worker. Now she wants to reduce the stigma and discrimination associated with the illness and increase social acceptance. Her future concerns are:

- (1) worried about the future of her son
- (2) wants her property back
- (3) Concerned as to whether her son would get anti-retroviral drugs.

### **Case 2. Tamil Nadu:**

Ratna is a 30-year old woman, separated and living alone in Chennai. Her husband looks after their six-year-old daughter. She came to know of her HIV positive status while donating blood for an emergency case at the hospital where she worked as a Lab technician. Soon after her HIV status was revealed to her husband, family members and in the government organisation. She lost her job and faced severe negative reactions from the family members. She lost her house and got separated from the husband and daughter. Now she works as a counselor in the positive women network. Since she stays alone, her current income satisfies her basic needs. Additional expenditure on medicine, test etc, poses a burden and affects her physical and mental health.

Her future concerns are:

- 1) access to ART is the main concern



2) She longs to join her husband and daughter.

**Case 3. Manipur:**

Mr. Y is a second son of a retired Church worker in Churachandpur. He has three sisters and a brother. His brother a drug user, was married in 1989 and had three sons with his wife.

In 1996, Mr. Y's brother started falling sick frequently. He kept getting hospitalized but soon discharged by authorities when he showed no improvement. The doctors who attended his brother told the family members that he would not be able to treat him and they never mentioned the reason for his deteriorating health. This negligence by the medical team prevented the family from seeking further treatment. In 1997, Mr. Y's brother died and then he was forced by his parents to get married to his sister-in-law.

But just two years after his brother's death in 1999, the youngest son of his deceased brother started showing symptoms of AIDS and died. Then they realized that might be his brother died because of AIDS. But by that time Mr. Y had also got infected by the disease and it was only the mistakes of the doctors who did not inform them about the HIV status of Mr. Y's brother.

Meanwhile Mr. Y's wife delivered a daughter who was also tested positive. On 15 January 2002 Mr. Y's wife died leaving him with children.

Now Mr. Y who is managing the family alone finds it difficult as he also falls sick quite frequently. Lots of money of his income goes for the drug for HIV for himself and for

children, and he constantly borrows money. The local communities who are aware of his and his family's status avoid and isolate them in public places or in ceremonies. According to the community, the terrible things happening to Mr. Y's family was the sign of wrath of God.

On the other hand there are some people who have accepted HIV / AIDS status as a part of life and have come up with Mr. Y's family. But due to mass poverty and lack of resources in and around the town, they are unable to help him more. Especially as his family is not the only one facing this kind of crisis in Churachandpur as well as in the region. Meeting with other HIV positive people makes Mr. Y more positive to life as he has become a member of a positive network.

Now it's a challenge for him to carry out his duty as the only son of a family. But its hard for him to imagine what his family's situation will be when Mr. Y reaches the symptomatic stage.

These three case studies show the hard facts of discrimination, stigma and denial of acceptance by the people as well as from the doctors which makes the HIV / AIDS problem more severe.

Many women experienced DSD from their parents-in-law after the husband's death. A clear distinction was made between the son and daughter-in-law even when both shared the same status of HIV positive. **In Mumbai** many HIV positive women spoke about being denied medical treatment and a share in the husband's property, pension or insurance. Discrimination was also evident in the quality of food provided and in the attitude of family members. Widows are often blamed for the son's death and told to leave the family, some

were not welcome in their birth homes either. They then faced the prospect of being both HIV-positive and homeless.

**Case 4:**

Asma who is a 23-year-old widow lost her husband because of AIDS. Soon after she was also found her be infected. She provided all possible care to her husband. But she experienced AIDS related stigma in her home after her husband's death.

“My Mother-in-law has kept every thing separate for me – my glass, my plate, they never discriminated like this with their son. The used to eat together with him, for me, its don't do this, don't touch that and even if I use a bucket to bathe, they tell – “Wash it, wash it”. They really harass me. I wish no body comes to be in my situation and I wish nobody did this to anybody. But what can it do? My parents and brother also do not want me back.”<sup>33</sup> (As said by Asma)

She was forced to seek shelter with her sister, but here too she found fear and anxiety.

There are fearful responses from the Public hospitals. Senior gynecologist attached to both public and private hospitals reported that her colleagues from private hospitals routinely sent HIV- positive pregnant women to the public hospital because they would not undertake such deliveries at their own hospitals.

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<sup>33</sup> UNAIDS based practice collection, India : HIV and A'DS related Discrimination, Stigmatization and Denial.

There were some examples of discrimination included delays in surgical procedures, shunting patients between outpatient departments or public hospitals, isolating people in wards and refusing to perform pathological investigations.

“The pathology department does not accept positive people’s papers for various tests. They will not conduct the blood test until HIV test results are shown to them. I don’t know what this means and how it helps them to know the result of HIV test. But this happens, they will then ask the HIV patients to wait till all other patients have left. So the patients will be called in the morning but will be taken at last.”

- “Senior doctor in a public hospital.”

Among the health care professionals, it was the doctors and senior doctors who were felt to discriminate most against HIV-positive patients.

<sup>34</sup>“Discrimination is greatest among senior doctors. They don’t change their opinion even though they are well aware, ward boys can change after training is given but not the doctors.”

(Senior doctor from a private hospital, Mumbai).

In context of employment, the HIV / AIDS related stigma poses serious problems for the people living with HIV. Fear of social discrimination and isolation, lowered prestige and possible job loss are reasons for keeping their status secret. Business and industry by and large do not have AIDS policies and no special benefits offered to workers with HIV positive

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<sup>34</sup>UNAIDS based practice collection, India : HIV and AIDS related Discrimination, Stigmatization and Denial.

. As a result the respondents had to make up other excuses whenever they needed to take leave for medical treatment or because of opportunistic infections.

“No body will come near me, eat with me in the canteen. No body will want to work with me. I’ll be an outcast there.”

(HIV positive mass, aged 27).

People also reported that they are feared that if their HIV status would be revealed in work place people will discriminate with his and would become an “untouchable”.

### **Conclusion:**

By examining responses to HIV / AIDS in different cities and states, in India, in general population, we find lots of stigma and discrimination attached against different situations. There is a clear evidence that HIV / AIDS related DSDs are a gender phenomena in India. Issues such as inheritance, housing and care giving were found to be particularly fraught for women. Moreover women are often blamed for infecting their husbands and quality of care provided to them is significantly poorer than the care provided to the man. HIV positive people find problems in getting treatment from the medical professionals also. In some hospitals HIV positive people are provided with a particular colour health card so that they can be identified easily which degrade the human dignity and is an effective breach of

confidentiality. People are losing their job after disclosure of their HIV status and finding it difficult to survive and take medicines, which are very costly.

The case studies presented above clearly sites the problems related to the HIV positive people in India. These problems are very severe and many in number and it requires very strong and effective government policy and strong legislation. Since the problem has many tentacles many arms are required to curb the problems. In the succeeding chapter the government policies regarding HIV / AIDS made till now has been discussed which shows many limitations in the policy and attracts more research work.

# CHAPTER V

## **GOVERNMENT RESPONSE TO THE PROBLEMS OF HIV-AIDS AND THE ROLE OF NON GOVERNMENT ORGANISATIONS**

### **Introduction**

Soon after reporting of the first HIV/AIDS case in the country, the government recognized the seriousness of the problem and took a series of important measures to tackle the epidemic. A high powered National AIDS Committee was constituted in 1986 itself and a National AIDS control programme was launched a Year later. In the initial years the programme aimed towards generation of public awareness through mass communication programme, introduction of blood screening for transfusion purpose and conducting surveillance activities in the epicentre of the epidemic.

In 1992 the government formulated a multi sectoral strategy for the prevention and control of AIDS in India. It in implemented through the national AIDS control Organisation at the national level and state AIDS cells at the state/UT levels. The programme concentrated on the following areas which confirm to the global AIDS prevention and control strategy.:

- (i) Programme Management
- (ii) Surveillance and research
- (iii) Information, Education and communication including social mobilization through NGOs.
- (iv) Control of sexually transmitted diseases.
- (v) Condom programming
- (vi) Blood safety.

After 10 years of implementation of the government programme success has been achieved in important areas like generation of awareness regarding HIV/AIDS in the rural on well on urban areas. Awareness level has been increased substantially high in urban areas but in



rural areas it is relatively low. The Behavioural Surveillance Survey (BSS) carried out by Government of India in 2000-01 indicated the overall awareness about HIV/AIDS among people in reproductive age group (15-49 years) was 76.1%, males 82.4% and females 70%. In the urban areas 89.4% respondents had heard of HIV/AIDS against 77.3% in the rural areas. However the lowest awareness rate were recorded among rural women in Bihar (21.5%).

Some very successful intervention programme among the high risk groups like commercial sex workers in the Sonagachi area of Calcutta, men having sex with men in Chennai and injecting drug users in Manipur were carried out through the dedicated involvement of the Non-Governmental organisations, Emphasis has been laid on the control of STD, by strengthening STDs clinics at the district level by early diagnosis and proper management of STDs. Availability of good quality condom were made early through social marketing .

Several important actions have been taken to ensure blood safety by modernization and strengthening of blood banks, introduction of licensing system for blood banks and gradual phasing out of professional blood donors. Introduction of component separation facilities has also helped in proper clinical use of blood for transfusion. The percentage of infections occurring through blood transfusion has reduced from 8% in 1994 to 34% in 2001.

**Basic objectives of Govt. policy and targets to be achieved:**

The general objective of govt. policy is to prevent the epidemic from spreading further and to reduce the impact of the epidemic. The policy envisages effective containment of the infection level of HIV/AIDS in the general population in order to achieve zero level of new infections by 2007. The basic objectives of the policy are as follows:

- (i) Government firm commitment to prevent the spread for HIV infection and reduce personal and social impact.

- (ii) To create an enabling socio-economic environment for prevention of HIV/ AIDS to provide care and support to people living with HIV/ AIDS and to ensure protection/promotion of their human rights including right to access health care system, right to education, employment and privacy.
- (iii) To mobilize support of a large member of NGOs and Community Based Organisations (CBOS) for an enlarged community initiative for prevention and alleviation of the HIV/ AIDS problem.
- (iv) To decentralize HIV/AIDS control programme to the field level with adequate financial and administrative support.
- (v) To strengthen programme management capabilities at the state government, municipal corporation, panchayat institutions and leading NGOs participating in the programme.
- (vi) To integrate the HIV/AIDS control programme with other national health programs like Reproductive and Child Health, TB control, Integrated Child Development Scheme and with the Primary Health Care System.
- (vii) To reduce the spread of HIV/AIDS to the vulnerable group of the society by improving health education, Legal status and economic prospects.
- (viii) To provide adequate and equitable provisions of health care to the HIV – infected people and to draw attention to the compelling public health rationale for overcoming stigmatization, discrimination and seclusion in society.
- (ix) To constantly interact with international and bilateral agencies for support and cooperation in the field of research in vaccines, drugs, emerging system of health care and other financial and managerial inputs.
- (x) To ensure the availability of safe and adequate bloods and blood products for the general population through promotion of voluntary blood donation in the country.

- (xi) To promote better understanding of HIV infection among people, especially students, youths and other sexually active section to generate greater awareness about the nature of its transmission and to adopt safe prevention practices.

### **AIMS OF GOVERNMENTS NATIONAL AIDS CONTROL POLICY**

The principle aim of National AIDS control policy is to control and prevent the spread of AIDS with following strategy.

- (I) Prevention of the spread of the diseases by – (i) making the people aware of its implications and provide them with necessary tools for protective themselves. (ii) Controlling STDs among vulnerable section, together with promotion of condom is a preventive measure, (iii) Ensuring availability of safe Blood and blood products. (iv) To remove the discrimination and stigma attached to HIV/AIDS by educating people about the spread of AIDS.
- (II) To create an enabling socio - economic environment so that all section of population can protect themselves from the infection and families and communities can provide care and support to people living with HIV/AIDS.
- (III) Improving services for the care of people living with AIDS in times of sickness both in hospitals and at homes through community health care.

## **Role of Information, Education and Communication (IEC) in the prevention and control strategy of HIV/AIDS in India:**

Information, education and communication is a process that informs motives and help people to adopt and maintain healthy practices and life skills; it aims at empowering individuals and enabling them to make correct decisions about safe behavior practices. IEC also attempts to create the environment, which is conducive and supports access to treatment and services for those already infected.

The IEC strategy of the Government, which operationalized by NACO is at two levels.

- (i) At the national level, it focuses a political and media advocacy at field level it address issues such as creation of a supportive environment reduces social stigma and discrimination and promotion of utilization of services. NACO has set up an IEC division at head quarters comprising of a Joint director, Deputy director, Under secretary and national consultants. This division in responsible for developing the IEC policy, strategy and guidelines both at the national and state level. It in above responsible for monitoring and supervising the IEC activities under taken by the state AIDS control societies.
- (ii) At the state level the IEC activities have been decentralized keeping in mind the need to expand to local priorities and to facilitate or communicate in local languages. In order to create baseline data for the AIDS II project NACO has directed the state AIDS control societies to conduct a communication needs assessment in every state on the basis of which a state level IEC plan will be developed.

### **The objectives of the IEC strategy in the national AIDS control programme are:**

- To raise awareness, improve knowledge and understanding among the general population about AIDS infection and STD, routes of transmission and method of prevention.

- To promote desirable practices such as avoiding multi partner sex, condom use, sterilization of needles/syringes and voluntary donation of blood.
- To mobilize all sections of society to integrate message and programs on AIDS into their existing activities.
- To train health workers in AIDS communication and coping strategies for strengthening technical and managerial capabilities.
- To create a supportive environment for the care and rehabilitation of persons with HIV/ AIDS

The IEC strategic plan for AIDS prevention and control programme in India includes, a variety of communication strategies for raising awareness, behavioral changes and social mobilization. The IEC strategic plan has the following components.

- Use of mass media
- Advocacy at various level
- Inter sectoral collaboration
- Training
- Involvement of NGOs
- Research

NACO has been Utilizing and sponsoring various medium and small programmes for creating awareness among the people regarding HIV/ AIDS, some of these are as follows:-

**Electronic Media:** NACO is utilising the massive outreach of Doordarshan and private satellite channel for telecast of messages on HIV/AIDS prevention and control during prime time. These includes messages on sexually transmitted diseases, blood safety and voluntary blood donation.

**Spirit of Unity Concert:** NACO has sponsored a classical music programme “Spirit of Unity concerts” to mainstream the issue of HIV/AIDS and to reach out to the cultural elite and other educated classes through this programme.

**All India Radio:** A special programme in drama mode has been devised for rural and migrant youth. The programme, which is, titled “Jiyo Aur Jeene Do” is being broadcast on 30 commercial broadcasting stations of AIR since June 1998.

**AIR-FM:** NACO is using the popular FM and education in reaching out to the urban youth. The one-hour programme, which is titled “NACO Film title Parade” is broadcast on AIR-FM channel in Delhi.

Apart from these, national AIDS Telephone Help-line, School AIDS education programme, print media etc. are there which are playing a very crucial role in information, education and communication of AIDS among the masses.

**Control of Sexually Transmitted Diseases (STDs) and Use of Condom as an HIV/AIDS prevention Measure**

The large prevalence of STDs in Indian population is cause for concern as presence of STDs, especially with ulcer or discharge, facilitates transmission of HIV infections. The risk of transmission is 8 to 10 times higher in case of persons with STDs as compared with others, therefore government attaches to priority to the prevention and control of STDs as a strategy for controlling the spread of HIV/AIDS in the country.

**The STD control programme of government has two major objectives:**

1. Reduce STD cases and thereby control HIV transmission by minimizing the risk factor
2. Prevent the short term as well as long term morbidity and mortality due to STD.

**For achieving the aforesaid objectives following approach has been developed by the Government:**

- (1) Management of STDs through syndrome approach (management of sexually transmitted diseases based on specific symptoms and signs and not dependent on laboratory investigations) would be incorporated into the general health service.
- (2) STD among women though highly prevalent is suppressed because of the social stigma attached to the disease. Thus government has decided to integrate the services for treatment of Reproductive Tract Infections (RTIs) and sexually transmitted diseases (STDs) at all level of healthcare. STDs clinics at district/block/first referral units (FRU) level would function as referral centres for treatment of STDs referred from peripheries. A massive training programme would be undertaken to train all the medical and paramedical workers engaged in providing STDs/RTIs services through syndromic engaged in providing STDs/RTIs services through a syndromic approach. All STDs clinic will also provide counseling services and good quality condoms to the STDs patients services of NGOs would be channeled for providing such counseling services at the STDs clinics.

#### **Use of condoms as an HIV/AIDS preventive measure**

Use of condoms now consumes special significance in the AIDS related scenario. It is the only effective method of prevention of HIV/AIDS through the sexual route apart from total abstinence. The objective of condom programme of government is to ensure easy access to good quality, affordable and acceptable condoms to promote safe sexual practices. Emphasis of this activity of government programme by NACO has led to:

1. Improved quality control of condoms
2. Introduction of social marketing of condoms
3. Involvement of NGOs in the programme

### Free supply distribution of condoms

This scheme is being done through the network of health infrastructure and functionaries working in hospitals/clinics/PCHs/ CHCs etc.

**Social marketing strategy** of government has helped in increasing the use of condoms in very large country. The department of family welfare has identified private marketing companies for the promotion of condoms under the scheme of social marketing. The government provides condoms at highly subsidized price to the marketing companies and they in turn, distribute it total states UTS through their marketing network.

The following data shows distribution of condoms free of cost and through social marketing.

Table: 5.1

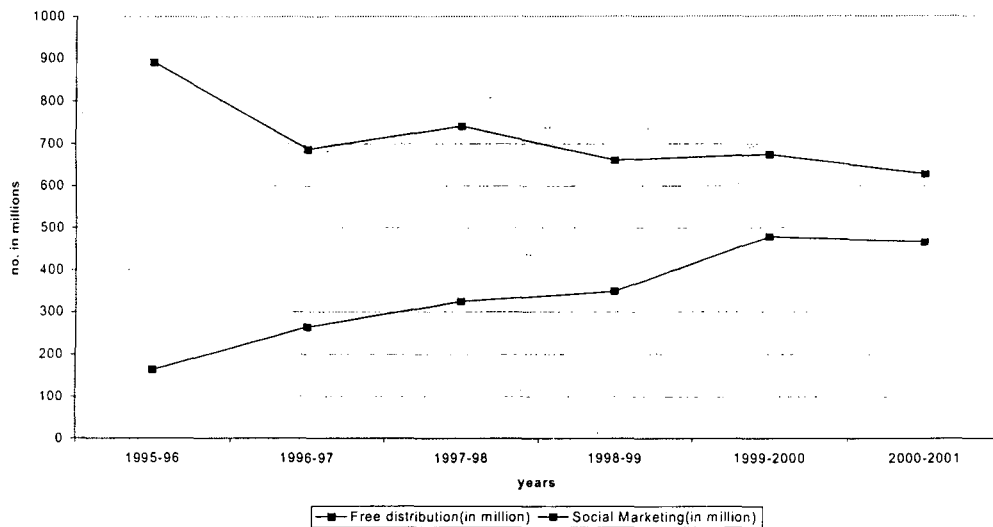
Year	Free distribution (in million)	Social marketing (in million)
1995-96	891.22	162.92
1996-97	685.85	263.25
1997-98	741.70	324.42
1998-99	660.76	348.74
1999-2000	674.36	477.74
2000-2001	627.42	465.43

Source: Department of family welfare Govt. of India



Fig 5.1

**Distribution of condom free of cost  
and through Social marketing**



## HIV TESTING

Govt. of India has earlier issued a comprehensive HIV testing policy and the following issues were reiterated here:

1. No Individual should be made to undergo a mandatory testing for HIV.
2. No Mandatory HIV testing should be imposed as a precondition for employment or for providing health care facilities during employment expect in case of armed forces.
3. Adequate voluntary testing facilities should be there with at least one HIV testing centre in each district in the country with proper counseling facilities.

4. HIV status of the person should be kept strictly confidential.

The HIV testing policy adopted is found to be appropriate for different types of testing done under the programme. At present people are tested for:

- (a) Screening in Blood Banks
- (b) Epidemiological surveys
- (c) Confirmatory testing for clinical management and voluntary testing.

In the case of screening for blood donation. A single test of ERS (ELISA/Rapid/Simple) is conducted to eliminate HIV sero reactive blood.

**Family Health Awareness Campaign:** This is an effort to address the key issues related to reproductive health in the country, especially in rural and marginalized population. Four rounds of family health awareness campaigns have been conducted through out the country from 1999 to 2001. The last round of family health awareness campaign was conducted during the period April – June 2001. The period of campaign was 15 days and was decided by the states as per their conveniences. The objective of the campaign were:

1. To raise the awareness levels regarding HIV/AIDS in rural and slum areas and to the vulnerable groups.
2. To make people aware of the services available under the public sector for management of RTI/STD.
3. To facilitate early detection and prompt treatment of RTI/STD cases.

4. To strengthen the capacity of medical and paramedical professionals working under health care system to respond for HIV/AIDS epidemic adequately.

**The performance of the campaign is as below:**

Table:5.2

Target population (15-49 years) Attached Camps (in Lakh)	Male	288.94
	Female	427.75
<b>Total</b>		<b>716.70</b>
No. of cases refused to PHCs for treatment of RTI/STD in Lakh	Male	15.24 (5.28%)
	Female	32.79 (7.67%)
<b>Total</b>		<b>48.03 (6.62%)</b>
<b>No of cases treated</b>	Male	54.46 (35.82%)
	Female	24.58 (74.98%)
	<b>Total</b>	<b>30.05(63.32%)</b>

Source: National AIDS prevention and control policy, NACO 2001

### **Prevention of Mother to Child Transmission of HIV**

The transmission efficiency of Mother to child transmission of HIV infection ranges from 13-60%. In India study on prevention of Mother to child transmission was initiated in all centres from January 2000. The enrollment of patients was initiated from March 2000. The objective was primarily to assess the feasibility of administration of AZT to prevent mother to child transmission of HIV in pregnant mother. After 12 weeks of gestation, the mothers are given vitamin A 25000 IU weekly till delivery from 36 weeks to gestation. AZT 300 mg orally twice a day is administered. During Labour AZT 300 mg orally is given every 3 hours. However, no anti retro viral drug is given to the infant. A PCR test is done at 24 hrs and as 2 months of age per the determination of the HIV status of the infant. The option of breast-feeding is left total mother to decide after counseling on the risks and benefits of various option of infant feeding practices.

**The achievements under the project till March 31, 2001 are as follows:**

Table: 5.3

Total antenatal clinic attends	1,52,376
No. of Mothers counselled	1,20,363 (79%)
No of mothers accepted HIV test	92,838 (77.1%)
No. of mothers detected HIV positive	1704 (1.8%)
No. of mothers delivered with AZT	640

Source: National AIDS prevention and control policy, NACO 2001

Nevirapine is given to the mother during the first stage of labour to reduce the probability of Mother to child transmission of HIV.

Care and Support for People living with HIV/AIDS through training to doctor, and voluntary counseling and Testing of Patients

HIV voluntary counseling and testing (VCT) has been shown to play an important role in both HIV prevention and care as entry point. It provides people with an opportunity to learn and accept their HIV sero-status in a confidential enabling environment.

- The potential benefits of VCT are better ability to cope with HIV related anxiety
- Motivation to initiate or maintain safer sexual practices.
- Motivation to change drug related behaviour
- Prevention of HIV related illness
- Improved Health status through good nutritional advice
- Emotional support
- Awareness about safer options for reproduction and infant feeding
- Safer blood donations

Currently, there are 142 voluntary counseling and testing centres located in the microbiology departments. Majority of the VCTCs are located in the medical colleges and tertiary care hospitals. The expansion of this programmatic component in the next couple of years will ensure establishment of one VCTC in each district hospital in the high HIV prevalence states. As an entry point to care and support services for HIV/AIDS, the VCTCs are well equipped with diagnostic facilities for HIV infection and provide counseling services through trained counselors.

#### **Policy Regarding Anti-retroviral therapy:**

Anti-retroviral drugs are agents that inhibit the replication of HIV in an infected person. These act on the various stages of life cycle of the virus. At present, there are 8 such anti-retroviral which are available in the country. NACO is making all efforts to exempt customs and excise duty on all anti-retroviral drugs available in India in order to reduce their prices. The anti-retroviral therapy for treatment of AIDS patients is not provided under the national programme. However, in the training programmes for doctors the rationale use of anti-retroviral therapy is emphasized. This drug provided under the programme in cases of post-exposure prophylaxis of healthcare providers and feasibility study projects on prevention of mother to child transmission.

#### **Government policy regarding surveillance system:**

The surveillance system would include:

- (a) HIV sentinel surveillance: The government would enlarge and define the present surveillance system for obtaining data on HIV infections in high risk as well as low risk

groups of population in rural and urban areas for monitoring the trends of the epidemic. An in-built quality control mechanism will be evolved and adopted in order to have reliable and good quality data.

- (b) AIDS case surveillance: To assess the incidence of AIDS cases in the country, information will be collected from all hospitals having trained physicians with standard AIDS case definition in Indian context. Efforts will be made to evolve a proper reporting system so that most of the AIDS cases are reported from public and private institutions and health care providers.
- (c) STD Surveillance: Government would establish etiological based surveillance system through all STDs clinic while syndromic-based surveillance system will be established through peripheral health institutions in a phased manner.
- (d) Behavioral surveillance: To assess the changing pattern of behaviour in different risk groups of population behavioural sentinel surveillance will be instituted initially on pilot basis which will be expanded as per the need of the programme from time to time.

### **Safety of Blood and Blood products**

To minimize the risk of transmission of HIV infection through blood and blood products, government has taken a series of measures:

- (1) The drug and cosmetics rules provide mandatory testing of blood for HIV in addition to other blood transmissible diseases.
- (2) Under supreme court directives licensing of blood banks is mandatory

- (3) The system of collection of blood from paid donors has been phased out completely. To ensure availability of blood government has undertaken large scale mobilisation efforts to increase voluntary blood donations.
- (4) Government would ensure establishment of adequate blood banking services at state/district levels including provision of trained manpower.
- (5) To ensure proper clinical use of blood, more blood component separation facilities would be established in the country.

#### **Government and Tenth Plan\* Goals for HIV/AIDS Programme**

The steering committee recommended the following goals:

- 80% coverage of high risk group through targeted interventions
- 90% coverage of schools and colleagues through education programme.
- 80% awareness among the general population in rural areas
- Reducing transmission through blood to less than 1 percent.
- Establishing at least one voluntary testing and counseling center in every district
- Scaling up of prevention of mother to child transmission activities upto the district level
- Achieving zero level increase of HIV/AIDS prevalence by 2007.

### **Participation of NGOs/CBOs**

Non-governmental organisations have made significant contribution in the health sector by their innovative approach in the areas of public health, family welfare and in arresting the spread of communicable diseases. Thus its essential to encourage their involvement in the sector of HIV/AIDS, the NACO has recognised the importance of NGOs participation in the programmes for providing community support to people living with HIV/AIDS and their families and for providing the required care and counseling, NGOs bring with them their experience of community level work in enhancing peoples participation by adopting an interpersonal approach with sensitivity and thus benefit the HIV/AIDS programme immensely.

Government commits itself to large-scale involvement and participation of NGOs/CBOs in NACP in the following manner:

1. Involvement of NGOs at policymaking level and regular interaction and adequate representation in national and state level bodies.
2. Extending their participation to new areas like provision of medical facilities including home based care, opening of community care centres, etc apart from the conventional areas of awareness, counseling and targeted interventions among risk groups.
3. Greater efforts to undertake training and capacity building programmes for the NGOs to facilitate greater participation of NGOs and for better accountability.

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\* The Planning Commission steering Committee on Health for the Tenth Plan (2002-2007) states that “the prevalence of HIV infection in India is relatively low” and some of the projections made by NACO suggest that HIV infection in India may research the plateau by 2012.”



Encourage networking among NGOs to avoid duplication of efforts in some of the areas. Efforts will be made to identify nodal NGOs in different states for coordinating the work of all the NGOs. State government also need to address the problem of motivation among government officials towards involvement of NGOs in the programme.

**Implementation Strategy:**

The success of any implementation strategy for the prevention and control of HIV/AIDS would depend largely on the commitment of the political, administrative and community leaders and their sensitization on the potential risks and consequences of a widespread HIV/AIDS epidemic in the country. HIV/AIDS therefore should not be treated as a mere public health programme alone but must be viewed as a developmental issue to which a multisectoral response should be evolved.

- (1) Because of the behavioral nature and strong socio-economic implications, the disease requires to be treated as a developmental issue which impinges on various economic and social sectors of governmental and non-governmental activity.
- (2) As economically productive sections of the population are the most susceptible to the disease, participation of Ministries like railways surface transport, heavy industry, steel, coal, youth affairs and sports and other public sector undertakings employing large workforce require to be actively involved in the programme.
- (3) Organised and unorganised sector of industry needs to be mobilised for taking care of the health of the productive sections of their work force. Ministries like social justice and empowerment, women and child welfare, human resources development, etc.

should devise and own up the HIV/AIDS control programmes with in-their own sectoral jurisdiction.

- (4) There should be strong budgetary and managerial support to these sectoral programmes from within these ministries.
- (5) The state government at their levels should develop strong ownership of the HIV/AIDS prevention and control programme. As the prevalence of the disease and its implications vary from state to state, the state governments should devise their own strategies and action programmes for tackling the disease keeping the national objectives in view.
- (6) As high prevalence of the disease is directly related to the degree of urbanization and consequent high risk behaviour among groups like commercial sex workers, drug users, and men having sex with men, the municipal corporations of large metropolitan cities should be encouraged to draw up their own programme strategy for AIDS prevention and control.
- (7) As HIV/AIDS is relatively new to the country, there has been no effective field organisation at the district or sub-district level. Health societies play an active role in implementing programmes for TB, Leprosy and receive funds for that. District level HIV/AIDS prevention programme should be integrated with other health programmes. This will not only help in quick channelisation of funds but also bring in participation of elected representatives of people from the three-tier panchayati raj system and urban municipalities.

- (8) There is still serious information gap about the causes of spread of the disease even among a large number of medical and paramedical personnel both with government and outside which causes the serious problem of discrimination, thus there is a strong need for advocacy at all levels to eliminate such discrimination and hostility against HIV/AIDS infected people.
- (9) In educational institutions AIDS education should be imparted through curricular and extra-curricular approach. These programmes should have a universal applicability throughout the country in order to mobilise large sections of the student's community to bring in awareness among themselves and as peer educators to the rest of the community.
- (10) Non-student youth should also be addressed through the large network of youth organisations, sports clubs etc.
- (11) The corporate sector should be encouraged to under take AIDS prevention activities including provision of services for their employees both at the workplace and outside as a part of their social responsibilities.
- (12) The HIV-positive person should be guaranteed equal rights to education and employment as other members of the society. HIV status of a person should be kept confidential and should not anyway affect his/her position at the workplace, marital relationship and other fundamental rights.

- (13) HIV-positive women should have complete choice in making decisions regarding pregnancy and childbirth. These should not be terrible abortion or even sterilization on the ground of HIV status of women.
- (14) The research and development (R&D) efforts in the field of HIV/AIDS have hitherto been very limited in the country. Thus government should go for collaborative research with scientific groups in developed countries for development of vaccines suitable for this.
- (15) Anti-retroviral drugs are not only extremely expensive but has adverse side effects also. Thus there is a great need to indigenise the technology for manufacture of these drugs, thus can be provided to the people at low price.
- (16) There is an urgent need to look for cost-effective alternatives to anti-retroviral drugs in the indigenous system of medicine like Ayurved and Yunani apart from Homoeopathy medicines.

**Conclusion:** Just as the HIV infection is transcending the boundaries of high risk groups and spreading into the general populace, prevention and care programmes have also reached a critical phase. Government of India is fully committed to prevent the spread of HIV/AIDS at the initial stage itself before it emerges into a catastrophic epidemic. Government looks at HIV/AIDS prevention and control as a developmental issue with deep socio-economic implications which touches all the sections of the society irrespective of their social status. By following the concerted plan and policy government hopes to control the epidemic and slow down its spread in the general population with in the shortest

possible time. All other non-governmental sector and international and bilateral agencies would need to adopt policies and programmes in conformity with this national policy in their effort to prevent and control HIV/AIDS in India.

# CHAPTER VI

## CONCLUSION

The acquired immune deficiency syndrome, or AIDS as it is better known, is already being called "the black death of our time". AIDS Virus which was firstly found in 1986 in a commercial sex worker in Chennai, has now spread to almost in every part of the country. There are six states in India, namely, Tamil Nadu, Maharashtra, Andhra Pradesh, Karnataka, Manipur and Nagaland which are called hard hit states, the infection rate has gone above one percent. (according to 2001 NACO report). Three states i.e. Maharashtra, Tamil Nadu and Manipur account for 75% of the country's estimated HIV cases. According to the 2002 NACO report states like Tamil Nadu, Maharashtra and Andhra Pradesh have registered HIV prevalence rates of over 10% among STD patients.

In India although HIV prevalence rate is low (0.7%), according to the estimates of UNAIDS the overall number of people with HIV infection is high. Keeping in mind India's large population even a mere 0.1% increase in the prevalence rate would increase the number of adults living with HIV/AIDS by over half a million people.

HIV/AIDS which was earlier thought to be concentrated in the high risk group of people (CSW, MSM, IDUs Truck drivers), has now migrated to the general population by the bridge group of population.

This bridge group of population are those people who are mobile in nature (Truck drivers, transport workers, Business man, Marketing professionals or the migratory unskilled labourers) keep on moving from one place to another. Since they are away from the family (wife) for a long time, they try to satisfy their desire of sex by joining to a commercial sex workers. When these people go back home they used to spread the virus to their wives and thereby their child even without knowing about it. This HIV/AIDS also spread because of unsafe sex by the MSM or the transgenders.

The problem of HIV/AIDS in India become more dangerous because of lots of discrimination, stigma attached to it. AIDS patients are denied by the people as well as by the health personnel. People have general misconception in mind that those who are suffering with HIV/AIDS are the sinners and their suffering is only because of the wrath of God.

Government and Non government organizations are trying to remove, the discrimination and stigma attached to the disease by providing people with pamphlets. Government uses media (electronic media and paper media) to increase the level of awareness regarding the spread of AIDS and the precaution measures to be adopted to protect oneself from the virus. But in spite of all its efforts even after 17 years of the coming of the diseases a large majority of people are unaware of it. This low awareness level is basically more prevalent in the females and in the rural masses which is less exposed to media.



Patriarchal nature of the Indian society provides less right to the women and makes the problem of HIV totally a gendered phenomena. The Indian society which does not allow a call for open discussion on sex and related problem provides a safe passage to spread of the virus.

Though the factors, which are responsible for the spread of disease is still a controversial subject. We can say that it is the mobility or migration of the people which are transferring to disease from the high risk groups to the general population. The hard hit states of India are also highly developed states where the poverty level is low and literacy level is very high. These states are industrially also developed thus by looking at the migration pattern of these states, the cause of fast spread of the virus can be known but in lack of 2001 census data on migration, this comparison could not be done.

The spread of virus in the north-eastern states of India has a different cause. Here the large concentration of HIV/AIDS are among the intravenous drug users.

Evidences say that the drug smuggling have considerably increased in the north eastern state since the opening of the India-Myanmar border trade in 1995. In the seven states Manipur is the worst affected with injectable drug from Myanmar flowing through the porous 300 km border. In Manipur 50% of injecting drug users have acquired virus, with one in every five young

Manipuri is hooked to heroin and proven to the HIV/AIDS virus, by sharing the needles among the drug users. Imphal, the state capital is becoming the AIDS capital of the world. The other two states which also share its border with Myanmar (Mizoram and Nagaland) have also been badly engulfed in the disease.

In India the battle to fight with HIV/AIDS was started in late 1980s only. But the projects which were taken on a large scale (with the help of voluntary organization and international groups) were largely confined to the high-risk group. Very little was done for the general group of population which were through to be safe from the disease.

Later when the problem was realized it was too late when the deadly disease had engulfed a large chunk of our general population. Government then started media campaign regarding the spread of virus and precaution which can be taken in order to keep one self away from the disease.

This problem with government related HIV/AIDS programme is that it is not yet the part of main stream social process. The main factors inhibiting this have been the resilient socio-cultural norms and stereo type thinking of the people. These are further combined with organizational inefficiencies and weakness and the lack of political will, particularly at the level of the states, to undertake major public projects and educational reforms. Government Should make several employment programs and provide people living with

poverty to join it so that people (mainly females) are not forced to join to sex trade in lack of money to slow down the spread inspite of several fostering factors like, open political system, an active judiciary, the role of international funding and scientific collaboration.

In India we still do not have methodology to formulate messages that can be correctly interpreted by the ordinary people so that they can protect themselves. Underlying this, we have patriarchal structure and gender relations that are the most enduring obstacles. The policy regarding HIV/AIDS should be integrated with the general health programs. Government should make collaboration with their non-government partners who are able to take the problems in a more effective manner. Celebrities should be coming in the forefront to convey the messages to the common mass. The process of counseling and education regarding AIDS should be the part of general health programs of government. Indeed, HIV/AIDS problem has been a very serious health problem ever heard, in absence of any medicine. Its prevalence rate can be reduced in future if all mechanism working in an integrated manner, if could not be stopped completely.

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# APPENDICES

## APPENDIX: 0

NACP-II sample survey took few states single but few were combined the following list shows the states combined together:

- Bihar + Jharkhand
- Goa + Daman + Diu
- Gujarat + Dadar + Nagar Haveli
- Jammu and Kashmir(only Jammu region covered)
- Kerala + Lakshdweep
- Madhya Pradesh + Chattisgarh
- Other north-eastern states(Arunachal Pradesh + Nagaland + Meghalaya + Mizoram + Tripura)
- Punjab + Chandigarh
- Tamil Nadu + Pondicherry
- Uttar Pradesh + Uttaranchal
- West Bengal + Andman and Nicobar Island

**APPENDIX I**

**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE PREVENTED THROUGH SEXUAL ABSTINENCE**

*(All figures are in percentage)*

No.	State Sampling Units	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	88.5	85.5	87.0	88.5	88.4	88.5	88.5	87.7	88.1
2	Assam	89.8	81.4	85.6	68.4	52.6	60.5	70.8	55.8	63.3
3	Bihar	81.5	61.0	71.3	44.8	20.2	32.5	49.6	25.5	37.6
4	Delhi	88.2	81.6	84.8	87.3	72.8	79.8	88.1	80.7	84.3
5	Goa+	98.5	92.3	95.4	93.8	84.8	89.3	95.7	87.9	91.8
6	Gujarat+	79.9	52.4	66.2	60.4	21.2	40.6	67.1	31.9	49.4
7	Haryana	89.7	80.1	84.9	80.3	57.8	69.1	82.6	63.3	73.0
8	Himachal Pradesh	95.7	94.2	94.9	86.4	85.2	85.8	87.2	85.9	86.6
9	Jammu and Kashmir	97.9	91.0	94.5	81.2	66.5	73.8	85.2	72.3	78.7
10	Karnataka	89.8	82.1	86.0	79.2	70.9	75.0	82.5	74.3	78.4
11	Kerala+	94.2	93.4	93.7	95.0	95.5	95.3	94.8	94.9	94.8
12	Madhya Pradesh	87.6	71.1	79.4	56.6	29.7	43.1	63.9	39.2	51.5
13	Maharashtra	91.8	84.7	88.3	77.7	64.9	71.3	83.2	72.5	77.9
14	Manipur	96.3	95.5	95.9	90.2	81.3	85.8	91.9	85.2	88.5
15	Orissa	88.8	78.2	83.5	70.6	51.6	61.1	73.0	55.1	64.1
16	Other North East States	90.8	81.8	86.3	71.8	59.1	65.4	75.4	63.4	69.4
17	Punjab+	95.0	87.9	91.5	92.0	82.6	87.3	92.9	84.2	88.6
18	Rajasthan	83.2	70.4	76.6	63.2	39.8	51.3	67.7	46.9	57.1
19	Sikkim	90.8	87.5	89.2	68.1	64.1	66.1	70.2	66.2	68.2
20	Tamil Nadu+	79.9	87.2	83.6	75.8	74.5	75.2	77.2	78.9	78.1
21	Uttar Pradesh	74.9	60.5	67.5	59.1	24.0	41.3	62.3	31.3	46.5
22	West Bengal+	80.8	68.4	74.6	49.9	29.0	39.4	58.4	39.8	49.1
<b>MEAN</b>		<b>88.8</b>	<b>80.4</b>	<b>84.6</b>	<b>74.6</b>	<b>59.8</b>	<b>67.2</b>	<b>77.6</b>	<b>64.7</b>	<b>71.1</b>

base : All Respondents

\* weighted figures

**APPENDIX II**

**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE PREVENTED  
BY HAVING ONE FAITHFUL UNINFECTED SEX PARTNER**

*(All figures are in percentage)*

No.	State	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	71.9	63.0	67.5	65.3	70.6	67.9	67.0	68.6	67.8
2	Assam	35.1	23.8	29.4	24.9	14.4	19.6	26.0	15.4	20.7
3	Bihar	65.8	50.9	58.3	36.7	15.2	26.0	40.6	19.9	30.2
4	Delhi	84.3	76.0	80.0	77.4	67.2	72.2	83.6	75.1	79.3
5	Goa+	83.9	66.7	75.3	76.5	70.3	73.4	79.6	68.8	74.2
6	Gujarat+	82.0	49.0	65.5	62.4	20.9	41.4	69.2	30.5	49.7
7	Haryana	81.3	76.7	79.0	75.1	55.9	65.5	76.6	61.0	68.9
8	Himachal Pradesh	86.0	87.8	86.9	77.5	73.7	75.6	78.2	74.9	76.5
9	Jammu and Kashmir	85.0	89.9	87.4	78.3	61.8	70.0	79.9	68.4	74.1
10	Karnataka	73.1	72.1	72.6	64.5	62.2	63.3	67.2	65.3	66.2
11	Kerala+	72.3	82.8	78.7	69.0	83.0	77.1	69.9	82.9	77.5
12	Madhya Pradesh	67.0	67.2	67.1	42.2	25.8	34.0	48.0	35.3	41.6
13	Maharashtra	59.3	66.7	63.0	59.1	57.1	58.1	59.2	60.0	60.0
14	Manipur	82.3	84.3	83.3	70.6	63.1	66.9	73.8	68.9	71.4
15	Orissa	65.6	39.7	52.6	47.2	24.7	35.9	49.6	26.7	38.2
16	Other North East States	57.5	48.1	52.8	42.9	34.1	38.5	45.7	36.7	41.2
17	Punjab+	87.2	77.0	82.1	84.7	68.3	76.5	85.5	71.0	78.3
18	Rajasthan	74.9	56.8	65.5	56.5	30.9	43.5	60.7	36.9	48.5
19	Sikkim	73.2	64.0	68.6	50.6	42.8	47.2	52.7	45.6	49.1
20	Tamil Nadu+	79.4	77.2	78.3	72.8	62.1	67.5	75.1	67.4	71.2
21	Uttar Pradesh	66.0	54.0	59.8	47.7	20.8	34.1	51.3	27.4	39.1
22	West Bengal+	48.8	48.8	48.8	30.0	18.9	24.4	35.2	27.1	31.1
	<b>MEAN</b>	<b>71.9</b>	<b>64.7</b>	<b>68.3</b>	<b>59.6</b>	<b>47.4</b>	<b>53.6</b>	<b>62.5</b>	<b>51.5</b>	<b>57.0</b>

base : All Respondents

\* weighted figures

**APPENDIX III**

**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE PREVENTED THROUGH CONSISTENT CONDOM USE**

*(All figures are in percentage)*

No.	State Sampling Units	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	76.4	60.1	68.3	62.3	56.0	59.2	66.0	57.1	61.5
2	Assam	80.5	61.9	71.2	56.9	36.5	46.7	59.5	39.3	49.4
3	Bihar	69.3	47.1	58.2	38.0	12.4	25.2	42.1	16.9	29.5
4	Delhi	83.0	74.6	78.7	82.6	63.0	72.5	83.0	73.4	78.1
5	Goa+	95.0	72.2	83.6	89.3	63.3	76.3	91.7	67.0	79.3
6	Gujarat+	83.2	36.3	59.7	63.0	13.4	37.9	70.0	21.2	45.4
7	Haryana	88.6	70.8	79.7	75.6	49.1	62.4	78.8	54.4	66.7
8	Himachal Pradesh	92.3	87.8	90.1	84.4	75.7	80.1	85.1	76.7	80.9
9	Jammu and Kashmir	92.2	80.5	86.4	76.7	42.1	59.4	80.4	51.2	65.8
10	Karnataka	82.0	49.4	65.8	68.1	37.8	53.0	72.4	41.3	56.9
11	Kerala+	81.6	73.9	76.9	82.8	72.2	76.7	82.5	72.7	76.8
12	Madhya Pradesh	87.8	64.1	76.1	56.3	27.4	41.8	63.7	35.8	49.7
13	Maharashtra	88.7	65.0	76.9	66.8	32.5	49.7	75.3	45.1	60.2
14	Manipur	95.0	87.8	91.4	81.0	56.8	69.0	84.8	65.3	75.1
15	Orissa	71.0	40.2	55.6	47.5	20.7	34.1	50.6	23.3	37.0
16	Other North East States	79.5	61.8	70.6	57.6	41.5	49.5	61.8	45.3	53.5
17	Punjab+	92.5	77.0	84.8	89.0	73.3	81.1	90.1	74.5	82.3
18	Rajasthan	83.7	64.1	76.6	59.9	33.4	46.4	65.3	40.5	52.6
19	Sikkim	88.4	82.6	85.5	64.4	54.3	59.3	66.6	56.9	61.7
20	Tamil Nadu+	77.0	55.7	66.3	70.2	41.1	55.7	72.5	46.2	59.4
21	Uttar Pradesh	71.0	52.0	61.3	55.5	23.8	39.4	58.5	29.4	43.7
22	West Bengal+	60.8	38.8	49.8	34.0	14.0	24.0	41.3	20.8	31.1
	<b>MEAN</b>	<b>82.7</b>	<b>63.8</b>	<b>73.3</b>	<b>66.5</b>	<b>42.7</b>	<b>54.5</b>	<b>70.1</b>	<b>47.9</b>	<b>58.9</b>

base : All Respondents  
\* weighted figures

**APPENDIX IV**

**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE TRANSMITTED THROUGH BREAST FEEDING**

No.	State Sampling Units	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	68.0	76.1	72.0	58.8	74.0	66.4	61.2	74.6	67.9
2	Assam	66.6	74.8	70.7	53.2	49.6	51.4	54.7	52.4	53.5
3	Bihar	50.7	50.9	50.8	34.6	19.4	26.9	36.7	23.5	30.1
4	Delhi	50.6	37.0	43.7	51.4	53.1	52.3	50.7	38.6	44.5
5	Goa+	79.3	75.9	77.6	71.1	73.4	72.2	74.5	74.4	74.5
6	Gujarat+	60.9	43.0	52.0	49.5	18.6	33.9	53.5	26.9	40.1
7	Haryana	54.6	51.7	53.2	54.9	39.5	47.2	54.8	42.5	48.7
8	Himachal Pradesh	66.3	83.6	74.9	62.3	62.6	62.5	62.7	64.4	63.5
9	Jammu and Kashmir	68.4	73.7	71.0	64.7	61.1	62.9	65.6	64.1	64.8
10	Karnataka	65.3	71.2	68.2	66.3	64.7	65.5	66.0	66.7	66.3
11	Kerala+	62.4	78.0	71.9	66.3	82.8	75.8	65.3	81.5	74.8
12	Madhya Pradesh	60.1	59.7	49.9	44.4	25.6	34.8	47.8	33.4	40.6
13	Maharashtra	63.5	57.1	60.3	61.7	56.8	59.3	62.4	56.9	59.7
14	Manipur	81.5	85.8	83.7	64.6	71.0	67.8	69.2	75.1	72.2
15	Orissa	53.3	62.1	57.7	48.7	44.4	46.6	49.4	46.7	48.0
16	Other North East States	78.0	70.5	74.3	62.2	55.1	58.6	65.2	58.0	61.6
17	Punjab+	62.4	56.5	59.4	62.2	50.5	56.4	62.2	52.4	57.3
18	Rajasthan	59.3	58.1	58.7	48.6	34.7	41.5	51.0	40.1	45.5
19	Sikkim	48.5	46.6	49.7	38.3	36.6	37.4	39.3	37.5	38.4
20	Tamil Nadu+	68.9	79.9	74.4	70.2	72.8	71.5	69.8	75.3	72.5
21	Uttar Pradesh	48.3	46.3	47.3	43.5	20.2	31.7	44.5	25.4	34.8
22	West Bengal+	53.8	48.7	51.3	40.4	22.4	31.4	44.1	29.6	36.9
<b>MEAN</b>		<b>63.0</b>	<b>63.1</b>	<b>62.4</b>	<b>55.4</b>	<b>49.5</b>	<b>52.5</b>	<b>56.8</b>	<b>51.8</b>	<b>54.4</b>

base : All Respondents

\* weighted figures

**APPENDIX V**  
**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE VERTICALLY TRANSMITTED**

*(All figures are in percentage)*

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	85.5	89.1	87.3	79.8	86.8	83.3	81.3	87.4	84.4
2	Assam	84.1	79.1	81.6	60.5	51.3	55.9	63.1	54.3	58.7
3	Bihar	71.3	58.7	65.0	38.7	20.1	29.4	43.0	25.2	34.1
4	Delhi	78.4	76.1	77.2	76.1	72.4	74.2	78.1	75.7	76.9
5	Goa+	95.6	92.4	94.0	90.1	84.2	87.2	92.4	87.6	90.0
6	Gujarat+	71.1	50.6	60.0	55.8	20.6	38.0	61.1	30.8	45.9
7	Haryana	83.8	81.4	82.6	77.2	60.5	68.9	78.8	65.7	72.3
8	Himachal Pradesh	89.0	92.5	90.8	83.1	83.0	83.0	83.6	83.8	83.7
9	Jammu and Kashmir	91.5	91.1	91.3	77.1	66.9	72.0	80.5	72.6	76.6
10	Karnataka	84.2	79.7	82.0	78.2	70.4	74.3	80.1	73.2	76.7
11	Kerala+	83.6	87.4	85.9	85.1	90.5	88.2	84.7	89.7	87.6
12	Madhya Pradesh	82.5	70.5	76.5	52.4	29.3	40.8	59.4	38.8	49.1
13	Maharashtra	85.9	82.1	84.0	73.1	63.4	68.3	78.1	70.6	74.4
14	Manipur	90.7	93.1	91.9	75.7	76.9	76.3	79.8	81.4	80.6
15	Orissa	68.8	68.9	68.8	54.9	46.9	50.9	56.8	49.8	53.3
16	Other North East States	88.3	77.6	83.0	69.4	58.8	64.1	73.0	62.3	67.7
17	Punjab+	91.0	87.5	89.2	85.0	81.0	83.0	86.9	83.0	85.0
18	Rajasthan	76.0	67.2	71.5	57.5	40.2	48.7	61.7	46.5	53.9
19	Sikkim	82.3	77.7	80.0	60.9	56.8	58.9	62.9	58.7	60.8
20	Tamil Nadu+	85.9	88.7	87.3	78.9	76.6	77.7	81.3	80.8	81.0
21	Uttar Pradesh	62.2	57.3	59.7	50.7	23.6	36.9	52.9	30.3	41.4
22	West Bengal+	63.4	62.3	62.9	42.7	27.3	35.0	48.4	36.9	42.7
<b>MEAN</b>		<b>81.6</b>	<b>77.8</b>	<b>79.7</b>	<b>68.3</b>	<b>58.5</b>	<b>63.4</b>	<b>71.3</b>	<b>63.0</b>	<b>67.1</b>

base : All Respondents  
\* weighted figures



**APPENDIX VI**

**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE TRANSMITTED  
THROUGH NEEDLE SHARING**

*(All figures are in percentage)*

No.	State	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	88.5	85.5	87.0	88.5	88.4	88.5	88.5	87.7	88.1
2	Assam	89.8	81.4	85.6	68.4	52.6	60.5	70.8	55.8	63.3
3	Bihar	81.5	61.0	71.3	44.8	20.2	32.5	49.6	25.5	37.6
4	Delhi	88.2	81.6	84.8	87.3	72.8	79.8	88.1	80.7	84.3
5	Goa+	98.5	92.3	95.4	93.8	84.8	89.3	95.7	87.9	91.8
6	Gujarat+	79.9	52.4	66.2	60.4	21.2	40.6	67.1	31.9	49.4
7	Haryana	89.7	80.1	84.9	80.3	57.8	69.1	82.6	63.3	73.0
8	Himachal Pradesh	95.7	94.2	94.9	86.4	85.2	85.8	87.2	85.9	86.6
9	Jammu and Kashmir	97.9	91.0	94.5	81.2	66.5	73.8	85.2	72.3	78.7
10	Karnataka	89.8	82.1	86.0	79.2	70.9	75.0	82.5	74.3	78.4
11	Kerala+	94.2	93.4	93.7	95.0	95.5	95.3	94.8	94.9	94.8
12	Madhya Pradesh	87.6	71.1	79.4	56.6	29.7	43.1	63.9	39.2	51.5
13	Maharashtra	91.8	84.7	88.3	77.7	64.9	71.3	83.2	72.5	77.9
14	Manipur	96.3	95.5	95.9	90.2	81.3	85.8	91.9	85.2	88.5
15	Orissa	88.8	78.2	83.5	70.6	51.6	61.1	73.0	55.1	64.1
16	Other North East States	90.8	81.8	86.3	71.8	59.1	65.4	75.4	63.4	69.4
17	Punjab+	95.0	87.9	91.5	92.0	82.6	87.3	92.9	84.2	88.6
18	Rajasthan	83.2	70.4	76.6	63.2	39.8	51.3	67.7	46.9	57.1
19	Sikkim	90.8	87.5	89.2	68.1	64.1	66.1	70.2	66.2	68.2
20	Tamil Nadu+	79.9	87.2	83.6	75.8	74.5	75.2	77.2	78.9	78.1
21	Uttar Pradesh	74.9	60.5	67.5	59.2	24.0	41.3	62.3	31.3	46.5
22	West Bengal+	80.8	68.4	74.6	49.9	29.0	39.4	58.4	39.8	49.1
<b>MEAN</b>		<b>88.8</b>	<b>80.4</b>	<b>84.6</b>	<b>74.6</b>	<b>59.8</b>	<b>67.2</b>	<b>77.6</b>	<b>64.7</b>	<b>71.1</b>
base : All Respondents										
* weighted figures										

**APPENDIX VII**  
**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE TRANSMITTED**  
**THROUGH BLOOD TRANSFUSION**

*(All figures are in percentage)*

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	92.4	89.8	91.1	89.5	91.3	90.4	90.3	90.9	90.6
2	Assam	90.0	81.3	85.6	68.2	52.3	60.3	70.6	55.5	63.1
3	Bihar	82.2	61.4	71.8	45.9	20.6	33.2	50.7	26.0	38.3
4	Delhi	89.6	83.4	86.4	88.7	75.9	82.1	89.5	82.7	86.0
5	Goa+	97.9	93.5	95.7	94.6	85.0	90.1	96.0	88.8	92.4
6	Gujarat+	82.0	53.6	67.8	60.8	21.5	40.9	68.1	32.5	50.2
7	Haryana	91.3	82.5	86.9	81.6	61.2	71.4	84.0	66.5	75.2
8	Himachal Pradesh	96.5	96.0	96.0	88.4	86.1	87.3	89.1	86.9	88.0
9	Jammu and Kashmir	98.3	92.0	95.2	82.6	66.9	74.7	86.4	72.8	79.6
10	Karnataka	92.3	83.8	88.1	83.1	72.5	77.8	86.0	76.0	81.1
11	Kerala+	96.5	95.1	95.7	96.5	96.8	96.7	96.5	96.4	96.4
12	Madhya Pradesh	89.8	73.1	81.5	58.3	31.0	44.6	65.7	40.7	53.2
13	Maharashtra	94.8	85.4	90.2	79.5	65.5	72.5	85.4	73.2	79.3
14	Manipur	97.5	96.9	97.2	89.9	82.0	86.0	92.0	86.1	89.0
15	Orissa	90.0	78.8	84.4	70.6	51.9	61.2	73.2	55.5	64.3
16	Other North Ea	91.3	80.8	86.0	70.5	58.4	64.5	74.5	62.7	68.6
17	Punjab+	97.5	88.5	93.0	93.1	82.9	88.0	94.5	84.7	89.6
18	Rajasthan	87.1	71.5	79.0	66.2	39.9	52.8	70.9	47.2	58.8
19	Sikkim	91.3	87.3	89.3	68.6	64.3	66.5	70.7	66.4	68.5
20	Tamil Nadu+	91.6	90.2	90.9	81.7	76.2	78.9	85.1	81.0	83.1
21	Uttar Pradesh	76.9	61.9	69.2	61.4	24.7	42.7	64.4	32.1	48.0
22	West Bengal+	82.0	71.2	76.6	51.0	29.6	40.3	59.5	41.1	50.3
	<b>MEAN</b>	<b>90.9</b>	<b>81.7</b>	<b>86.3</b>	<b>75.9</b>	<b>60.8</b>	<b>68.3</b>	<b>79.2</b>	<b>65.7</b>	<b>72.4</b>

base : All Respondents

\* weighted figures

**APPENDIX VIII**

**PROPORTION OF RESPONDENTS STATING THAT HIV/AIDS CAN BE TRANSMITTED THROUGH SEXUAL CONTACT**

*(All figures are in percentage)*

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	83.7	86.6	85.1	80.6	89.4	85.1	81.4	88.7	85.1
2	Assam	89.5	80.6	85.1	68.5	52.4	60.5	70.9	55.5	63.2
3	Bihar	81.0	58.5	69.8	46.6	18.7	32.6	51.1	23.9	37.5
4	Delhi	88.3	82.6	85.4	86.7	77.5	82.0	88.1	82.1	85.0
5	Goa+	97.3	93.7	95.5	92.1	84.4	88.3	94.3	88.3	91.3
6	Gujarat+	83.8	54.8	69.3	63.5	22.7	42.8	70.6	33.7	52.0
7	Haryana	90.7	83.6	87.1	82.4	62.8	72.7	84.4	68.0	76.2
8	Himachal Pradesh	94.0	94.3	94.2	88.4	85.8	87.1	88.9	86.5	87.7
9	Jammu and Kashmir	97.2	89.1	93.2	82.9	63.0	73.0	86.3	69.2	77.8
10	Karnataka	91.5	77.2	84.4	83.4	66.8	75.1	85.9	70.0	78.0
11	Kerala+	97.7	97.4	97.5	98.0	97.6	97.8	97.9	97.5	97.7
12	Madhya Pradesh	87.4	71.6	79.6	56.4	29.1	42.7	63.7	38.9	51.3
13	Maharashtra	97.7	85.2	90.0	79.1	64.8	71.9	85.1	72.7	78.9
14	Manipur	97.6	95.8	96.7	91.1	80.4	85.8	92.9	84.6	88.8
15	Orissa	87.8	72.8	80.3	69.6	47.6	58.6	72.1	51.0	61.5
16	Other North East States	91.4	82.0	86.7	72.1	59.2	65.6	75.8	63.5	69.6
17	Punjab+	95.9	86.2	91.1	92.8	80.7	86.8	93.8	82.4	88.1
18	Rajasthan	84.7	69.0	76.6	64.1	39.0	51.3	68.7	46.0	57.1
19	Sikkim	91.7	88.2	89.9	69.1	64.6	66.8	71.1	66.7	68.9
20	Tamil Nadu+	80.0	84.2	82.1	69.5	67.9	68.7	73.1	73.6	73.3
21	Uttar Pradesh	71.5	59.1	65.2	55.8	24.3	39.8	58.9	31.3	44.8
22	West Bengal+	82.0	70.6	76.3	50.7	30.9	40.8	59.3	41.9	50.6
<b>MEAN</b>		<b>89.2</b>	<b>80.1</b>	<b>84.6</b>	<b>74.7</b>	<b>59.5</b>	<b>67.1</b>	<b>77.9</b>	<b>64.4</b>	<b>71.1</b>
base : All Respondents										
* weighted figures										

**APPENDIX IX**

**PROPORTION OF RESPONDENTS WHO HAD EVER HEARD OF HIV / AIDS**

(All figures are in percentage)

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra	95.8	97.0	96.4	94.9	97.6	96.2	95.1	97.4	96.3
2	Assam	91.5	85.6	88.5	72.4	57.7	65.1	74.5	60.8	67.7
3	Bihar	84.3	62.8	73.6	49.1	21.5	35.3	53.7	26.9	40.3
4	Delhi	90.3	86.3	88.3	93.3	81.9	87.4	90.6	85.9	88.2
5	Goa+	99.0	94.6	96.8	95.6	87.2	91.4	97.0	90.2	93.6
6	Gujarat+	86.8	61.6	74.2	67.6	25.0	46.1	74.3	37.5	55.7
7	Haryana	92.5	85.2	88.8	83.6	64.7	74.2	85.8	69.8	77.8
8	Pradesh	97.1	96.7	96.9	90.9	88.9	89.9	91.5	89.6	90.5
9	Jammu and Kashmir	99.3	93.9	96.6	83.9	69.7	76.8	87.6	75.4	81.5
10	Karnataka	95.1	88.0	91.6	86.5	74.8	80.7	89.1	78.9	84.0
11	Kerala+	99.5	98.6	99.0	99.1	98.7	98.9	99.2	98.7	98.9
12	Madhya Pradesh	92.5	78.2	85.4	61.9	32.3	47.0	69.0	42.9	55.9
13	Maharashtra	96.0	90.2	93.1	80.6	69.2	74.9	86.6	77.3	81.9
14	Manipur	98.5	98.6	98.6	96.6	89.5	93.1	97.1	92.0	94.6
15	Orissa	91.5	81.4	86.5	73.0	55.1	64.1	75.4	58.6	67.1
16	Other North	93.8	86.9	90.3	77.6	66.7	72.2	80.7	70.6	75.6
17	Punjab+	98.2	90.9	94.6	94.9	86.6	90.8	96.0	88.0	92.0
18	Rajasthan	90.0	77.5	83.6	70.0	45.0	57.3	74.6	52.5	63.3
19	Sikkim	93.4	91.1	92.3	70.8	68.8	69.6	72.6	70.8	71.7
20	Tamil Nadu+	96.1	94.3	95.2	88.3	83.7	86.0	91.0	87.4	89.2
21	Uttar Pradesh	79.6	64.1	71.7	63.8	27.6	45.4	66.9	34.9	50.6
22	West Bengal+	89.1	80.2	84.6	57.6	38.6	48.1	66.2	50.1	58.2
	<b>MEAN</b>	<b>93.2</b>	<b>85.6</b>	<b>89.4</b>	<b>80.1</b>	<b>65.0</b>	<b>72.3</b>	<b>82.5</b>	<b>69.8</b>	<b>76.1</b>
base : All Respondents										
* weighted figures										

**APPENDIX X**

**PROPORTION OF RESPONDENTS WHO HAD EVER HEARD OF STD OTHER THAN HIV/AIDS**

*(All figures are in percentage)*

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	64.7	48.7	56.7	64.0	53.3	58.6	64.2	52.1	58.1
2	Assam	50.1	41.5	45.8	35.4	32.7	34.1	37.0	33.7	35.4
3	Bihar	37.9	34.3	36.1	30.1	25.9	28.0	31.1	27.0	29.0
4	Delhi	33.0	36.0	34.5	33.9	30.2	32.0	33.1	35.4	34.3
5	Goa+	7.3	5.7	6.5	6.8	6.4	6.6	7.0	6.1	6.5
6	Gujarat+	52.8	78.5	65.7	46.4	71.8	59.2	48.6	74.1	61.5
7	Haryana	34.9	53.0	43.9	35.9	46.1	41.0	35.7	47.8	41.7
8	Himachal Pradesh	24.9	52.3	38.5	23.8	33.2	28.5	23.9	34.9	29.4
9	Jammu and Kashmir	29.5	43.4	36.4	15.8	53.2	34.6	19.1	50.9	35.0
10	Karnataka	44.8	24.1	34.5	39.1	20.6	29.8	40.8	21.7	31.3
11	Kerala+	43.6	56.6	51.5	41.5	58.9	51.5	42.0	58.2	51.5
12	Madhya Pradesh	24.9	23.9	24.4	16.9	20.1	18.5	18.8	21.0	19.9
13	Maharashtra	17.6	24.2	20.9	10.3	9.6	10.0	13.2	15.2	14.2
14	Manipur	55.2	27.7	41.5	37.4	18.9	28.2	42.3	21.3	31.8
15	Orissa	42.5	28.8	35.7	32.7	16.8	24.8	34.0	18.4	26.2
16	Other North East States	41.7	35.3	38.5	32.2	27.1	29.6	34.0	28.6	31.3
17	Punjab+	49.1	62.3	55.7	39.0	62.2	50.6	42.1	62.2	52.2
18	Rajasthan	20.3	18.8	19.5	12.0	13.0	12.6	13.9	14.4	14.1
19	Sikkim	23.1	24.3	23.7	14.1	10.7	12.4	14.9	12.0	13.4
20	Tamil Nadu+	54.2	33.8	44.0	39.0	24.5	31.7	44.2	27.7	36.0
21	Uttar Pradesh	17.1	25.0	21.2	17.4	21.5	19.5	17.4	22.2	19.8
22	West Bengal+	45.7	29.8	37.7	40.4	22.0	31.2	41.9	24.1	33.0
<b>MEAN</b>		<b>37.0</b>	<b>36.7</b>	<b>37.0</b>	<b>30.2</b>	<b>30.9</b>	<b>30.6</b>	<b>31.8</b>	<b>32.2</b>	<b>32.1</b>
base : All Respondents										
* weighted figures										

**APPENDIX XI**  
**PROPORTION OF RESPONDENTS AWARE OF THE LINKAGE BETWEEN STD**  
**AND HIV/AIDS**

*(All figures are in percentage)*

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	45.3	36.8	41.1	44.7	44.7	37.6	44.8	37.4	41.1
2	Assam	33.8	30.7	32.2	22.5	17.3	19.9	23.7	18.8	21.3
3	Bihar	25.7	18.2	21.9	14.6	5.1	9.8	16.1	6.8	11.4
4	Delhi	28.3	20.4	24.3	26.1	15.8	20.8	28.1	19.9	23.9
5	Goa+	5.5	4.8	5.2	5.5	4.7	5.1	5.5	4.7	5.1
6	Gujarat+	34.3	21.9	28.1	29.0	29.0	10.4	30.9	14.3	22.5
7	Haryana	28.1	30.5	29.3	30.0	26.4	28.4	29.8	27.4	28.6
8	Himachal Pradesh	22.2	46.5	34.2	18.5	24.2	21.4	18.8	26.2	22.5
9	Jammu and Kashmir	26.0	32.6	29.3	13.2	23.7	18.5	16.3	25.8	21.0
10	Karnataka	34.1	17.8	26.0	31.7	31.7	14.2	32.4	15.3	23.9
11	Kerala+	37.0	42.8	40.6	36.3	36.3	44.6	36.5	44.1	40.9
12	Madhya Pradesh	18.7	12.2	15.5	13.0	13.0	7.5	14.3	8.5	11.4
13	Maharashtra	15.4	22.8	19.1	7.9	7.9	7.4	10.8	13.4	12.1
14	Manipur	42.8	20.6	31.7	25.7	12.4	19.0	30.3	14.6	22.5
15	Orissa	29.6	16.3	23.0	19.9	9.1	14.5	21.2	10.1	15.7
16	Other North East States	30.8	30.1	30.5	27.0	23.5	25.0	27.7	24.8	26.3
17	Punjab+	39.2	43.2	41.2	28.1	39.6	33.8	31.6	40.7	36.1
18	Rajasthan	14.9	14.5	14.7	7.9	7.3	7.6	9.5	9.0	9.2
19	Sikkim	17.9	16.1	17.0	10.2	6.5	8.3	10.9	7.3	9.1
20	Tamil Nadu+	38.0	23.7	30.9	28.5	28.5	17.2	31.9	19.4	25.7
21	Uttar Pradesh	15.5	12.0	13.7	13.0	6.8	9.9	13.5	7.8	10.6
22	West Bengal+	28.6	13.5	21.0	15.5	5.0	10.3	19.1	7.3	13.2
<b>MEAN</b>		<b>27.8</b>	<b>24.0</b>	<b>25.9</b>	<b>21.1</b>	<b>19.0</b>	<b>17.8</b>	<b>22.9</b>	<b>18.3</b>	<b>20.6</b>
base : All Respondents										
* weighted figures										

**APPENDIX XII**  
**MEDIAN AGE OF RESPONDENTS**

*(All figures are in years)*

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	28	29	28	30	28	30	30	28	29
2	Assam	30	30	30	30	30	30	30	30	30
3	Bihar	28	30	29	30	30	30	30	30	30
4	Delhi	30	29	29	29	28	28	29	29	29
5	Goa+	29	27	28	29	28	28	29	28	28
6	Gujarat+	30	30	30	30	29	29	30	29	30
7	Haryana	30	30	30	29	30	29	29	30	30
8	Himachal Pradesh	29	30	30	31	28	30	30	28	30
9	Jammu and Kashmir	30	30	30	28	30	29	29	30	29
10	Karnataka	30	28	29	30	29	29	30	28	29
11	Kerala+	29	30	30	30	29	29	29	30	30
12	Maharashtra	28	27	28	30	26	28	29	27	28
13	Manipur	30	29	29	30	28	29	30	28	29
14	Madhya Pradesh	27	30	28	28	30	30	28	30	30
15	Orissa	30	28	29	30	29	30	30	29	30
16	Other North East States	28	28	28	28	28	28	28	28	28
17	Punjab+	28	30	30	28	30	29	28	30	29
18	Rajasthan	27	28	27	30	26	28	29	26	28
19	Sikkim	28	28	28	29	28	29	29	28	28
20	Tamil Nadu+	30	29	29	30	29	30	30	29	30
21	Uttar Pradesh	28	30	29	30	30	30	30	30	30
22	West Bengal+	30	28	30	30	27	29	30	28	29
<b>MEAN</b>		<b>29</b>	<b>29</b>	<b>29</b>	<b>30</b>	<b>29</b>	<b>29</b>	<b>29</b>	<b>29</b>	<b>29</b>
base : All Respondents * weighted figures										

**APPENDIX XIII**  
**PROPORTION OF MARRIED RESPONDENTS**

(All figures are in percentage)

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	64.6	80.3	72.5	74.5	83.2	78.9	71.9	82.5	77.2
2	Assam	52.1	72.0	62.0	59.8	76.8	68.3	58.9	76.2	67.6
3	Bihar	57.0	81.1	69.1	74.6	89.5	82.1	72.3	88.4	80.4
4	Delhi	69.5	80.4	75.1	70.3	87.5	79.2	69.6	81.1	75.5
5	Goa+	48.3	61.4	54.8	47.8	66.7	57.2	48.0	64.5	56.2
6	Gujarat+	66.7	84.4	75.5	74.3	84.7	79.6	71.7	84.6	78.2
7	Haryana	70.8	79.7	75.3	69.2	84.0	76.6	69.6	82.9	76.3
8	Himachal Pradesh	62.3	80.7	71.4	69.2	77.3	73.3	68.6	77.6	73.1
9	Jammu and Kashmir	59.3	73.5	66.3	54.1	74.6	64.4	55.3	74.4	64.9
10	Karnataka	61.9	78.0	69.9	66.6	81.2	73.9	65.1	80.2	72.6
11	Kerala+	50.7	75.3	65.7	56.1	74.3	66.5	54.8	74.5	66.3
12	Madhya Pradesh	57.3	83.0	70.0	74.1	88.5	81.3	70.2	87.2	78.7
13	Maharashtra	62.1	67.7	64.9	67.9	72.7	70.3	65.7	70.8	68.2
14	Manipur	54.6	62.1	58.3	60.5	68.5	64.5	58.9	66.8	62.8
15	Orissa	56.6	76.2	66.4	68.1	77.4	72.7	66.5	77.2	71.9
16	Other North East States	52.9	65.9	59.4	55.8	67.7	61.8	55.3	67.3	61.3
17	Punjab+	65.8	83.5	74.6	65.6	82.5	74.0	65.7	82.8	74.2
18	Rajasthan	63.8	78.4	71.4	76.2	84.1	80.2	73.4	82.8	78.2
19	Sikkim	55.4	68.4	61.9	57.4	68.5	62.9	57.2	68.5	62.9
20	Tamil Nadu+	58.8	78.4	68.6	64.7	83.8	74.2	62.7	81.9	72.3
21	Uttar Pradesh	61.9	77.3	69.8	72.9	85.3	79.2	70.7	83.7	77.3
22	West Bengal+	62.1	78.6	70.4	67.9	85.2	76.6	66.3	83.4	74.9
<b>MEAN</b>		<b>59.8</b>	<b>75.7</b>	<b>67.9</b>	<b>65.8</b>	<b>79.3</b>	<b>72.6</b>	<b>64.5</b>	<b>78.2</b>	<b>71.4</b>

base : All Respondents

\* weighted figures



**APPENDIX XIV  
PROPORTION OF LITERATE RESPONDENTS**

*(All figures are in percentage,*

No.	States	Urban			Rural			Combined*		
		M	F	T	M	F	T	M	F	T
1	Andhra Pradesh	88.7	80.2	84.6	80.2	61.2	70.7	82.4	66.1	74.3
2	Assam	92.7	88.2	90.5	77.4	60.1	68.8	79.1	63.2	71.2
3	Bihar	88.9	63.9	76.4	74.4	35.0	54.7	76.3	38.8	57.5
4	Delhi	87.1	76.3	81.6	88.5	65.3	76.5	87.2	75.2	81.1
5	Goa+	97.3	90.3	93.8	84.0	83.2	89.3	96.2	86.1	91.2
6	Gujarat+	89.7	70.7	80.2	74.3	38.9	57.9	81.7	49.7	65.6
7	Haryana	89.3	77.4	83.4	84.8	53.8	69.4	85.9	59.6	72.8
8	Himachal Pradesh	95.8	94.2	95.0	91.1	75.5	83.3	91.5	77.2	84.4
9	Jammu and Kashmir	97.6	90.1	93.9	85.4	65.4	75.4	88.3	71.3	79.8
10	Karnataka	88.1	74.8	81.5	74.7	53.8	64.2	78.8	60.2	69.6
11	Kerala+	99.3	98.5	81.5	74.7	53.8	64.2	99.7	98.7	99.1
12	Madhya Pradesh	91.8	69.6	80.8	95.4	33.1	54.4	79.6	41.4	60.5
13	Maharashtra	96.4	86.0	91.2	87.2	71.3	79.2	90.7	76.9	83.9
14	Manipur	96.7	86.1	91.4	77.4	65.9	77.5	91.1	71.5	81.3
15	Orissa	89.9	77.6	83.8	74.4	56.6	68.1	81.0	59.4	70.2
16	Other North East States	94.6	87.5	91.0	79.6	71.4	77.7	86.0	74.4	80.2
17	Punjab+	94.0	81.5	87.8	88.4	68.6	78.5	90.1	72.6	81.4
18	Rajasthan	89.3	65.7	77.1	77.5	37.7	57.2	80.2	44.2	61.8
19	Sikkim	94.6	87.2	90.9	89.1	65.8	72.7	80.9	67.8	74.4
20	Tamil Nadu+	94.4	87.3	98.8	99.9	98.7	99.2	89.4	75.7	82.5
21	Uttar Pradesh	81.9	59.5	70.4	74.7	33.9	54.0	76.1	39.0	57.2
22	West Bengal+	90.1	84.4	87.2	79.6	56.8	65.5	78.6	64.4	71.5
<b>MEAN</b>		<b>92.2</b>	<b>80.8</b>	<b>86.0</b>	<b>82.4</b>	<b>54.5</b>	<b>70.8</b>	<b>85.0</b>	<b>65.2</b>	<b>75.1</b>
base : All Respondents										
* weighted figures										



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