

HIV

SENTINEL SURVEILLANCE (ANC)

Tamil Nadu State Report

2014-15



ICMR-NATIONAL
INSTITUTE OF EPIDEMIOLOGY
Chennai



NATIONAL
AIDS CONTROL ORGANISATION
New Delhi



TAMIL NADU
STATE AIDS CONTROL SOCIETY
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Suggested citation

ICMR - National Institute of Epidemiology (2018). HIV Sentinel Surveillance 2014-15, Tamil Nadu State Report: Indian Council of Medical Research, Department of Health Research, Ministry of Health and Family Welfare, Government of India.

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Foreword

HIV Sentinel surveillance among ANC attendees is one of the most important national level activities, as it helps the programme managers in framing health policies towards controlling HIV infection in the state and the country as well. The objectives of HIV sentinel surveillance are to understand the trends, assess spread and distribution of HIV infection among geographical areas across the state. In order to have uniform geographical coverage, the number of sentinel sites in the state has been increased over a period of years by keeping at least one site in each district.

The National Institute of Epidemiology, Chennai, one of the Regional Institutes for 8 southern states, is involved in the HIV surveillance activities since 2006. This report is prepared based on the data collected during the 14th round of surveillance, in conjunction with the past years data to analyze the trend and to have an insight of epidemiological factors. I hope this report will serve as a very useful tool for the policy makers, scholars, researchers and other stakeholders in formulating guidelines in controlling HIV and enhancing their knowledge of HIV in their state.

I take this opportunity to thank Dr. S. Venkatesh, Deputy Director General, NACO and Dr. Pradeep Kumar, Consultant (surveillance) & his team for entrusting this activity to NIE and also for providing technical support in implementing the surveillance. I also wish to thank the Project Director and nodal officer of State AIDS Control Society for their help in completing the surveillance activities in a timely manner. I express my gratitude to all the State Referral Laboratories, National Referral Laboratories, State Surveillance Team members, Sentinel sites personnel and other National and International partners who helped us in completing the surveillance successfully.

Dr. Manoj V Murhekar



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Preface

Tamil Nadu was considered once as a HIV high prevalent state in India. The infection was first detected in Tamil Nadu during the year 1986. Since then Tamil Nadu is actively involved in reducing the HIV infection in the state.

The nationwide HIV Sentinel Surveillance (HSS) programme among antenatal clinic attendees (ANC) in India provides essential information on the dynamics of the HIV epidemic and helps to monitor the trend and foresee the type of input needed to strengthen the prevention and control activities for different population groups and geographical regions. Tamil Nadu State AIDS Control Society established under NACO has been collaborated with Regional Institute - NIE in the efforts to strengthen HIV/AIDS surveillance in Tamil Nadu. The surveillance activities for all targeted groups was scaled up in a phased manner and the network of sentinel sites is expanded now from a couple of sites in 1994, to 125 sites in 2014-15.

The overall HIV Prevalence among ANC population in 2014-15 continues to portray the concentrated epidemic nature in Tamil Nadu. Analysis of consistent sites shows that there is a downward trend of HIV prevalence among general population. Though the trend of HIV was declining in the state, the higher HIV prevalence among general population is persisting in certain districts of Tamil Nadu.

I hope, the information provided in this report will be helpful for policy makers and stakeholders of focus their fight against the HIV/AIDS in right direction.

I thank all the sentinel sites, testing labs, SST Members, NIE and TANSACS staff who contributed for this activity and also thank our participants who have given their serum samples for this surveillance.

I am confident that their report will help in shaping our various programmes and planning for appropriate strategy towards "Zero" HIV prevalence.

(Dr. K. Senthil Raj)

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CHAPTER 1

Introduction

Acquired immune deficiency syndrome or acquired immunodeficiency syndrome (AIDS) is a disease of the human immune system caused by the human immunodeficiency virus (HIV). This condition progressively reduces the effectiveness of the immune system and leaves individuals susceptible to opportunistic infections. The first HIV infection was reported in the year 1981 in the United States of America. Afterwards the epidemic spread rapidly throughout the globe.

In India it was in 1986, the first HIV infection reported from Chennai, Tamil Nadu. In the last two decades the awful disease spread throughout the country.

Surveillance is a vital component of any disease control programme. The purpose of surveillance is to actually look for evidence of disease risk, to predict the pattern and to plan appropriate action for control and prevention. Providing meaningful insights for action at policy, strategy, planning, or implementation levels at the appropriate time is the key objective of surveillance. The HIV epidemic in India is concentrated, with high prevalence among high-risk groups, moderate prevalence among bridge populations, and low prevalence among general population. Unprotected sex with female sex workers (FSW), injecting drug users (IDU), and unprotected anal sex between men are the three primary routes of HIV transmission in India. HIV sentinel surveillance measures the prevalence of HIV in a specific risk group in a specific region at a specific point of time. The HIV sentinel surveillance system in India is based on the HIV transmission dynamics mentioned above and monitors the HIV epidemic patterns among the following groups:

1. High-risk groups
 - a. Female sex workers
 - b. Men who have sex with men (MSM)
 - c. Injecting drug users
 - d. People who are TG (transgender)/eunuchs
2. Bridge populations
 - a. Single male migrants
 - b. Long-distance Truckers (LDTs)
 - c. People attending STI or gynaecology clinics (currently discontinued)



3. General population

a. Pregnant women attending the ANC clinics in urban and rural areas, and the ANC clinic attendees were considered proxy for general population. STI patients were considered proxy for people with high-risk behaviour (high-risk and bridge populations and their partners).

1.1. Objectives and Application of HIV Sentinel Surveillance


The key objectives of HIV sentinel surveillance in India are to:

1. Monitor trends in HIV prevalence over time.
2. Monitor the distribution and spread of HIV in different subgroups and geographical areas.
3. Identify emerging pockets of HIV epidemic in the country.
4. Applications of HIV sentinel surveillance data.
5. Estimate and project burden of HIV at state and national levels.
6. Support programme prioritization and resource allocation.
7. Assist evaluation of programme impact.
8. Provide evidence to advocacy efforts.

1.2. Evolution of HIV Sentinel Surveillance in India

HIV surveillance in India began in 1985 when the Indian Council of Medical Research (ICMR) initiated a surveillance activity among blood donors and patients with STIs. After the National AIDS Control Organisation (NACO) was established in 1992, sentinel surveillance for HIV in India was initiated in 1993-94 with 52 sentinel sites in selected cities. In 1998, NACO formalized annual sentinel surveillance for HIV infection in the country with 180 sentinel sites, of which 176 were valid.

The first major expansion of the surveillance network was in 2003. More than 200 rural antenatal care (ANC) sentinel sites were established at the community health centre (CHC) level in most of the districts in high-prevalence states as well as some districts in low-prevalence states in North India. However, half of these ANC rural sites, especially those in low prevalence states of North India, were discontinued in the next round because they could not achieve the required target sample size due



to poor utilization rates. Another significant expansion in 2003 was the addition of 30 FSW sites. Overall, 354 districts had at least one HSS site in 2003. From 2003 and until 2005, the same sentinel sites continued with expansion to 83 FSW and 30 injecting drug user (IDU) sites.

The year 2006 could be considered the watershed year for HSS development in India. The goal was to have at least one sentinel site in every districts of India and new sentinel sites were added for all risk groups in that year. Key developments in 2006 included:

- ❖ Major expansion of STI and ANC urban sentinel sites in low-prevalence states of North India.
- ❖ Addition of rural ANC sites in high-prevalence states.
- ❖ Initiation of special ANC sites for 15-24-year-old pregnant women to monitor new infection.
- ❖ Expansion of sentinel sites among FSW, MSM and IDU.
- ❖ Initiation of sentinel sites among long-distance truckers (LDTs), single male migrants, and people who are transgenders (TG).
- ❖ Introduction of composite sites in HSS that facilitated establishment of sentinel sites in places where it had been difficult to do so, such as rural areas and places with fewer HRGs.

In year 2006, the scale of surveillance operations increased from 703 sites in high prevalence states in 2005 to 1,122 sites to cover the entire country. The surveillance was also expanded from being only clinic-based to also include Targeted Intervention (TIs)

Six leading regional public health institutions in the country were involved to expand and strengthen the surveillance network and implementation activities and follow up programmes. These regional institutes (RI) provided technical support, guidance, monitoring, and supervision for implementing HSS. Two more RIs were created in 2008. Supervisory structures were further strengthened with constitution of central and state surveillance teams, comprised of public health experts, epidemiologists, and microbiologists from several medical colleges and research institutions.

During the subsequent three rounds of HSS (2007, 2008-09, and 2010-11), the focus was on expansion of surveillance among high-risk and bridge populations.



Key strategic HSS implementation improvements in these rounds included:

1. Technical validation of new sentinel sites by regional institutes before inclusion in surveillance and dropping poorly performing sites.
2. Introduced the dried blood spot (DBS) method of sample collection from high-risk groups (HRGs) to overcome logistic problems at HRG sites.
3. Introduced informed consent at high-risk group sites to address ethical concerns.
4. Initiated random sampling methods of recruitment at HRG sites, taking advantage of the availability of updated line lists of HRGs at the TI projects.
5. Standardized training protocols across states with uniform session plans and materials, and adoption of a two-tier training plan with training-of-trainers (TOT) followed by training of site personnel.
6. Developed a four-tier supervisory structure: national-level central team; regional institutes; state surveillance teams; and State AIDS Control Society (SACS) teams.
7. Strengthened focus on supportive supervision and action-oriented monitoring.
8. Increased focus on quality of planning, training, implementation, supervision and feedback.
9. Decreased number of testing laboratories for ANC and STD samples, limiting them to high-performing laboratories with enzyme-linked immunosorbent assay (ELISA) facilities to ensure high-quality testing and close supervision.
10. Developed a new web-based data management system to enhance data quality and ensure real time monitoring of surveillance activities.
11. Initiated epidemiological investigation into unusual findings (sudden rise or decline in prevalence) to understand reasons and correct.
12. Conducted pre-surveillance sentinel site evaluation to assess preparedness of site for HSS and to obtain profile-related information.

Between 2008 and 2009, the annual frequency of HSS was shifted to biennial (once in two years). STI sites were gradually being discontinued in 2008-09 and 2010-11. The 13th round of HSS was implemented at 763 sentinel sites (750 ANC and 13 STI sites). Most of the STI sites from the 12th round of HSS were phased out during HSS

2014-15. For high-risk and bridge populations, National Integrated Biological and Behavioural Surveillance (IBBS) was conducted to strengthen surveillance among these groups so HSS 2014-15 did not include high-risk groups. Table 1 presents the scale up of sentinel sites in India since 1998.

Table 1: Scale up of No. of Sentinel Sites in Tamil Nadu, 2003-2015

Site Type	2003	2004	2005	2006	2007	2008-09	2010-11	2012-13	2014-15
ANC	52	63	63	63	63	63	72	72	72
FSW	1	1	-	11	10	28	27	-	-
MSM	2	2	-	2	2	17	17	-	-
IDU	1	1	-	2	2	2	2	-	-
Truckers	-	-	-	-	-	-	2	-	-
Migrants	-	-	-	-	-	-	3	-	-
Transgender	-	-	-	-	-	-	2	-	-
STD	11	11	-	11	11	-	-	-	-
Tuberculosis	-	-	-	1	-	-	-	-	-



CHAPTER 2

Methodology and Implementation

This chapter describes HSS methodology and the implementation mechanisms adopted during HSS 2014-15.

2.1. Methodology of HIV Sentinel Surveillance at ANC Sentinel Sites

HIV sentinel surveillance is defined as a system of monitoring the HIV epidemic among the specified population groups by collecting information on HIV from designated sites (sentinel sites) over years, through a uniform and consistent methodology that allows comparison of findings across place and time, to guide programme response. A sentinel site is a designated service point/facility where blood specimens and relevant information are collected from a fixed number of eligible individuals from a specified population group over a fixed period of time, periodically, for the purpose of monitoring the HIV epidemic. Under HIV sentinel surveillance (HSS), recruitment of respondents is conducted for three months at selected ANC sentinel sites. Because of the low HIV prevalence in India, the classical survey method of sample size calculation that gives a large sample size cannot feasibly be collected through facility-based surveillance on an annual basis. Hence, a sample size of 400 for surveillance among ANC attendees was approved by a consensus of experts. Eligible respondents are enrolled until the sample size of 400 is reached or until the end of the surveillance period, whichever is earlier.

The eligibility criteria for recruiting respondents at an ANC sentinel sites were:

1. Age 15-49 years
2. Pregnant woman attending the antenatal clinic for the first time during the current round of surveillance period. “Sampling method” refers to the approach adopted at the sentinel sites for recruiting eligible individuals into HSS. Consecutive sampling method is adopted in HSS in India for ANC clinic attendees. After the start of surveillance, all individuals attending the ANC sentinel site facility who are eligible for inclusion are recruited in the order they attend the clinic. This sampling method removes all chances of selection or exclusion based on individual preferences or other reasons, and hence reduces the selection bias. It is convenient, feasible, and easy to follow.

“Testing strategy” refers to the approach adopted for collecting and testing blood specimens and handling the test results in HSS. In India, the unlinked anonymous

testing strategy is used. Testing is conducted on a portion of blood specimen collected for routine diagnostic purposes (such as syphilis) after removing all personal identifiers. Neither the information collected in the data form nor the HIV test result from the blood specimen is ever linked to the individual from whom the information/specimen is collected. Neither the personnel collecting the specimen nor the personnel testing the specimen are able to track the results back to the individual.

Hence, the personal identifiers such as name, address, outpatient registration number, etc. were not mentioned anywhere in the data form, blood specimen, or data form transportation or sample transportation sheets. Similarly, the HSS sample number or any mark indicating inclusion in HSS is not mentioned in the ANC register or patient/OPD card. The portion of the blood specimen with identifiers is used for reporting the results of the routine test for which it has been collected. The portion of the blood specimen without identifiers is sent for HIV testing under HSS.

“Testing protocol” refers to the number of HIV tests conducted on the blood specimen collected during HSS. A two-test protocol is adopted in HSS. The first test is of high sensitivity and second of high specificity and is confirmatory in nature. The second test is conducted only if the first is found to be positive. HIV testing under surveillance is for the purpose of ascertaining HIV levels and trends in a community and not for case diagnosis, which is why the two-test protocol is the global standard for surveillance.

The methodology of HSS at ANC sentinel sites is summarized in Table 2 below:

Table 2: Methodology of HIV Sentinel Surveillance at ANC Sentinel Sites	
Sentinel site	Antenatal clinic
Sample size	400
Duration	3 months
Frequency	Once in 2 years (biennial)
Sampling method	Consecutive sampling
Eligibility	Pregnant women ages 15-49 years attending ANC clinic for the first time during the current round
Testing strategy	Unlinked anonymous testing
Blood specimen	Serum collected through venous blood specimen
Testing protocol	Two-test



2.2. Information Collected under HSS at ANC Sentinel Sites


HSS provides information on two bio-markers- HIV and syphilis. All blood specimens collected under HSS are tested for these two infections. When recruiting an individual in HSS, information is collected on basic demographic parameters such as age, education, occupation, spouse's occupation, and order of pregnancy. Collected information is kept minimal and restricted to those who might be asked under routine clinic procedures. During the recent rounds, a few questions were added to identify potential biases in the sample (e.g., source of referral) or to further profile the respondents with respect to their vulnerability (migration status of spouse) so that HIV prevalence estimates can be better explained and interpreted. HSS 2014-15 collects information on the following nine key demographic variables from every respondent.

1. Age: The age of the respondent is recorded in number of completed years. Since age is a part of eligibility criteria, improper recording or non-recording of age makes a sample invalid. Information on age helps identify the age groups with high HIV prevalence. In the absence of data on HIV incidence, high prevalence among younger age groups is considered a proxy for recent infections.

2. Literacy status: The literacy status of an individual has a direct bearing on the awareness levels with respect to risks of acquiring HIV and means of protecting oneself. Knowing the literacy status of the pregnant woman, helps in understanding the differentials in HIV prevalence and informs demographics about the women who are accessing services at ANC clinics. This information may also be helpful to compare and standardize the demographic profiles of two independent samples under HSS, while investigating any unusual increase or decrease in trends. Under HSS 2014-15, the literacy status of respondents was classified into five categories as defined below.

(a). Illiterate: People with no formal or non-formal education. (b). Literate and till 5th standard: People with non-formal education or those who joined school but did not study beyond 5th standard. (c). 6th to 10th standard: Those who studied beyond 5th standard but not beyond 10th standard. (d). 11th to graduation: Those who studied beyond 10th standard but not beyond graduation. Includes those with technical education/diplomas,. (e). Post-graduation: Those who studied beyond graduation.

3. Order of current pregnancy: The order of pregnancy denotes the number of times a woman has been pregnant. It includes the number of live births, still births, and abortions. It is also referred to as gravidity. Women who are pregnant for the first time




are referred to as primi-gravida. In the context of HIV, order of pregnancy indicates the duration of exposure to sexual risks. Since primi-gravida are likely to be exposed to sexual risks only recently, HIV prevalence among them is considered a proxy for new HIV infections and helps in understanding the HIV incidence in that region. The order of pregnancy is recorded as first, second, third, fourth, or more.

4. Source of referral to the ANC clinic: Under HSS, ANC clinic attendees are asked who referred them to the clinic for antenatal check-up. This variable was added to the data collection form to understand the various sources of referral, especially to assess if there is any specific bias in the sample because of specific referrals of HIV-positive cases from any source. Published literature indicates that there is disproportionate referral of HIV-positive cases from private sector to government hospitals. Similarly, if there are higher numbers of referrals from ICTC/ ART centres in the sample, it may bias the HIV prevalence, as those respondents are likely to be people who have been exposed to HIV risk, to have HIV risk perception or who are known to be HIV-positive. This variable helps assess any such phenomenon. The response categories listed in the HSS data form include: (a). Self-referral (b). Family/ relatives/ neighbours/ friends (c). NGO (d). Private hospital (doctors/ nurses) (e). Government hospital (including ANM/ ASHA) (f). ICTC/ ART centre,

5. Current place of residence: HSS 2014-15 records the reported current residence of the respondent as 'Urban' or 'Rural'. If the current place of residence of the respondent i.e., the place she is living with her husband falls under Municipal Corporation, municipal council, or cantonment area, it is classified as 'urban'. Otherwise, it is recorded as 'rural'. Place of residence helps in studying the epidemic patterns in urban and rural areas separately and provides programmatic insight for implementing interventions. In the context of formerly high-prevalence states, urban rural differentials of HIV prevalence is important because HIV is known to have spread to rural areas, sometimes with higher prevalence in these states. In low-prevalence states with rising HIV trends, migration from rural areas to high prevalence destinations is likely to play a role. Therefore, studying rural epidemics is important to characterise the epidemic appropriately.

6. Duration of stay at current place of residence: All the respondents are asked about the duration of stay at the current place of residence (the place she is living with her husband) and the responses are recorded in years and months. If the duration is less than one year, '0' years and the number of months as reported by the respondent are recorded. If the duration is less than one month, the duration is recorded as '0' years,



‘1’ month. Duration of stay at current place of residence is asked to ascertain whether the pregnant woman belongs to the place where the ANC clinic is situated. Because many pregnant women in India go to their maternal home for delivery, it is likely that they attend ANC clinic at their mother’s place. If this is the case, her duration of stay will be only a few days or months. Although counsellors are instructed to ask where the respondent is living with her husband, this variable helps eliminate reporting errors. Also, it helps in understanding the duration of exposure to sexual risk. Similar to order of pregnancy, this variable also helps assess new HIV infections occurring in a region.

7. Current occupation of respondent: Certain occupations are associated with higher exposure and risk to HIV. It is important to understand the profile of respondents and differentials of HIV with respect to their occupation. For this purpose, HSS has categorized occupations into 13 categories ensuring that all the possible occupations are covered and the categories are relevant to the epidemiological analysis of HIV prevalence data. The occupation categories and their definitions were as follows: (a). Agricultural labourer (b). Non-agricultural labourer: includes workers at construction sites, quarries, stone crushers, road or canal works, brick-kilns. (c). Domestic servant (d). Skilled/semi-skilled worker: includes workers in small-scale or cottage industries; industrial/ factory workers; technicians such as electricians, masons, plumbers, carpenters, goldsmiths, iron-smiths, and those involved in automobile repair; artisans such as weavers, potters, painters, cobblers, shoe-makers, tailors. (e). Petty business/ small shop: includes vendors selling vegetables, fruits, milk, and newspapers; pan shop operators. (f). Large business/self-employed: includes professionals and business people. (g). Service (govt/pvt): those working on salary basis in government, private, or institutional sector; excludes drivers and hotel staff. (h). Student (i). Truck drivers/ helpers (j). Local transport workers (auto/ taxi drivers, handcart pullers, rickshaw pullers, etc.) (k). Hotel staff (l). Agricultural cultivators/ landholders (m). Housewife (in order to be consistent with the occupation codes for spouse of respondent, housewife is Code 14).

8. Current occupation of spouse: Occupation of spouse is an important epidemiological variable that may help identify population groups that are at higher risk of acquiring HIV. HSS used the same occupational categories as those used for the respondent. The two differences are that the category ‘unemployed’ (Code13) is used in the place of ‘housewife’ and there is an additional category: ‘Not applicable (never married/ widow/divorced/separated)’ (Code 99).

9. Migration status of spouse: Analyses of drivers of the emerging epidemic in some low-prevalence states points to migration from these states to high-prevalence destinations (NACO Annual Report 2013-14, Chapter 2. Current Epidemiological Scenario of HIV/AIDS, pg.12). In order to assess the effects of migration status of spouse on HIV prevalence among ANC clinic attendees, respondents in HSS were asked whether spouse resides alone in another place/town away from wife for work for longer than 6 months. This question is not applicable to respondents who were never married/widowed/ divorced/separated.

2.3. Implementation Structure of HIV Sentinel Surveillance in India

HIV sentinel surveillance has a robust structure for planning, implementation, and review at national, regional, and state levels. The structure and key functions of involved agencies are shown in Figure 1.

National level: The National AIDS Control Organisation (NACO) is the nodal agency for strategy formulation and commissioning for each round of HSS. The Technical Resource Group on Surveillance and Estimation, comprised of experts from the fields of epidemiology, demography, surveillance, biostatistics, and laboratory services, advises NACO on the broad strategy and

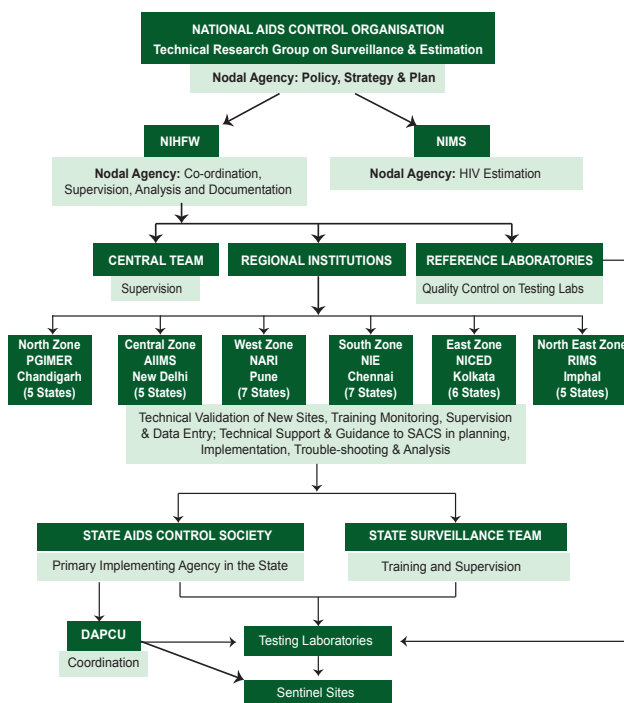



Figure 1: Implementing Structure of HIV Sentinel Surveillance in India



The main goal of implementing structure of HSS is for performing the assessment of the implementation plans of HSS and reviews the outcomes of each round. Two national institutes—National Institute of Health and Family Welfare (NIHFW) and ICMR-National Institute of Medical Statistics (ICMR-NIMS)—supports national level activity planning and coordination. In addition, the central team, which is coordinated by NIHFW, New Delhi and is comprised of experts from the Centres for Disease Control and Prevention (CDC), World Health Organisation (WHO), The Joint United Nations Programme on HIV and AIDS (UNAIDS), medical colleges, and other national and international agencies, provide support in training and supervision.

Regional level: Since 2006, NIE has been identified as regional institutes (RIs) for HSS to provide technical support to the State AIDS Control Societies (SACS) for all HSS activities in southern zone, starting with identification of new sites, training, monitoring and supervision, and improving quality of the data collection and their analysis. Data entry is another function performed by RIs. The team at each RI is comprised of two epidemiologists/public health experts and one micro-biologist, which are supported by one project coordinator, two research officers, one computer Assistant/data manager, and between four and ten data entry operators, depending on the volume of data entry. The names of the six regional institutes and the distribution of states among them are in Table 3.

State level: SACS is the primary agency responsible for implementation of HSS and NACO has appointed state epidemiologists at the SACS to support the activities and promote data analysis. In addition to these, every state has a surveillance team comprised of public health experts and microbiologists who support SACS in the training, supervision, and monitoring of the personnel involved in sentinel surveillance. State surveillance teams (SSTs) are formed by RIs in consultation with SACS. All activities are coordinated by RIs.

District level: In districts with functional district AIDS Prevention and Control Units (DAPCUs), the DAPCU staffs are involved in the coordination of HSS activities at the sentinel sites and the associated testing labs. Laboratory network Laboratory support is provided by a network of testing and reference labs. There are 117 state reference laboratories (SRLs) that conduct primary testing of blood specimens collected under HSS. Thirteen national reference laboratories (NRLs) provide external quality assurance to the SRLs through repeat testing of all HIV-positive blood specimens and 5 % of HIV negative specimens.

Table 3: Regional Institutes for HIV Sentinel Surveillance and their State Allocation

Name of regional institution	Responsible states
Central Zone: All India Institute of Medical Science, New Delhi	Uttar Pradesh, Bihar, Jharkhand, Uttaranchal, and Delhi.
North Zone: Post-graduate Institute of Medical Education and Research, Chandigarh	Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, and Chandigarh.
West Zone: National AIDS Research Institute, Pune	Maharashtra, Gujarat, Goa, Madhya Pradesh, Rajasthan, Daman & Diu, and Dadra Nagar Haveli.
South Zone: National Institute of Epidemiology, ICMR, Chennai	Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Odisha, Puducherry, and Lakshadweep and Telangana.
East Zone: National Institute of Cholera and Enteric Diseases, Kolkata	West Bengal, Chhattisgarh, Sikkim, Andaman & Nicobar Islands, Meghalaya, and Nagaland.
Northeast Zone: Regional Institute of Medical Sciences, Imphal	Manipur, Mizoram, Tripura, Assam, and Arunachal Pradesh.

2.4. Key Initiatives during HIV Sentinel Surveillance 2014-15:

In response to key issues identified in the implementation of HSS during the previous rounds and to improve the quality and timeliness of the surveillance process in the 14th round, several new initiatives were implemented as part of continuous quality improvement.

SACS checklist for preparatory activities:

This was developed to monitor the planning process for HSS in each state (Annex 3). All the preparatory activities were broken into specific tasks with clear timelines and SACS were required to submit the completion status for each task. A team of officers from NACO coordinated with state nodal persons to ensure that preparatory activities in all states adhered to the timelines.



Pre-surveillance sentinel site evaluation (SSE):

A pre-surveillance evaluation of ANC and STD sentinel sites was conducted to identify and correct human resources and infrastructure-related issues at the sentinel sites before initiation of surveillance. The evaluation also provided site information such as type of facility, average OPD attendance, availability of HIV and AIDS services, and distance of facilities from HSS labs (Annex 4), which may have implications on adherence to methodology.

Standard operational manuals, wall charts, and bilingual data forms:

These were developed to simplify the HSS methodology for site-level personnel and to ensure uniform implementation of the guidelines in all the sentinel sites. These were printed centrally and distributed across the country.


Training during HSS 2014-15:

Steps to improve quality of training:

1. A well-structured training programme was adopted to ensure that all the personnel involved in HSS at different levels were adequately and uniformly trained in the respective areas of responsibility.
2. The training agenda, curriculum, and planning and reporting formats were standardized and used in all the states. Standard slide sets and training manuals for training of sentinel site personnel were developed centrally to ensure uniformity.
3. Trainings included group work and a “know your sentinel site” exercise, which helped participants identify the routine practices that could affect the implementation of surveillance at their sites and recommended actions to address the same.
4. Pre and post-test assessments were given to each participant at the site-level trainings. Analysis of these scores helped state teams to identify the priority sites for supervisory visits.
5. Training reports for each batch were submitted in standard formats at the end of the each training.

Details of trainings:

1. Trainings started with two batches of national pre-surveillance meetings with about 90 personnel from regional institutes and SACS to discuss the critical aspects



of planning for HSS 2014-15 and to clearly understand the system for supportive supervision through the online Strategic Information Management System (SIMS) application.

2. This was followed by 2-day regional TOTs organised by the RIs for SACS officers and state surveillance teams, comprised of public health experts and microbiologists, to create state-level master trainers and to plan for the site-level trainings.

3. Site-level trainings (2 days per batch @ 8-10 sites per batch) were conducted in all the states. Representatives from the regional institutes and NACO observed the trainings to ensure that trainings were provided as per the protocol and that all the sessions were covered as per the session plan.

4. Separate trainings on surveillance testing protocols and lab reporting mechanisms through the SIMS application for HSS were organised for microbiologists and lab technicians from 117 ANC/STD testing labs and 13 NRLs.

5. Overall, 40 central team members; 30 officers from six RIs; 95 SACS officers including in-charge surveillance, Epidemiologists, and M&E officers; 280 state surveillance team members; 260 laboratory personnel including microbiologists and lab technicians from the designated testing labs; and more than 3,000 sentinel site personnel including medical officers, nurse/counsellors, and lab technicians were trained under HSS 2014-15.

Laboratory system: For HSS 2014-15, the laboratory system was strengthened by limiting the testing of specimens to designated SRLs. Real-time monitoring of the quality of blood specimens and laboratory processes was achieved through introduction of web based reporting through the SIMS application for HSS. Efforts were made to standardize quality assurance aspects of sample testing under HSS and to streamline responses in case of discordant test results between testing lab and reference lab through the SIMS application.

Supervisory mechanisms for HSS 2014-15: Supervision of all HSS activities was prioritized to ensure smooth implementation and high-quality data collection. Extensive mechanisms were developed to set up a comprehensive supervisory system for HSS and to ensure that 100 % of HSS sites were visited in the first 15 days of the start of sample collection. The principles adopted included action-oriented supervision, real-time monitoring and feedback, accountability for providing feedback and taking action, and an integrated web-based system to enhance the reach and effectiveness of supervision.



SIMS modules for web-based supervision.

Specific modules were developed and made operational in the web-based SIMS for HSS to facilitate real-time monitoring of HSS 2014-15.

1. Field supervision was conducted by trained supervisors who visited the sentinel sites to monitor the quality of recruitment of respondents and other site-level procedures. Real-time reporting of field supervision used the SIMS supervisor module via the field supervisory quick feedback and action taken report sub-modules. The module was used extensively by all the supervisors and helped in quick identification and resolution of challenges in the field.
2. Data were supervised by data managers at RIs to monitor the quality of data collection and transportation using the SIMS module.
3. Laboratory supervision was conducted by SRLs and NRLs to monitor the quality of blood specimens, progress in laboratory processing, and external quality assurance, using the SIMS lab module.

Overall, 80 % of supervisors reported on the SIMS field supervisor quick feedback format, and 52 % of action taken report formats were submitted by HSS focal persons from SACS and RIs. Laboratory reporting through the lab module was completed by 87% of SRLs.

Integrated monitoring and supervision plan

1. An integrated supervision plan for each state was developed by RIs, SACS, and NIHFV to avoid duplication in monitoring coverage, thereby facilitating maximum coverage of surveillance sites.
2. The first round of visits was conducted by RI, SACS, and SST members. Central team members (CTM) visited the top priority sites identified in feedback from the first round of visits. Subsequent visits were based on priority with a goal of making at least three visits to each identified site which require supervision.

SMS-based daily reporting from sentinel sites

This was piloted in last round and implemented in this round as an approach of daily reporting of the number of samples collected at each sentinel site through a group SMS from a registered mobile number to a central server. The system automatically compiled and displayed site-wise data on an Excel format on a real-time basis. Access to this web-based application was given to SACS, RIs, and DAC and facilitated identification of sites with poor performance and enabled initiation of corrective action at sites that initiated HSS late; where sample collection was too slow or too fast; and where there were large gaps in sample collection.

CHAPTER 3

Profile of Respondents


Data was collected from each respondent on key nine socio-demographic variables. Analysis of these variables is important because they help programme managers and policy makers understand the background characteristics of clinic attendees. Also they help in the identification of particular characteristics which make respondents more prone to acquiring HIV infection and assessing how representative the sample is.

Review of the profile of the respondents showed that at state level, three-fifths of the respondents (60.2 %) were in the age group of 15-24 years, with the median age of respondents being 23 years. Only 4 % of respondents had limited or no literacy skills. More than two-fifth (47.7 %) of respondents were literate with 6th to 10th standard education, followed by those who studied up to graduation (34.8 %). Those with only primary education accounted for 7.5 %. More than two-fifth of the ANC clinic attendees (43.9 %, 42.6 % respectively) were in their first and second pregnancy respectively. Almost two-thirds of the respondents (62.7 %) reported that they resided in rural areas. About 88 % of ANC clinic attendees reported that they were housewives. Only 3 % reported that they were in Service (Govt. Pvt.). Non-agricultural labourers (2.2 %); agricultural labour (3.8 %); skilled/semi-skilled workers (1.1%) were the remaining occupations among the respondents. Non-agricultural labourers (19 %); service (14.7%); agricultural labour (12.2%); local transport worker (9.5 %); petty business (5.8 %) and hotel staff (2.2%) are other important occupation groups of spouses of respondents. Only less than five (4.8%) % of ANC clinic attendees reported that their spouses reside in another place for work for longer than six months.

Table 4: Profile of Respondents at State Level, HSS 2014-15

Background characteristics	Number	%
Age (N=28772)		
Median		
15-24	17313	60.2
25-34	11036	38.4
35-44	423	1.5
45-49	0	0.0
Literacy status (N=28764)		
Illiterate	1234	4.3

Literate and till 5th standard	2163	7.5
6th to 10th standard	13724	47.7
11th to Graduation	10012	34.8
Post Graduation	1631	5.7
Order of current pregnancy (N=28766)		
First	12628	43.9
Second	12268	42.6
Third	3130	10.9
Fourth or more	740	2.6
Source of referral pregnancy (N=28768)		
Self referral	7928	27.6
Family/Relatives/Neighbors/Friends	4399	15.3
NGO	219	0.8
Private Hospital	478	1.7
Govt. Hospital	15288	53.1
ICTC/ART Centre	456	1.6
Current place of residence (N=28702)		
Urban	10706	37.3
Rural	17996	62.7
Current occupation of the respondent (N=25303)		
Agricultural Labourer	1094	3.8
Non-Agricultural labourer	637	2.2
Domestic servant	66	0.2
Skilled/Semiskilled worker	306	1.1
Petty business	85	0.3
Large business/self employed	63	0.2
Service (Govt./Pvt.)	863	3.0
Student	222	0.8
Truck driver/helper	0	0.0
Local transport worker	2	0.0
Hotel staff	13	0.0
Agricultural cultivator/landholder	115	0.4
Housewife	25303	88.0
Current occupation of the spouse (N=28762)		
Agricultural Labourer	3513	12.2
Non-Agricultural labourer	5462	19.0



Domestic servant	140	0.5
Skilled/Semiskilled worker	8010	27.8
Petty business	1668	5.8
Large business/self employed	626	2.2
Service (Govt./Pvt.)	4236	14.7
Student	24	0.1
Truck driver/helper	823	2.9
Local transport worker	2740	9.5
Hotel staff	630	2.2
Agricultural cultivator/landholder	805	2.8
Unemployed	43	0.1
Not Applicable	42	0.1
Spouse resides alone in another place/town from wife for work for longer than 6 months (N=28755)		
Yes	1389	4.8
No	27325	95.0
Not Applicable	41	0.1
HIV (N=28773)		
Negative	28696	99.73
Positive	77	0.27
Syphilis (N=28773)		
Negative	28758	99.95
Positive	15	0.05

3.1. Age

Age in completed years is recorded for every respondent at the time of recruitment into HSS. The majority (60.2 %) belonged to the age group of 15-24 years and a little more than a third (38.4 %) were in the age group of 25-34 years. Only one and half percent of respondents belonged to the age group of 35-44 years and no one has registered in the 45-49 years age group.

The proportion of respondents in the age group of 15-24 years ranges from 34.5 % in Kanniyakumari to 77.8 % in Dharmapuri. While the respondents in the age group of 25-34 years accounted only for one third state level, it's ranges between 62.8 % in Kanniyakumari and 21.6 % in Dharmapuri district. Less than 2 % of the respondents in the districts of the state belonged to this age group (35-44 years).

Figure 2: Percentage (%) Distribution of respondents by age group in Tamil Nadu, HSS 2014-15

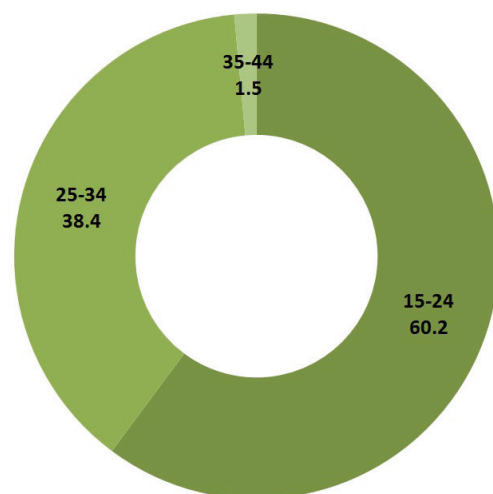



Table 5: Percentage Distribution of respondents by age group and district, HSS 2014-15

	15-24	25-34	35-44	45-49	N
Ariyalur	62.4	36.9	0.8	0.0	800
Chennai	61.8	34.2	4.1	0.0	1200
Coimbatore	63.9	34.6	1.4	0.0	1595
Cuddalore	45.5	54.4	0.1	0.0	800
Dharmapuri	77.8	21.6	0.7	0.0	1200
Dindigul	59.1	39.8	1.1	0.0	799
Erode	57.9	40.1	2.0	0.0	798
Kancheepuram	57.1	42.4	0.5	0.0	800
Kanniyakumari	34.5	62.8	2.7	0.0	1200
Karur	56.3	41.8	2.0	0.0	800
Krishnagiri	68.3	30.6	1.1	0.0	800
Madurai	63.9	34.3	1.9	0.0	800
Nagapattinam	58.5	40.1	1.4	0.0	800
Namakkal	66.6	32.2	1.3	0.0	799
Perambalur	61.3	37.1	1.6	0.0	800
Pudukkottai	54.6	44.8	0.6	0.0	800
Ramanathapuram	54.6	43.6	1.9	0.0	799
Salem	66.4	32.3	1.4	0.0	800
Sivaganga	52.9	46.0	1.1	0.0	800



Thanjavur	51.0	47.8	1.3	0.0	800
The Nilgiris	64.0	35.5	0.5	0.0	799
Theni	69.7	28.9	1.4	0.0	796
Thiruvallur	59.2	39.4	1.4	0.0	799
Thiruvarur	51.8	47.4	0.8	0.0	799
Thoothukudi	58.3	40.3	1.5	0.0	800
Tiruchirappalli	63.1	34.8	2.1	0.0	1595
Tirunelveli	64.3	34.0	1.7	0.0	1199
Tiruppur	64.2	34.8	1.0	0.0	798
Tiruvannamalai	66.7	31.9	1.4	0.0	799
Vellore	63.7	34.4	1.9	0.0	799
Viluppuram	57.6	40.9	1.5	0.0	799
Virudhunagar	63.6	35.5	0.9	0.0	800
Tamilnadu	60.2	38.4	1.5	0	28772

3.2. Literacy Status

Under HSS 2014-15, respondent literacy status was classified into five categories:

1. Illiterate: people with no formal or non-formal education.
2. Literate and till 5th standard: people with non-formal education or those who joined school but had not studied beyond 5th standard.
3. 6th to 10th standard: people who studied beyond 5th standard but not beyond 10th standard.
4. 11th to graduation: people who studied beyond 10th standard but not beyond graduation. Includes those with technical education/diplomas.
5. Post-graduation: people who studied beyond graduation.

More than 4 % of respondents at the state level had no formal education. Around 7.5 % of respondents studied up to fifth standard and the highest proportion of respondents (47.7 %) studied between sixth and tenth standards. Around 35 % of the respondents reported to have studied beyond 10th standard and up to graduation, while another about 6 % had studied beyond graduation.

The proportion of illiterates varied from less than 1 % in Kanniyakumari to 12 % in Krishnagiri. Viluppuram (11.6 %), Salem (8.6 %), Erode (8.2 %), Namakkal (7.6 %), Vellore (7.4 %), Tiruchirappalli (6.1 %), Ariyalur (5.5 %) and Thoothukudi

(5.1 %) had higher proportions of respondents who were illiterates. On the other hand, Nagapattinam (1.8), Ramanathapuram (1.4) had very low proportions of respondents who were illiterates.

Figure 3: Percent Distribution of respondents by education in Tamil Nadu, HSS 2014-15

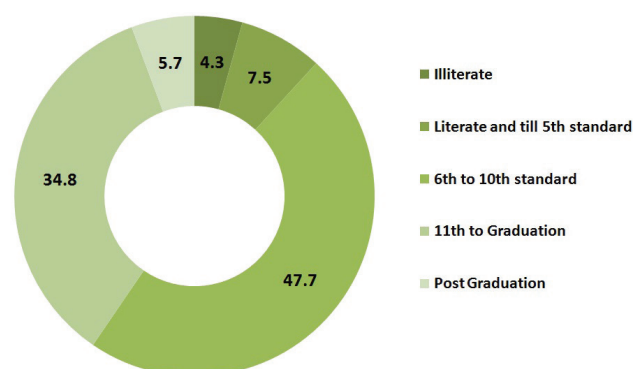



Table 6: Percent Distribution of respondents by education and districts in Tamil Nadu, HSS 2014-15

	Illiterate	Literate and till 5th standard	6th to 10th standard	11th to Graduation	Post Graduation	N
Ariyalur	5.5	7.4	49.4	32.7	5.0	798
Chennai	3.8	3.1	37.4	47.1	8.6	1200
Coimbatore	2.3	7.3	43.9	35.1	11.5	1594
Cuddalore	3.3	6.0	51.3	34.9	4.6	800
Dharmapuri	2.8	7.5	44.1	38.0	7.7	1200
Dindigul	4.6	7.3	52.2	32.7	3.3	799
Erode	8.2	8.5	56.2	25.4	1.8	796
Kancheepuram	4.0	6.9	43.6	36.8	8.8	800
Kanniyakumari	0.4	2.8	32.3	54.6	9.9	1200
Karur	3.5	17.4	41.5	34.0	3.6	800
Krishnagiri	12.0	6.5	51.1	25.6	4.8	800
Madurai	4.0	10.8	49.1	34.0	2.1	800
Nagapattinam	1.8	6.4	57.0	30.4	4.5	800
Namakkal	7.6	16.1	43.1	27.4	5.8	799
Perambalur	2.5	7.6	40.0	44.4	5.5	800



Pudukkottai	3.5	4.9	52.1	35.0	4.5	800
Ramanathapuram	1.4	5.4	49.9	34.5	8.8	799
Salem	8.6	10.1	47.9	31.0	2.4	800
Sivaganga	3.9	4.5	48.6	37.0	6.0	800
Thanjavur	3.3	6.9	54.2	31.2	4.5	799
The Nilgiris	2.9	4.9	34.8	50.1	7.4	799
Theni	2.5	4.9	52.6	38.2	1.8	796
Thiruvallur	3.1	3.4	50.5	33.2	9.8	798
Thiruvarur	0.6	3.5	52.3	37.8	5.8	799
Thoothukudi	5.1	9.1	48.0	34.9	2.9	800
Tiruchirappalli	6.1	6.5	46.1	34.0	7.3	1596
Tirunelveli	2.9	7.7	58.0	28.2	3.3	1199
Tiruppur	3.5	9.8	52.3	28.4	6.0	798
Tiruvannamalai	3.9	11.7	49.5	33.2	1.8	798
Vellore	7.4	12.3	54.1	21.7	4.5	798
Viluppuram	11.6	11.3	49.2	24.5	3.4	799
Virudhunagar	4.6	8.3	49.6	34.1	3.4	800

3.3. Order of Pregnancy

The order of pregnancy denotes the number of times a woman has become pregnant. It includes the number of live births, still births and abortions. It is also referred to as 'gravida'. As noted earlier in the context of HIV, order of pregnancy indicates the duration of exposure to sexual risks, so HIV prevalence among primi-gravida is considered as a proxy for new HIV infections and is an indicator of state HIV incidence.

At the state level, a little less than half (43.9 %) of the respondents reported being pregnant for the first time, while close to 42.6 % were pregnant for the second time, and 10.89 % of respondents reported that it was their third pregnancy. Only 2.56 % of respondents were pregnant for the fourth or more time (Figure 4).

At the district level, the percentage of primi-gravida varies between 36.4 % in Viluppuram to 56.1 % in Pudukkottai. Tirunelveli (50 %), Thiruvarur (49.9 %), Ramanathapuram (49.2) and Chennai (49%) also had higher % of primi-gravida among respondents. On the other hand, Dindigul (50.6 %), Erode (50.4) and Thiruvallur (40.8) had higher percentage of respondents who were pregnant for second time (Table 7).

Figure 4: Percent Distribution of respondents by order of pregnancy in Tamil Nadu, HSS 2014-15

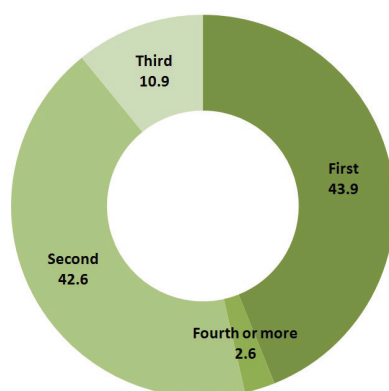



Table 7: District-wise Distribution of respondents by Order of Pregnancy in Tamil Nadu, HSS 2014-15

	First	Second	Third	Fourth or more	N
Ariyalur	47.2	41.2	10.0	1.6	799
Chennai	49.0	35.5	12.3	3.2	1199
Coimbatore	47.4	37.5	11.1	4.0	1594
Cuddalore	38.3	48.1	11.9	1.8	800
Dharmapuri	42.4	45.4	10.6	1.6	1200
Dindigul	37.8	50.6	8.6	3.0	799
Erode	39.8	50.4	8.0	1.8	798
Kancheepuram	47.5	37.9	12.4	2.3	800
Kanniyakumari	42.7	47.1	8.5	1.8	1200
Karur	37.5	43.1	15.5	3.9	800
Krishnagiri	41.8	42.9	13.5	1.9	800
Madurai	41.6	43.8	12.1	2.5	800
Nagapattinam	45.3	43.1	9.6	2.0	800
Namakkal	40.2	42.4	13.2	4.3	798
Perambalur	40.5	40.4	15.8	3.4	800
Pudukkottai	56.1	37.5	5.9	0.5	800
Ramanathapuram	49.2	43.6	6.6	0.5	798
Salem	37.1	43.3	15.0	4.6	800
Sivaganga	42.9	45.0	10.6	1.5	800
Thanjavur	46.4	38.6	11.9	3.1	800
The Nilgiris	42.6	45.6	8.1	3.8	799



Theni	46.0	46.1	7.2	0.8	796
Thiruvallur	40.8	49.7	7.9	1.6	799
Thiruvavarur	49.9	42.1	7.0	1.0	799
Thoothukudi	41.1	40.9	14.3	3.8	800
Tiruchirappalli	43.7	40.9	12.4	3.1	1596
Tirunelveli	50.0	40.4	7.9	1.7	1199
Tiruppur	39.3	46.2	12.0	2.4	798
Tiruvannamalai	48.5	39.2	10.4	1.9	798
Vellore	44.6	36.2	13.7	5.5	798
Viluppuram	36.4	43.3	14.6	5.6	799
Virudhunagar	43.6	45.0	9.9	1.5	800

3.4. Source of Referral to the ANC Clinic

This variable illuminates the various sources of referral, and helps identify if a specific bias is being introduced in the sample due to specific referrals of HIV-positive cases from any source. The response categories listed in the HSS data form include self-referral; family/relative/ neighbour/friend; NGO; private hospital (doctor/nurse); government hospital (including ANM/ASHA); and ICTC/ ART centre. Government health care providers include ANM, ASHA, doctors/nurses at PHC, and CHC.

Government hospital/ANM/ASHA was identified as the major source of referral to ANC clinics, accounting for 53.1 % of respondents, followed by self-referral (27.6 %), and family/relative/neighbour/friend (15.3 %). Only close to 2 % had been referred by private service providers at the state level. NGOs and ICTC/ART centres accounted for 3.3 % off referrals totally.

Referral from government service providers was higher in the district of Ariyalur (100 %), Perambalur (96.9 %), Tiruppur (96.4 %), Krishnagiri (95.8 %), Thiruvavarur (87.7 %), and Vellore (86.1 %). There were less referral from the government facilities in Thoothukudi (5.5 %) and it was very low in Kanniyakumari (1.8 %). In Virudhunagar, 61.9 % of ANC clinic attendees came of their own accord, i.e., were not referred. This was followed by the districts of Thoothukudi (61.1 %), Salem (55 %), The Nilgiris (49.2 %), Tiruchirappalli (45.9 %), Ramanathapuram (43.4 %), Kanniyakumari (43 %), Namakkal (41.9) Thanjavur (41.4) and Nagapattinam (40.8 %). Self-referrals were lowest in the districts of Krishnagiri (1.1%), Perambalur (1 %), and no self-referral from Ariyalur.

While overall private sector referrals accounted for around 2 % of respondents,

Chennai (21.1 %) had higher proportions of private sector referrals. While NGOs accounted for only 0.8 % of all respondents as a source of referral to ANC clinics, the districts of Vellore (6.5 %) and Thiruvavarur (5.3 %) showed relatively higher levels of NGO referrals. The proportion of referral from ICTC/ART centres was also low (1.6 %), however, it varied in certain districts, for example in the district of Tirunelveli (34.4%) showed relatively higher proportions of referrals from ICTC/ART centres (Table 8).

Figure 5: Percent Distribution of respondents by source of referral in Tamil Nadu, HSS 2014-15

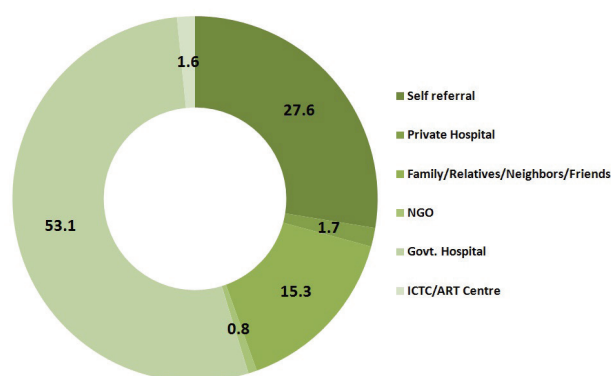



Table 8: District-wise Distribution of respondents by source of referral and district in Tamil Nadu, HSS 2014-15

	Self referral	Family/Relatives/Neighbors/Friends	NGO	Private Hospital	Govt. Hospital	ICTC/ART Centre	
Ariyalur	0.0	0.0	0.0	0.0	100.0	0.0	800
Chennai	22.7	25.6	0.1	21.1	30.6	0.0	1200
Coimbatore	29.5	28.0	0.1	0.2	42.2	0.0	1594
Cuddalore	21.3	22.0	0.6	5.6	50.5	0.0	800
Dharmapuri	2.3	30.3	0.0	0.1	67.4	0.0	1198
Dindigul	20.0	8.1	4.1	0.0	67.6	0.1	799
Erode	35.7	5.4	0.3	0.0	58.6	0.0	798
Kancheepuram	35.4	33.4	0.0	8.4	22.9	0.0	800
Kanniyakumari	43.0	54.7	0.0	0.5	1.8	0.0	1200
Karur	20.0	1.9	0.4	0.1	77.6	0.0	800
Krishnagiri	1.1	0.0	0.0	1.9	95.8	1.3	800
Madurai	37.3	5.5	0.0	0.8	56.4	0.1	800



Nagapattinam	40.8	14.9	0.1	0.0	44.3	0.0	800
Namakkal	41.9	4.6	0.4	0.5	52.6	0.0	799
Perambalur	1.0	0.0	0.0	2.0	96.9	0.1	800
Pudukkottai	25.1	33.3	0.1	0.0	41.5	0.0	800
Ramanathapuram	43.4	16.8	1.3	0.4	38.2	0.0	798
Salem	55.0	0.0	0.0	0.0	45.0	0.0	800
Sivaganga	34.4	31.5	0.8	0.4	33.0	0.0	800
Thanjavur	41.4	13.5	0.0	1.3	43.9	0.0	800
The Nilgiris	49.2	0.4	0.3	0.0	50.1	0.0	798
Theni	26.3	0.0	0.1	0.3	73.4	0.0	796
Thiruvallur	16.1	7.4	0.1	0.3	75.5	0.6	799
Thiruvarur	6.3	0.5	5.3	0.3	87.7	0.0	799
Thoothukudi	61.1	32.8	0.0	0.5	5.5	0.1	800
Tiruchirappalli	45.9	17.4	0.1	0.9	35.7	0.1	1596
Tirunelveli	9.1	9.2	0.2	0.8	46.3	34.4	1199
Tiruppur	2.8	0.3	0.0	0.6	96.4	0.0	798
Tiruvannamalai	34.2	3.8	3.0	0.4	57.8	0.9	799
Vellore	3.9	1.3	6.5	0.3	86.1	2.0	799
Viluppuram	10.3	36.3	3.4	0.0	50.1	0.0	799
Virudhunagar	61.9	6.8	0.0	0.0	31.4	0.0	800

3.5. Current Place of Residence

2014-15 records the reported current residence of the respondent as urban or rural. If the current place of residence of the respondent was Municipal Corporation, municipal council, or cantonment area, it was classified as urban. Otherwise, it was recorded as rural.

At the state level, 62.7 % of the respondents are reported to be currently residing in rural areas and the rest (37.3 %) are reported to be currently residing in urban areas. However, there were inter-district variations. Besides Chennai, Coimbatore, Madurai, Tirunelveli and Trichy, which are big cities, only Chennai and The Nilgiris reported more than two-thirds (79.5%; 70.8%) of respondents residing in urban areas. On the other hand, the districts of Dharmapuri (17%) and Thiruvallur (14.8%), Thiruvarur (13%), Pudukkottai (12.5 %), Ariyalur (5.1%) and Perambalur (3.8%) had lower proportions of respondents who reported urban area as their residence

Figure 6: Percent Distribution of respondents by Current Place of residence in Tamil Nadu, HSS 2014-15

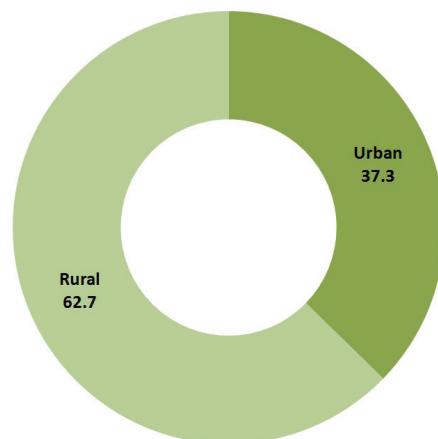


Table 9: District-wise Distribution of respondents by Current Place of residence and district in Tamil Nadu, HSS 2014-15

District	Urban	Rural	N
Ariyalur	5.1	94.9	797
Chennai	79.5	20.5	1200
Coimbatore	52.6	47.4	1593
Cuddalore	47.1	52.9	800
Dharmapuri	17.0	83.0	1197
Dindigul	42.7	57.3	798
Erode	46.2	53.8	795
Kancheepuram	30.7	69.3	799
Kanniyakumari	40.3	59.7	1200
Karur	51.4	48.6	800
Krishnagiri	47.2	52.8	799
Madurai	46.6	53.4	800
Nagapattinam	21.3	78.8	800
Namakkal	35.8	64.2	795
Perambalur	3.8	96.3	800
Pudukkottai	12.5	87.5	800
Ramanathapuram	36.9	63.1	797
Salem	38.2	61.8	793
Sivaganga	21.3	78.8	800
Thanjavur	34.5	65.5	798

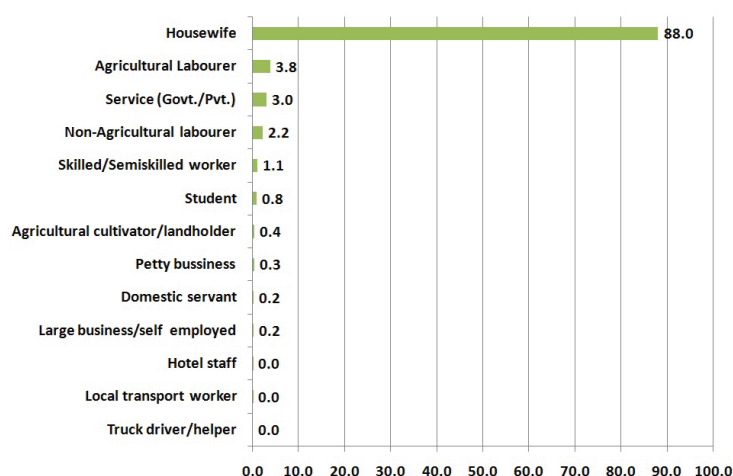
The Nilgiris	70.8	29.2	790
Theni	57.3	42.7	793
Thiruvallur	14.8	85.2	798
Thiruvavur	13.0	87.0	794
Thoothukudi	56.6	43.4	800
Tiruchirappalli	35.5	64.5	1593
Tirunelveli	21.0	79.0	1199
Tiruppur	59.0	41.0	795
Tiruvannamalai	23.2	76.8	798
Vellore	52.4	47.6	783
Viluppuram	21.9	78.1	798
Virudhunagar	40.5	59.5	800

3.6. Current Occupation of the Respondent

Certain occupations are associated with higher exposure and risk to HIV. It is important to understand the profile of respondents with respect to their occupation. For this purpose, HSS has categorized 13 occupations, as detailed in an earlier chapter.

At the state level, the majority of the respondents (88 %) were housewives, and 3.8 % of respondents reported to be Agricultural labourers and Service (Govt./Pvt.) were accounted for 3 % of respondents, followed by non-agricultural labourers (2.2 %), and those in Skilled/Semiskilled work was (1.1 %).

Figure 7: Percent Distribution of respondents by Current Occupation of the Respondent in Tamil Nadu, HSS 2014-15



In all the districts, majority of respondents were housewives. Except Tiruchirappalli (69.7 %) and Ariyalur (72.4 %), all districts had over 75 % of respondents who were housewives. Following housewife, a high proportion of respondents reported their occupation as agricultural labourers in the districts of Ariyalur (20.1 %), Viluppuram (16.8 %), Tiruchirappalli (13.3 %), Perambalur (11.1 %) and Dharmapuri (10.1). Similarly, a higher proportion of respondents reported being in government or private service in the districts of Chennai (13.8 %), Tiruchirappalli (6.8 %) and Kanniyakumari (6 %). In Sivaganga (2 %), Cuddalore and Perambalur around 2 % of respondents reported to be students (Table 10).

Table 10: District-wise Distribution of respondents by Occupation in Tamil Nadu, HSS 2014-15

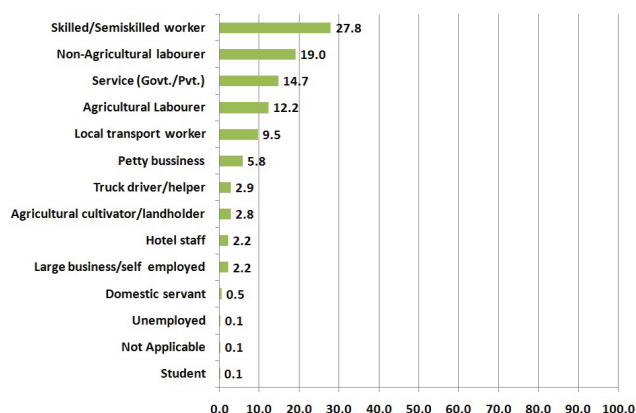
	Agricultural Labourer	Non-Agricultural labourer	Domestic servant	Skilled/Semiskilled worker	Petty business	Large business/self em- ployed	Service (Govt./Pvt.)	Student	Truck driver/helper	Local transport worker	Hotel staff	Agricultural cultivator/landholder	Housewife	N
	%	%	%	%	%	%	%	%	%	%	%	%	%	N
Ariyalur	20.1	0.8	0.0	0.8	0.0	0.0	2.4	1.5	0.0	0.0	0.0	2.1	72.4	800
Chennai	0.4	0.5	0.5	0.3	0.5	0.7	13.0	0.3	0.0	0.0	0.1	0.0	83.8	1200
Coimbatore	0.6	0.8	0.1	1.6	0.3	0.0	5.0	0.8	0.0	0.0	0.0	0.0	90.8	1594
Cuddalore	0.3	0.3	0.0	0.4	0.4	0.0	5.0	1.8	0.0	0.0	0.0	0.0	92.0	800
Dharmapuri	10.1	0.3	0.2	0.2	0.4	0.0	2.3	0.1	0.0	0.0	0.1	2.5	83.9	1200
Dindigul	2.6	3.0	0.1	0.5	0.3	0.0	1.4	0.9	0.0	0.0	0.0	0.0	91.2	799
Erode	1.6	2.1	0.1	0.8	0.4	0.0	0.8	0.5	0.0	0.0	0.1	0.0	93.6	798
Kancheepuram	0.5	1.4	1.5	0.3	0.5	0.3	3.5	0.6	0.0	0.0	0.0	0.0	91.5	800
Kanniyakumari	0.0	0.1	0.0	0.3	0.0	0.1	6.0	0.9	0.0	0.0	0.0	0.0	92.7	1200
Karur	0.6	1.9	0.0	1.5	0.1	0.0	1.3	1.1	0.0	0.0	0.1	0.0	93.4	800
Krishnagiri	0.8	3.6	0.1	0.8	0.5	0.0	2.6	0.5	0.0	0.0	0.0	0.1	91.0	800
Madurai	2.3	2.1	0.4	1.8	0.4	0.0	3.4	1.0	0.0	0.0	0.0	0.0	88.8	800
Nagapattinam	0.3	0.3	0.0	0.1	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.0	98.8	800
Namakkal	0.8	0.5	0.0	2.6	0.1	0.0	1.3	0.5	0.0	0.0	0.0	0.1	94.1	799
Perambalur	11.1	2.3	0.1	0.4	0.0	0.0	3.1	1.8	0.0	0.0	0.0	4.3	77.0	800
Pudukkottai	0.0	0.1	0.0	0.3	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	98.8	800
Ramanathapuram	7.6	0.8	0.1	0.3	0.8	5.1	2.5	0.6	0.0	0.0	0.0	0.3	82.0	799

Salem	2.3	2.3	0.3	0.1	0.1	0.0	2.3	0.6	0.0	0.0	0.1	0.3	91.8	800
Sivaganga	2.3	0.9	0.0	0.3	0.3	0.0	3.3	2.0	0.0	0.0	0.0	0.0	91.1	800
Thanjavur	2.5	1.6	0.5	0.5	0.0	0.1	2.8	0.4	0.0	0.0	0.0	0.0	91.6	800
The Nilgiris	3.5	1.1	0.0	0.1	0.1	0.1	1.6	0.1	0.0	0.0	0.1	0.1	93.0	798
Theni	2.9	1.3	0.0	0.8	0.1	0.0	1.6	1.4	0.0	0.0	0.3	0.5	91.2	796
Thiruvallur	1.0	4.1	0.1	0.4	0.6	0.1	1.3	0.0	0.0	0.1	0.0	0.0	92.2	798
Thiruvavur	2.1	0.6	0.0	0.4	0.3	0.1	0.6	0.8	0.0	0.0	0.0	0.0	95.1	798
Thoothukudi	2.1	5.9	0.0	1.5	0.4	0.0	2.6	0.6	0.0	0.0	0.0	0.0	86.9	800
Tiruchirappalli	13.3	4.1	1.0	2.4	0.9	0.1	6.8	1.6	0.0	0.0	0.0	0.0	69.7	1596
Tirunelveli	1.8	12.4	0.3	2.4	0.2	0.0	1.1	0.6	0.0	0.0	0.1	0.1	81.2	1199
Tiruppur	0.1	3.0	0.0	4.5	0.0	0.0	0.9	0.6	0.0	0.0	0.0	0.0	90.9	798
Tiruvannamalai	4.1	3.3	0.9	0.9	0.5	0.0	0.6	0.4	0.0	0.1	0.1	1.1	88.0	799
Vellore	2.1	1.4	0.1	2.8	0.4	0.4	1.4	0.1	0.0	0.0	0.1	0.1	91.1	799
Viluppuram	16.8	1.0	0.1	0.3	0.1	0.1	2.4	0.6	0.0	0.0	0.1	1.5	77.0	799
Virudhunagar	0.5	4.4	0.1	3.0	0.1	0.1	1.4	1.5	0.0	0.0	0.1	0.0	88.8	800

3.7. Current Occupation of Spouse

The respondents were also asked about the current occupation of their spouses. Occupation of spouse is an important epidemiological variable that may help identify population groups at higher risk of acquiring HIV. HSS used the same occupational categories as those used for the respondent. The two differences were that the category ‘unemployed’ (Code 13) is used in the place of ‘housewife’ and there is an additional category ‘not applicable’ (for never married/widowed/divorced/ separated)’ (Code 99).

Figure 8: Percent Distribution of respondents by current occupation of spouse in Tamil Nadu, HSS 2014-15



At the state level, skilled/ semi- skilled workers (27.8 %), non-agricultural labourers (19.1%), service (govt/pvt) (14.7%), agricultural labourers (12.2 %), and local transport worker (9.5%) were the predominant occupations of the spouses of respondents, accounting for more than four-fifth (83.3%) of all respondents. Petty business/small shops (8%) and truck driver/helper (2.9%) were other important spousal occupations. Only around one percent of the respondents reported that their spouse was unemployed. Similar patterns were noted across the states with certain inter-state variations.

Table 11: District-wise Distribution of respondents by the Occupation of spouse in Tamil Nadu, HSS 2014-15

	Agricultural Labourer	Non-Agricultural labourer	Domestic servant	Skilled/Semiskilled worker	Petty bussiness	Largebusiness/self employed	Service (Govt./Pvt.)	Student	Truck driver/helper	Local transport worker	Hotel staff	Agricultural cultivator/ landholder	Unemployed	Not Applicable	
Ariyalur	40.6	4.4	0.0	17.8	4.6	2.9	10.8	0.4	4.9	6.8	2.5	3.8	0.6	0.1	800
Chennai	3.5	14.4	0.2	11.8	9.6	6.4	40.9	0.1	3.2	8.8	0.8	0.3	0.0	0.2	1200
Coimbatore	7.3	10.5	0.1	37.5	7.2	3.6	20.5	0.1	1.1	10.0	1.0	0.8	0.1	0.1	1594
Cuddalore	13.0	25.1	0.1	22.4	5.0	1.8	15.6	0.1	3.5	10.5	0.5	2.3	0.0	0.1	800
Dharmapuri	19.4	18.6	0.7	23.1	8.8	1.3	10.6	0.0	4.1	6.5	0.8	6.0	0.2	0.0	1200
Dindigul	8.0	42.7	0.0	11.8	8.3	2.1	10.8	0.0	0.3	13.0	1.9	0.9	0.0	0.3	798
Erode	8.7	39.1	0.0	29.1	4.2	1.1	6.8	0.1	2.0	7.2	1.3	0.4	0.1	0.0	795
Kancheepuram	13.0	6.0	1.4	27.0	7.0	3.4	26.6	0.0	1.4	13.5	0.5	0.0	0.3	0.0	800
Kanniyakumari	2.8	8.1	0.0	58.4	2.6	2.4	17.7	0.0	1.8	5.4	0.8	0.0	0.0	0.0	1200
Karur	4.8	28.0	0.0	37.6	5.3	1.3	10.5	0.1	3.9	6.4	1.6	0.5	0.0	0.1	800
Krishnagiri	4.0	17.5	0.0	29.1	7.8	1.6	18.4	0.0	4.5	10.8	3.3	2.5	0.3	0.4	800
Madurai	11.6	20.3	0.0	28.4	4.8	1.8	14.9	0.0	1.5	8.8	3.9	3.8	0.4	0.1	800
Nagapattinam	18.6	2.8	0.3	50.1	3.4	1.1	8.6	0.0	3.5	8.5	2.8	0.4	0.0	0.0	799
Namakkal	6.1	12.9	0.3	40.8	6.0	1.5	9.0	0.0	7.0	11.6	2.5	1.5	0.3	0.5	799
Perambalur	14.5	17.3	0.0	11.1	2.5	0.6	15.3	0.3	3.0	12.8	4.5	18.3	0.0	0.0	800
Pudukkottai	7.5	17.8	0.0	28.9	4.0	2.8	5.4	0.0	1.1	8.3	4.5	19.6	0.1	0.1	800
Ramanathapuram	11.1	8.1	0.1	29.2	6.5	11.5	15.5	0.1	1.8	12.1	3.0	0.5	0.4	0.0	799
Salem	10.0	41.0	0.0	19.5	3.3	0.4	8.0	0.0	1.1	15.5	0.8	0.3	0.0	0.3	800

Sivaganga	6.6	25.6	0.8	16.8	6.0	2.0	13.8	0.0	3.0	10.3	8.3	6.8	0.3	0.0	800
Thanjavur	20.8	26.1	0.1	22.6	3.5	1.6	6.5	0.0	2.1	11.3	2.4	2.3	0.3	0.5	800
The Nilgiris	13.7	18.6	0.3	29.9	3.4	1.1	11.4	0.0	4.4	13.7	3.0	0.4	0.3	0.0	797
Theni	17.0	17.8	0.0	16.7	5.2	4.1	19.8	0.3	2.6	12.2	1.4	2.8	0.1	0.0	796
Thiruvallur	5.8	23.7	0.6	21.6	4.9	1.5	26.2	0.1	1.9	5.0	0.3	7.8	0.4	0.4	798
Thiruvarur	23.3	13.8	0.0	30.7	4.5	0.6	10.8	0.3	1.4	12.0	1.6	1.0	0.0	0.1	799
Thoothukudi	3.9	22.5	0.0	38.4	6.8	1.4	7.6	0.1	4.6	11.3	2.6	0.5	0.1	0.1	799
Tiruchirappalli	15.5	14.1	0.6	21.9	7.5	1.0	23.9	0.2	3.7	8.3	2.7	0.1	0.2	0.4	1595
Tirunelveli	11.8	31.4	5.9	13.3	7.8	0.4	11.6	0.0	6.5	7.1	2.2	1.9	0.1	0.0	1199
Tiruppur	9.4	24.9	0.9	47.6	3.1	0.9	2.8	0.1	0.3	8.4	0.8	0.4	0.0	0.5	798
Tiruvannamalai	18.3	19.6	1.0	23.4	9.4	2.0	7.8	0.0	4.5	6.0	3.4	4.0	0.6	0.0	799
Vellore	6.0	18.9	0.0	38.5	6.6	1.6	10.6	0.0	2.4	10.5	4.3	0.4	0.0	0.1	799
Viluppuram	37.7	11.3	0.3	12.4	6.8	0.8	12.3	0.3	2.1	9.5	0.5	6.0	0.0	0.3	799
Virudhunagar	3.8	20.0	0.0	42.9	3.6	1.8	14.6	0.1	1.4	9.0	2.9	0.0	0.0	0.0	800

3.8. Migration Status of Spouse

In order to assess the relationship between spousal migration status and HIV prevalence among ANC clinic attendees, respondents in HSS were asked whether spouse resides in another place/town away from wife for work for longer than 6 months. This question was not applicable to those respondents who were never married/widowed/divorced/separated.

At the state level, around five percent of the respondents reported that their spouses were migrants, though there were significant inter-district variations. The highest proportion of respondents with a migrant spouse was Perambalur (17.3%), followed by other districts of Pudukkottai (16.4%), Viluppuram (16%), Sivaganga (14.6%), Thanjavur (14.5%), Ramanathapuram (14.4%) and Nagapattinam (11.9%) were showed higher proportions of respondents with a migrant spouse.

Figure 9: Percent Distribution of respondents by migrant spouse in Tamil Nadu, HSS 2014-15

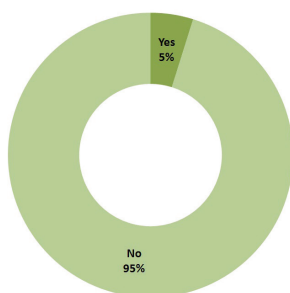


Table 12: District-wise of respondents with migrant spouse in Tamil Nadu, HSS 2014-15

District	% respondents with migrant spouse	N
Ariyalur	0.6	799
Chennai	0.7	1200
Coimbatore	0.3	1594
Cuddalore	4.1	800
Dharmapuri	0.4	1199
Dindigul	0.3	799
Erode	0.8	796
Kancheepuram	2.4	800
Kanniyakumari	6.6	1200
Karur	3.5	799
Krishnagiri	0.8	800
Madurai	8.1	800
Nagapattinam	11.9	799
Namakkal	0.8	799
Perambalur	17.3	800
Pudukkottai	16.4	800
Ramanathapuram	14.4	799
Salem	0.1	800
Sivaganga	14.6	800
Thanjavur	14.5	799
The Nilgiris	0.0	799
Theni	1.9	796
Thiruvallur	0.1	799
Thiruvarur	5.8	798
Thoothukudi	1.6	799
Tiruchirappalli	6.1	1592
Tirunelveli	6.4	1199
Tiruppur	0.3	798
Tiruvannamalai	1.1	795
Vellore	1.0	799
Viluppuram	16.0	799
Virudhunagar	1.6	800



CHAPTER 4

Levels of HIV Prevalence among ANC Clinic Attendees


HIV prevalence is the proportion of respondents who are found HIV positive at a given point of time in a specified geographic area. It indicates the burden of the epidemic in different population groups.

HIV prevalence among ANC clinic attendees is considered as proxy for HIV burden in general population. HIV prevalence of 1% or more among ANC clinic attendees is considered as high level, 0.5-0.99% is considered as moderate level and less than 0.5% is considered as low HIV prevalence for the analysis purpose in this report. This chapter describes the levels of HIV prevalence among ANC clinic attendees at state and district level.

4.1. HIV Prevalence at State District Level

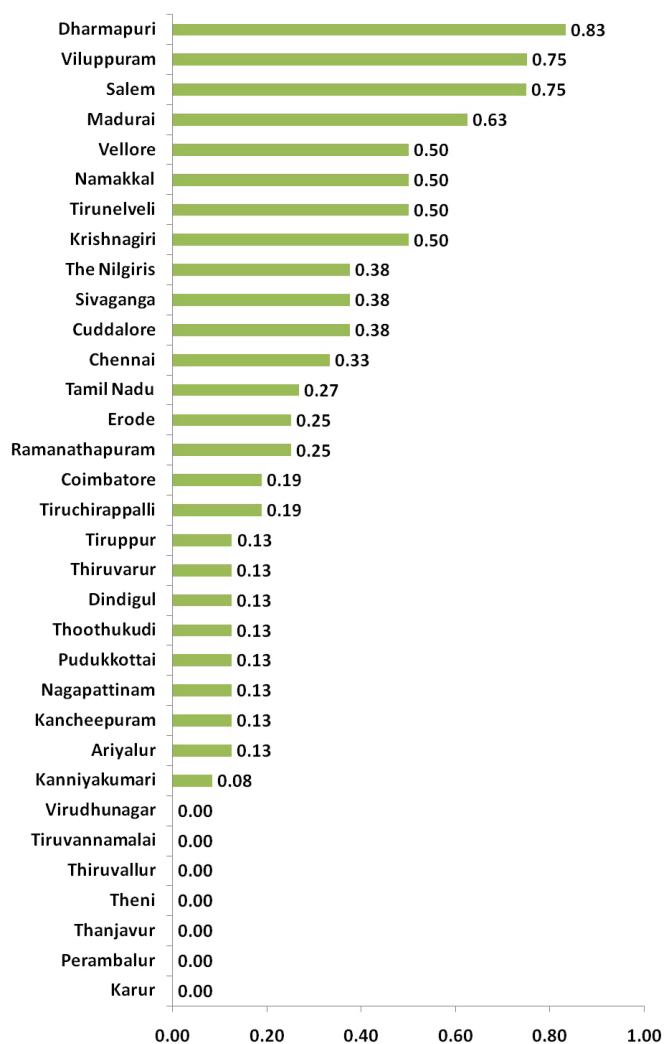
Table 13: District-wise HIV Prevalence among ANC Clinic Attendees in Tamil Nadu, HSS 2014-15

District	HIV Prevalence (%)
Karur	0.00
Perambalur	0.00
Thanjavur	0.00
Theni	0.00
Thiruvallur	0.00
Tiruvannamalai	0.00
Virudhunagar	0.00
Kanniyakumari	0.08
Ariyalur	0.13
Kancheepuram	0.13
Nagapattinam	0.13
Pudukkottai	0.13
Thoothukudi	0.13
Dindigul	0.13
Thiruvarur	0.13
Tiruppur	0.13
Tiruchirappalli	0.19
Coimbatore	0.19
Ramanathapuram	0.25
Erode	0.25
Tamil Nadu	0.27
Chennai	0.33
Cuddalore	0.38



Sivaganga	0.38
The Nilgiris	0.38
Krishnagiri	0.50
Tirunelveli	0.50
Namakkal	0.50
Vellore	0.50
Madurai	0.63
Salem	0.75
Viluppuram	0.75
Dharmapuri	0.83

Figure 10: HIV Prevalence (%) among ANC Clinic Attendees by district, HSS 2014-15





4.2. Variations in the Number of High HIV-Prevalence Sites over Time

Within the state there were variations in HIV prevalence among the sites as well as the districts. There were 33 sites showing HIV prevalence as 'zero'.

Table 14: Site level variations in HIV Prevalence among ANC Clinic Attendees in Tamil Nadu, HSS 2014-15

No. of sites with ANC HIV prevalence of 1 % or more	6
No. of sites with ANC HIV prevalence of less than 1 %	33
No. of sites with ANC HIV prevalence of zero	33
Total	72



CHAPTER 5

HIV Prevalence among ANC Clinic Attendees by Background Characteristics

The national, state and district response to the HIV epidemic is guided by data obtained through HIV Sentinel Surveillance (HSS). The HIV epidemic in India continues to be concentrated among HRG with low level and declining prevalence among general population.

This chapter gives details about HIV/AIDS prevalence as observed against the key nine demographic and socio-economic variables which were recorded for each respondent. Fully acknowledging that several factors work in tandem or individually to either cause or prevent HIV, hence we do not suggest any evident causation by projecting the key variables vis a vis the HIV prevalence, as risk factors for acquiring HIV. However, this sort of detailed analysis will help the programme and policy makers to understand the risk factors associated with transmission of HIV/AIDS with particular demographic characteristics. This chapter presents cross tabulations of demographic variables with HIV/AIDS positivity among the ANC clinic attendees. A detailed state-wise analysis will be needed to understand region wise variations, applying local knowledge about vulnerabilities and risk factors.

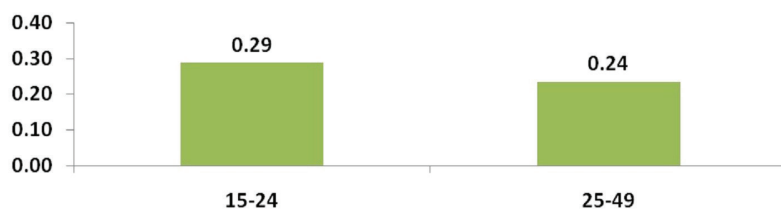
The following sections present the findings for each of these background characteristics.

1. Age
2. Literacy status
3. Order of current pregnancy
4. Source of referral to the ANC clinic
5. Current place of residence
6. Duration of stay at current place of residence
7. Current occupation of respondent
8. Current occupation of spouse
9. Migration status of spouse

5.1. HIV Prevalence among ANC Clinic Attendees by Age

Age-specific HIV prevalence data from HSS 2014-15, Tamil Nadu showed that HIV prevalence was higher among the younger age group of the respondents. ANC clinic attendees in the younger age group (15-24 years) had an HIV prevalence of 0.29 %, while it was 0.24 % among those aged 25-34 years. As noted earlier, HIV prevalence among the young is considered a proxy for new HIV infections.

Figure 11 HIV Prevalence among ANC Clinic Attendees by Age, HSS 2014-15, Tamil Nadu




HIV Prevalence among ANC clinic Attendees by Age wise shows that among the age group of 15-24(0.29%) the infection is higher as compared to the age group of 25-49 (0.24%).

In district level, the HIV prevalence is high among the age group 15-24 years it ranges from 0.87 % to 0.75 in Villupuram, Dharmapuri, Madurai and Salem Districts. In Cuddalore, Krishnagiri, Tirunelveli, Ramanathapuram, Nilgiris, Vellore, Namakkal and Trichy districts it ranges from 0.55 % to 0.30 %. In Chennai, Sivaganga, Tiruvarur, Pudhukottai, Erode, Kancheepuram, Dindigul and Coimbatore districts it ranges from 0.27 % to 0.20 %. There were 7 districts showed zero prevalence.

Among the age group of 25-49 years the HIV prevalence is high in Dharmapuri, Namakkal, Salem, Vellore and Villupuram districts and it ranges from 0.75 % to 0.59 %. In sivaganga, Tirunelveli, Chennai, Krishnagiri, Madurai, Nilgris, Tiruppur and Ariyalur districts, it ranges from 0.53 % to 0.33 %. In Erode, Nagapattinam, Thoothukudi, Cuddalore, Coimbatore and Kanniyakumari, it ranges from 0.30 % to 0.13 %.

Table 15: HIV Prevalence among ANC Clinic Attendees by Age and District, HSS 2014-15, Tamil Nadu

	15-24		25-49	
	%	N	%	N
Tamil Nadu	0.29	17313	0.24	11459
Ariyalur	0.00	499	0.33	301
Chennai	0.27	741	0.44	459
Coimbatore	0.20	1020	0.17	575
Cuddalore	0.55	364	0.23	436
Dharmapuri	0.86	933	0.75	267



Dindigul	0.21	472	0.00	327
Erode	0.22	462	0.30	336
Kancheepuram	0.22	457	0.00	343
Kanniyakumari	0.00	414	0.13	786
Karur	0.00	450	0.00	350
Krishnagiri	0.55	546	0.39	254
Madurai	0.78	511	0.35	289
Nagapattinam	0.00	468	0.30	332
Namakkal	0.38	532	0.75	267
Perambalur	0.00	490	0.00	310
Pudukkottai	0.23	437	0.00	363
Ramanathapuram	0.46	436	0.00	363
Salem	0.75	531	0.74	269
Sivaganga	0.24	423	0.53	377
Thanjavur	0.00	408	0.00	392
The Nilgiris	0.39	511	0.35	288
Theni	0.00	555	0.00	241
Thiruvallur	0.00	473	0.00	326
Thiruvarur	0.24	414	0.00	385
Thoothukudi	0.00	466	0.30	334
Tiruchirappalli	0.30	1006	0.00	589
Tirunelveli	0.52	771	0.47	428
Tiruppur	0.00	512	0.35	286
Tiruvannamalai	0.00	533	0.00	266
Vellore	0.39	509	0.69	290
Viluppuram	0.87	460	0.59	339
Virudhunagar	0.00	509	0.00	291

5.2. HIV Prevalence among ANC Clinic Attendees by Literacy Status

Under HSS 2014-15, Tamil Nadu, HIV prevalence among ANC Clinic attendees the literacy status was classified into five categories:

Illiterate: people with no formal or non-formal education the HIV prevalence is 0.7 %

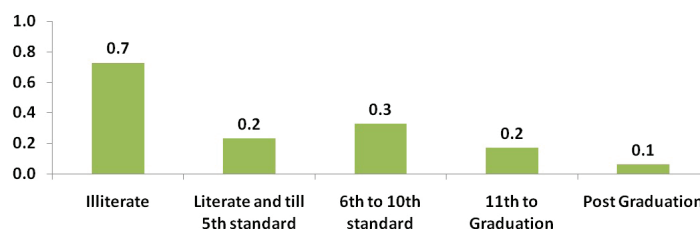
Literate and till 5th standard: people with non-formal education or those who joined school but had not studied beyond 5th standard the HIV prevalence is 0.2 %

6 to 10th standard: people who studied beyond 5th standard but not beyond 10th standard the HIV prevalence is 0.3 %.

11 to graduation: people who studied beyond 10th standard but not beyond graduation. Includes those with technical education/diplomas the HIV prevalence is 0.2 %.

Post-graduation: people who studied beyond graduation the HIV prevalence is 0.1 %.

Figure 12 HIV Prevalence (%) among ANC Clinic Attendees by Literacy Status, HSS 2014-15, Tamil Nadu



Among the Illiterate, the HIV prevalence in Dharmapuri, Tirunelveli, Thoothukudi, Ariyalur, Krishnagiri, Namakkal, Salem and Trichy District it ranges from 3.0 % to 1.0 %.Among Literate and till 5th standard the HIV prevalence in Nilgiris, Kancheepuram, Tiruppur, Villupuram and Vellore it ranges from 2.60 % to 1.00 %.

In 6th to 10th standard the HIV prevalence in Dharmapuri, Madurai, Villupuram, Sivaganga, Cuddalore, Vellore, Namakkal, Tirunelveli, Krishnagiri, Salem, Erode, Trichy, Chennai, Dindigul, Nagapattinam, Pudukkottai, Tiruvarur and Coimbatore it ranges from 1.50 % to 0.10 %.

From 11th to Graduation the HIV prevalence in Salem, Ramanathapuram, Chennai, Namakkal, Viluppuram, Coimbatore, Madurai, Nilgiris, Tirunelveli, Dharmapuri and Kanniyakumari it ranges from 1.20 % to 0.20 %.

In Post Graduation the HIV prevalence in Nilgiris district only it shows 1.7%.

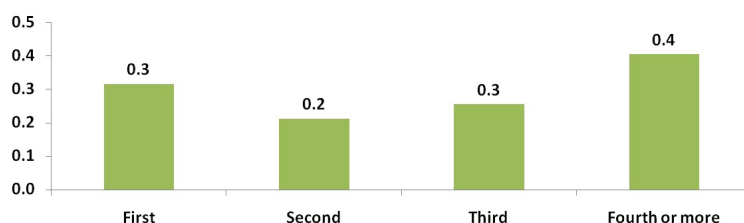
Table 16: HIV Prevalence (%) among ANC Clinic Attendees by Literacy Status and Districts, HSS 2014-15, Tamil Nadu

	Illiterate		Literate and till 5th standard		6th to 10th standard		11th to Graduation		Post Graduation	
	%	N	%	N	%	N	%	N	%	N
Tamil Nadu	0.7	1234	0.2	2163	0.3	13724	0.2	10012	0.1	1631
Ariyalur	2.3	44	0.0	59	0.0	394	0.0	261	0.0	40
Chennai	0.0	46	0.0	37	0.2	449	0.5	565	0.0	103
Coimbatore	0.0	36	0.0	116	0.1	699	0.4	560	0.0	183
Cuddalore	0.0	26	0.0	48	0.7	410	0.0	279	0.0	37
Dharmapuri	3.0	33	0.0	90	1.5	529	0.2	456	0.0	92
Dindigul	0.0	37	0.0	58	0.2	417	0.0	261	0.0	26
Erode	0.0	65	0.0	68	0.4	447	0.0	202	0.0	14
Kancheepuram	0.0	32	1.8	55	0.0	349	0.0	294	0.0	70
Kanniyakumari	0.0	5	0.0	33	0.0	388	0.2	655	0.0	119
Karur	0.0	28	0.0	139	0.0	332	0.0	272	0.0	29
Krishnagiri	2.1	96	0.0	52	0.5	409	0.0	205	0.0	38
Madurai	0.0	32	0.0	86	1.0	393	0.4	272	0.0	17
Nagapattinam	0.0	14	0.0	51	0.2	456	0.0	243	0.0	36
Namakkal	1.6	61	0.0	129	0.6	344	0.5	219	0.0	46
Perambalur	0.0	20	0.0	61	0.0	320	0.0	355	0.0	44
Pudukkottai	0.0	28	0.0	39	0.2	417	0.0	280	0.0	36
Ramanathapuram	0.0	11	0.0	43	0.0	399	0.7	276	0.0	70
Salem	1.4	69	0.0	81	0.5	383	1.2	248	0.0	19
Sivaganga	0.0	31	0.0	36	0.8	389	0.0	296	0.0	48
Thanjavur	0.0	26	0.0	55	0.0	433	0.0	249	0.0	36
The Nilgiris	0.0	23	2.6	39	0.0	278	0.3	400	1.7	59
Theni	0.0	20	0.0	39	0.0	419	0.0	304	0.0	14
Thiruvallur	0.0	25	0.0	27	0.0	403	0.0	265	0.0	78
Thiruvarur	0.0	5	0.0	28	0.2	418	0.0	302	0.0	46
Thoothukudi	2.4	41	0.0	73	0.0	384	0.0	279	0.0	23
Tiruchirappalli	1.0	97	0.0	104	0.3	736	0.0	542	0.0	117
Tirunelveli	2.9	35	0.0	92	0.6	695	0.3	338	0.0	39
Tiruppur	0.0	28	1.3	78	0.0	417	0.0	227	0.0	48
Tiruvannamalai	0.0	31	0.0	93	0.0	395	0.0	265	0.0	14
Vellore	0.0	59	1.0	98	0.7	432	0.0	173	0.0	36
Viluppuram	0.0	93	1.1	90	1.0	393	0.5	196	0.0	27
Virudhunagar	0.0	37	0.0	66	0.0	397	0.0	273	0.0	27

5.3 HIV Prevalence among ANC Clinic Attendees by Order of Pregnancy

The order of pregnancy denotes the number of times a woman has become pregnant. It includes the number of live births, still births and abortions. It is also referred to as 'gravida'. As noted earlier in the context of HIV, order of pregnancy indicates the duration of exposure to sexual risks, so HIV prevalence among primi-gravida is considered as a proxy for new HIV infections and is an indicator of state HIV incidence.

Figure 13: HIV Prevalence (%) among ANC Clinic Attendees by Order of Pregnancy, HSS 2014-15, Tamil Nadu



At the state level, the HIV prevalence among ANC clinic attendees in primi-gravida is 0.3% in second gravida is 0.2%, in third gravida is 0.3% and fourth gravida it is 0.4%.

At the District level the HIV prevalence among ANC clinic attendees in primi-gravida ranges from 1.00% to 20% in 18 districts and 14 districts show zero percent.

In first gravida the HIV prevalence in Salem and Villupuram was 1%. Among second gravida the HIV prevalence was less than 1%. The districts of Dharmapuri, Madurai and Salem were reported more than 1% of HIV prevalence among third gravida.

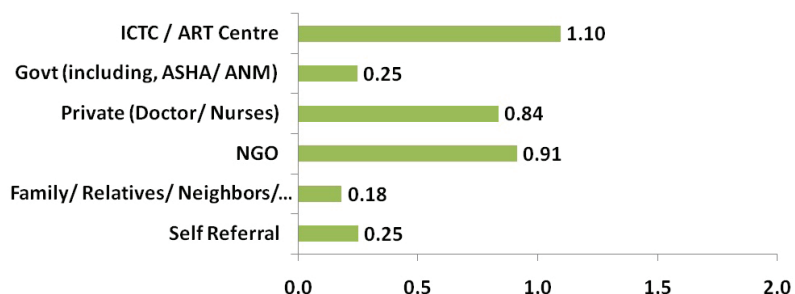
Among fourth and above gravida the reported HIV prevalence was 7.7% in Ariyalur, 5% in Madurai and 2% in Villupuram district.

Table 17: HIV Prevalence (%) among ANC Clinic Attendees by Order of Pregnancy and districts , HSS 2014-15, Tamil Nadu

	First		Second		Third		Fourth or more	
	%	N	%	N	%	N	%	N
Tamil Nadu	0.3	12628	0.2	12268	0.3	3130	0.4	740
Ariyalur	0.0	377	0.0	329	0.0	80	7.7	13
Chennai	0.0	587	0.7	426	0.7	148	0.0	38
Coimbatore	0.4	756	0.0	598	0.0	177	0.0	63
Cuddalore	0.7	306	0.3	385	0.0	95	0.0	14
Dharmapuri	0.6	509	0.9	545	1.6	127	0.0	19
Dindigul	0.3	302	0.0	404	0.0	69	0.0	24
Erode	0.3	318	0.2	402	0.0	64	0.0	14
Kancheepuram	0.0	380	0.3	303	0.0	99	0.0	18
Kanniyakumari	0.0	512	0.2	565	0.0	102	0.0	21
Karur	0.0	300	0.0	345	0.0	124	0.0	31
Krishnagiri	0.6	334	0.3	343	0.9	108	0.0	15
Madurai	0.0	333	0.9	350	1.0	97	5.0	20
Nagapattinam	0.0	362	0.3	345	0.0	77	0.0	16
Namakkal	0.9	321	0.3	338	0.0	105	0.0	34
Perambalur	0.0	324	0.0	323	0.0	126	0.0	27
Pudukkottai	0.2	449	0.0	300	0.0	47	0.0	4
Ramanathapuram	0.5	393	0.0	348	0.0	53	0.0	4
Salem	1.0	297	0.3	346	1.7	120	0.0	37
Sivaganga	0.3	343	0.6	360	0.0	85	0.0	12
Thanjavur	0.0	371	0.0	309	0.0	95	0.0	25
The Nilgiris	0.9	340	0.0	364	0.0	65	0.0	30
Theni	0.0	366	0.0	367	0.0	57	0.0	6
Thiruvallur	0.0	326	0.0	397	0.0	63	0.0	13
Thiruvarur	0.3	399	0.0	336	0.0	56	0.0	8
Thoothukudi	0.0	329	0.3	327	0.0	114	0.0	30
Tiruchirappalli	0.3	697	0.0	652	0.5	198	0.0	49
Tirunelveli	0.8	600	0.2	484	0.0	95	0.0	20
Tiruppur	0.3	314	0.0	369	0.0	96	0.0	19
Tiruvannamalai	0.0	387	0.0	313	0.0	83	0.0	15
Vellore	0.8	356	0.3	289	0.0	109	0.0	44
Viluppuram	1.0	291	0.6	346	0.0	117	2.2	45
Virudhunagar	0.0	349	0.0	360	0.0	79	0.0	12

5.4 HIV Prevalence among ANC Clinic Attendees by Source of Referral

Figure 14: HIV Prevalence (%) among ANC Clinic Attendees by Source of Referral, HSS 2014-15, Tamil Nadu



HIV prevalence among pregnant women referred by govt facilities, family members / relatives / neighbours / friends and self referral was less than 4 %. Whereas, ANC referred by NGOs and private facilities was 0.9 % and 0.8 % respectively.

Among ANCs referred by ICTC / ART centres, the HIV prevalence was more than 1 %.

At district level, among self referral ANC attendees the HIV prevalence in Cuddalore, Salem, Vellore and Viluppuram was reported more than 1 %. In Erode, Kancheepuram, Kanniyakumari, Madurai, Nagapattinam, Nagapattinam, Ramanathapuram, Sivaganga, The Nilgiris and Tiruchirappalli the same was reported as less than 0.8 % of HIV prevalence.

Table 18: HIV Prevalence (%) among ANC Clinic Attendees by Source of Referral and Districts, HSS 2014-15, Tamil Nadu

	Self Referral		Family/ Relatives/ Neighbors/ Friends		NGO		Private (Doctor/ Nurses)		Govt (including, ASHA/ ANM)		ICTC / ART Centre	
	%	N	%	N	%	N	%	N	%	N	%	N
Tamil Nadu	0.3	7928	0.2	4399	0.9	219	0.8	478	0.2	15288	1.1	456
Ariyalur									0.1	800		
Chennai	0.0	272	0.3	307	0.0	1	0.8	253	0.3	367		
Coimbatore	0.0	471	0.0	446	0.0	2	33.3	3	0.3	672		
Cuddalore	1.2	170	0.0	176	0.0	5	0.0	45	0.2	404		
Dharmapuri	0.0	27	0.6	363			0.0	1	1.0	807		
Dindigul	0.0	160	0.0	65	0.0	33			0.2	540	0.0	1
Erode	0.4	285	0.0	43	0.0	2			0.2	468		
Kancheepuram	0.4	283	0.0	267			0.0	67	0.0	183		
Kanniyakumari	0.2	516	0.0	656			0.0	6	0.0	22		
Karur	0.0	160	0.0	15	0.0	3	0.0	1	0.0	621		
Krishnagiri	0.0	9					0.0	15	0.5	766	0.0	10
Madurai	0.7	298	0.0	44			0.0	6	0.4	451	100.0	1
Nagapattinam	0.3	326	0.0	119	0.0	1			0.0	354		
Namakkal	0.0	335	0.0	37	33.3	3	0.0	4	0.7	420		
Perambalur	0.0	8					0.0	16	0.0	775	0.0	1
Pudukkottai	0.0	201	0.0	266	0.0	1			0.3	332		
Ramanathapuram	0.3	346	0.0	134	0.0	10	0.0	3	0.3	305		
Salem	1.1	440							0.3	360		
Sivaganga	0.4	275	0.8	252	0.0	6	0.0	3	0.0	264		
Thanjavur	0.0	331	0.0	108			0.0	10	0.0	351		
The Nilgiris	0.3	393	0.0	3	0.0	2			0.5	400		
Theni	0.0	209			0.0	1	0.0	2	0.0	584		
Thiruvallur	0.0	129	0.0	59	0.0	1	0.0	2	0.0	603	0.0	5
Thiruvarur	0.0	50	0.0	4	0.0	42	0.0	2	0.1	701		
Thoothukudi	0.0	489	0.0	262			0.0	4	0.0	44	100.0	1
Tiruchirappalli	0.3	733	0.0	277	0.0	1	0.0	15	0.2	569	0.0	1
Tirunelveli	0.0	109	0.0	110	50.0	2	10.0	10	0.2	555	0.7	413
Tiruppur	0.0	22	0.0	2			0.0	5	0.1	769		
Tiruvannamalai	0.0	273	0.0	30	0.0	24	0.0	3	0.0	462	0.0	7
Vellore	3.2	31	0.0	10	0.0	52	0.0	2	0.4	688	0.0	16
Viluppuram	1.2	82	1.0	290	0.0	27			0.5	400		
Virudhunagar	0.0	495	0.0	54					0.0	251		

5.5. HIV Prevalence among ANC Clinic Attendees by Place of Residence

The HIV prevalence among ANC Clinic Attendees who reported as residing in rural and urban was 0.3 % each.


At district level, HIV Prevalence among ANC attendees who were residing at urban area in Dharmapuri, Salem and Vellore was reported more than 1 %.

In Tiruchirappalli, The Nilgiris, Coimbatore, Cuddalore, Erode, Dindigul, Chennai, Ramanathapuram, Namakkal, Tirunelveli, Kancheepuram, Krishnagiri, Sivaganga were ranged from 0.2 % to 0.6 % and rest of the districts were reported zero HIV prevalence.

Among rural based ANC attendees, the HIV prevalence in Villupuram and Madurai was 1 % and 1.2 % respectively. Around 20 districts were reported from 0.1 to 0.9 % of HIV prevalence and rest of the districts were reported zero HIV prevalence.

Table 19: HIV Prevalence among ANC Clinic Attendees by Place of Residence and district, HSS 2014-15, Tamil Nadu

	Urban		Rural	
	%	N	%	N
Tamil Nadu	0.3	10706	0.3	17996
Ariyalur	0.0	41	0.1	756
Chennai	0.3	954	0.4	246
Coimbatore	0.2	838	0.1	755
Cuddalore	0.3	377	0.5	423
Dharmapuri	1.5	203	0.7	994
Dindigul	0.3	341	0.0	457
Erode	0.3	367	0.2	428
Kancheepuram	0.4	245	0.0	554
Kanniyakumari	0.0	484	0.1	716
Karur	0.0	411	0.0	389
Krishnagiri	0.5	377	0.5	422
Madurai	0.0	373	1.2	427
Nagapattinam	0.0	170	0.2	630
Namakkal	0.4	285	0.6	510
Perambalur	0.0	30	0.0	770
Pudukkottai	0.0	100	0.1	700



Ramanathapuram	0.3	294	0.2	503
Salem	1.0	303	0.6	490
Sivaganga	0.6	170	0.3	630
Thanjavur	0.0	275	0.0	523
The Nilgiris	0.2	559	0.9	231
Theni	0.0	454	0.0	339
Thiruvallur	0.0	118	0.0	680
Thiruvarur	0.0	103	0.1	691
Thoothukudi	0.0	453	0.3	347
Tiruchirappalli	0.2	566	0.2	1027
Tirunelveli	0.4	252	0.5	947
Tiruppur	0.0	469	0.3	326
Tiruvannamalai	0.0	185	0.0	613
Vellore	1.0	410	0.0	373
Viluppuram	0.0	175	1.0	623
Virudhunagar	0.0	324	0.0	476

5.6. HIV Prevalence among ANC Clinic Attendees by Current Occupation of Respondent and Spouse

HIV prevalence among ANC attendees who were reported their current occupation as Domestic Servant and Petty business / small shop were more than 1 %.

Among agricultural Labourer, Non-Agricultural Labourer, Service (Govt./Pvt.) and Housewife's were ranged from 0.2 % to 0.7 % of HIV prevalence.

HIV prevalence among spouse working as Domestic Servant was more than 1 % and 2.3 % among who were unemployed and rest of the all occupations were reported less than 1 % of HIV prevalence, except Not Applicable category (newer married/widows / divorced / separated) for which the prevalence was calculated as 4.8 %.

Table 20: HIV Prevalence among ANC Clinic Attendees by Occupation by Respondents and Spouse, HSS 2014-15, Tamil Nadu

Occupation typology	Respondents		Spouse	
	Prevalence %	N	Prevalence %	N
Agricultural Labourer	0.7	1094	0.3	3513
Non-Agricultural Labourer	0.5	637	0.3	5462
Domestic Servant	1.5	66	1.4	140

Skilled / Semiskilled worker	0.0	306	0.2	8010
Petty business / small shop	1.2	85	0.2	1668
Large Business/Self employed	0.0	63	0.3	626
Service (Govt./Pvt.)	0.3	863	0.3	4236
Student	0.0	222	0.0	24
Truck Driver/helper			0.5	823
Local transport worker	0.0	2		2740
Hotel Staff	0.0	13	0.5	630
Agricultural cultivator	0.0	115	0.0	805
Housewife	0.2	25303		
Unemployed			2.3	43
Not Applicable			4.8	42

5.7. HIV Prevalence among ANC Clinic Attendees by Migration Status of Spouse

HIV prevalence among migrant spouse of ANC attendees was 0.1 % and non-migrant spouses ANC attendees were 0.3 %.

At district level, in Pudukkottai and Viluppuram was reported 0.8 % and rest of the districts were reported zero HIV prevalence among migrant spouse of ANC attendees.

Figure 15: HIV Prevalence among ANC Clinic Attendees by Migration Status of Spouse, HSS 2014-15, Tamil Nadu

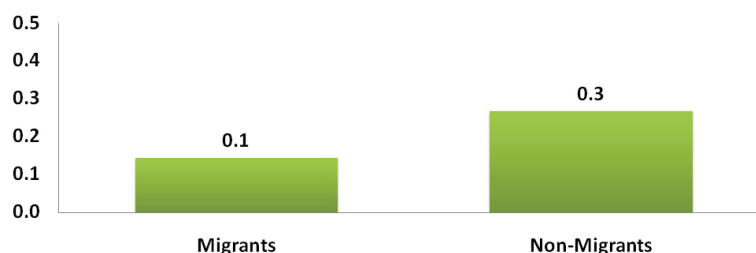


Table 21: HIV Prevalence among ANC Clinic Attendees by Migration Status of Spouse and District, HSS 2014-15, Tamil Nadu

	Migrants		Non-Migrants	
	%	N	%	N
Tamil Nadu	0.1	1389	0.3	27325
Ariyalur	0.0	5	0.0	793
Chennai	0.0	8	0.3	1190
Coimbatore	0.0	5	0.2	1587
Cuddalore	0.0	33	0.4	766
Dharmapuri	0.0	5	0.8	1194
Dindigul	0.0	2	0.1	795
Erode	0.0	6	0.3	790
Kancheepuram	0.0	19	0.1	781
Kanniyakumari	0.0	79	0.1	1121
Karur	0.0	28	0.0	770
Krishnagiri	0.0	6	0.5	790
Madurai	0.0	65	0.7	734
Nagapattinam	0.0	95	0.1	704
Namakkal	0.0	6	0.5	789
Perambalur	0.0	138	0.0	662
Pudukkottai	0.8	131	0.0	668
Ramanathapuram	0.0	115	0.3	684
Salem	0.0	1	0.8	797
Sivaganga	0.0	117	0.4	683
Thanjavur	0.0	116	0.0	681
The Nilgiris			0.4	799
Theni	0.0	15	0.0	781
Thiruvallur	0.0	1	0.0	795
Thiruvarur	0.0	46	0.1	751
Thoothukudi	0.0	13	0.1	785
Tiruchirappalli	0.0	97	0.2	1488
Tirunelveli	0.0	77	0.5	1122
Tiruppur	0.0	2	0.1	794
Tiruvannamalai	0.0	9	0.0	786
Vellore	0.0	8	0.4	789
Viluppuram	0.8	128	0.7	669
Virudhunagar	0.0	13	0.0	787

CHAPTER 6

HIV Prevalence trend among ANC clinic attendees

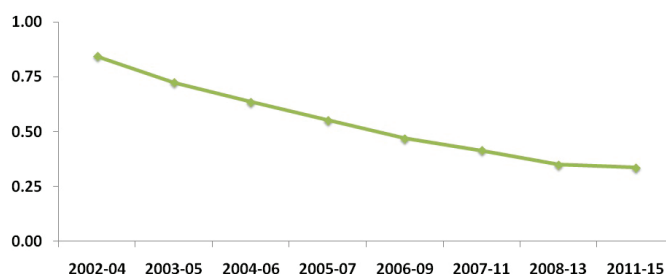
6.1 HIV Prevalence trend at State and District Level

The primary objective of HIV Sentinel Surveillance is to generate data on trends of HIV prevalence among various population groups in the country and state. Over time, HIV Sentinel Surveillance has offered vital clues to newer areas where HIV was emerging, highlighting rising trends in certain Districts or regions.

This has been a critical input to the strategic planning efforts under the National AIDS Control Programme and contributed to shaping the strategies for prevention and control of HIV/AIDS in the state. This chapter presents the trends of HIV prevalence among ANC clinic attendees at state and district levels. Data from the year 2002 has been used for trend analysis. Data from only consistent sites was used for trend analysis as it avoids the effect of addition of new sites on HIV prevalence in subsequent years, and hence provides a better picture of HIV trends in a district. Further, in order to smoothen the sampling variations in HIV prevalence due to small sample size at sentinel site level, a three-year moving average was calculated at state/district levels and trends have been analysed using this data. All the invalid sites i.e. sites where sample size was less than 75% (300) of the target sample size of 400, were excluded from trend analysis for that year.

Though there was a clear declining trend seen in Tamil Nadu, within the state, there are variations in HIV prevalence among the districts. District level information on HIV is essential for planning district strategies in HIV prevention and control. District wise trend analysis was performed on surveillance data collected during the year 2002-2015 using moving average technique.

Figure 16: HIV Prevalence trend at Tamil Nadu



6.2 HIV Prevalence trend at district level

Figure 17

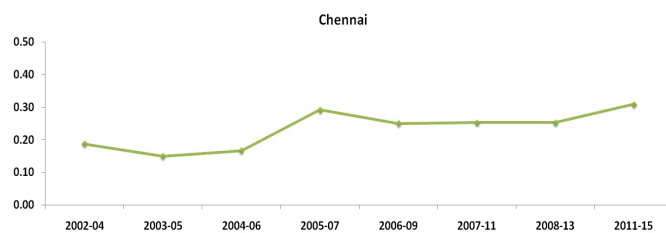


Figure 18

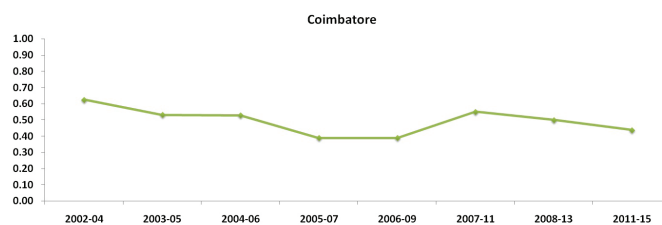


Figure 19

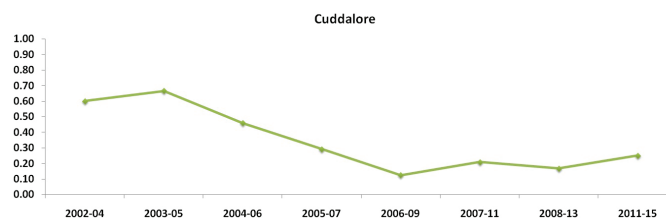




Figure 20

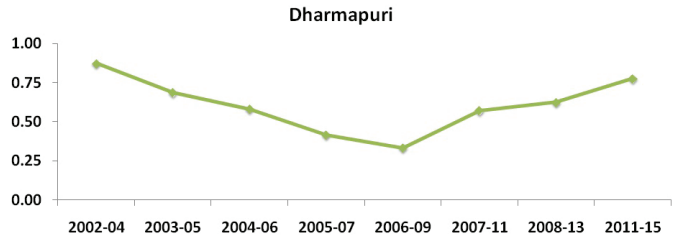


Figure 21

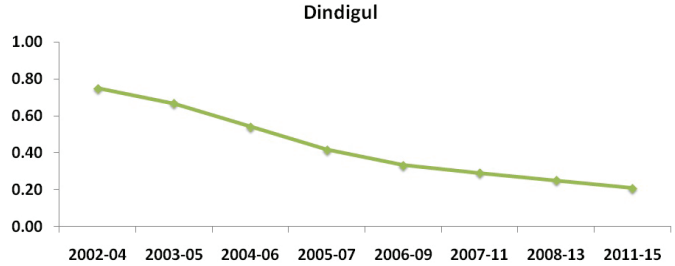


Figure 22

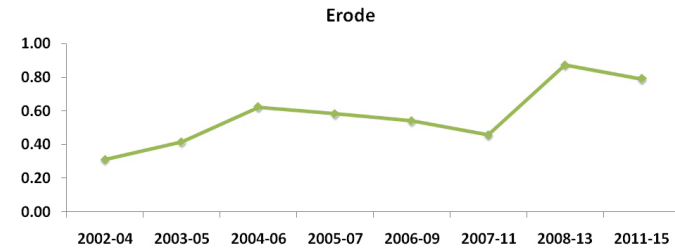


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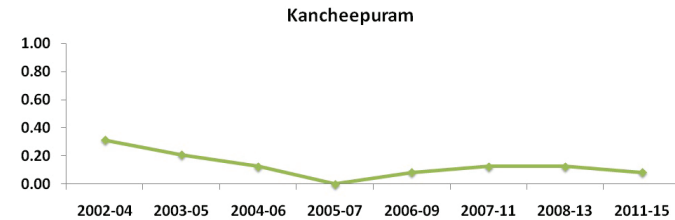




Figure 24

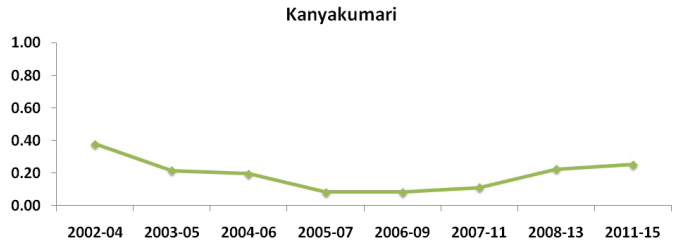


Figure 25

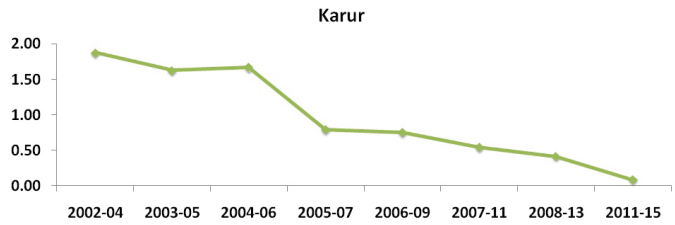


Figure 26

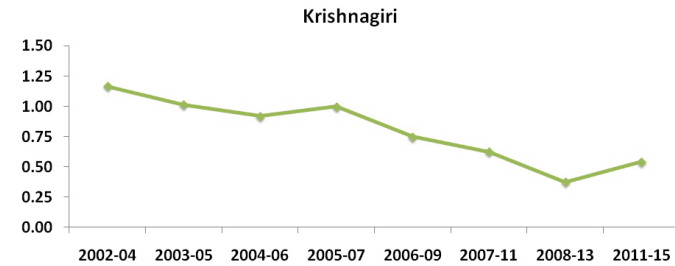


Figure 27

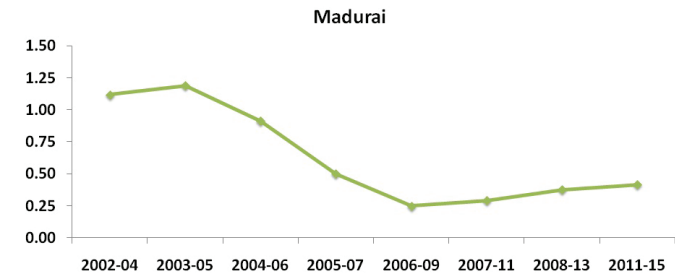




Figure 28

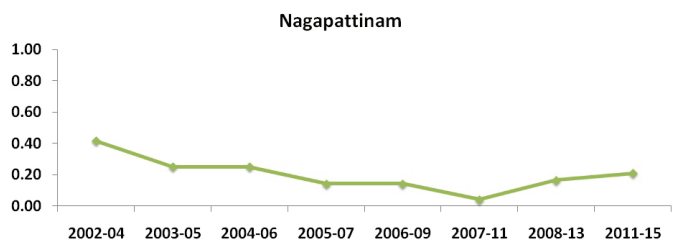


Figure 29

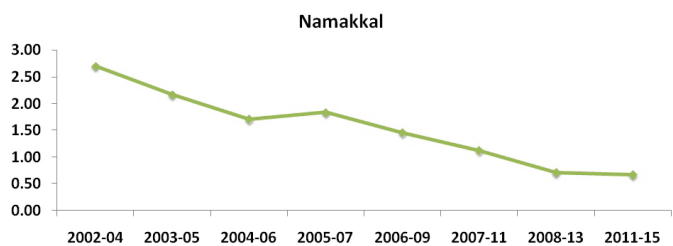


Figure 30

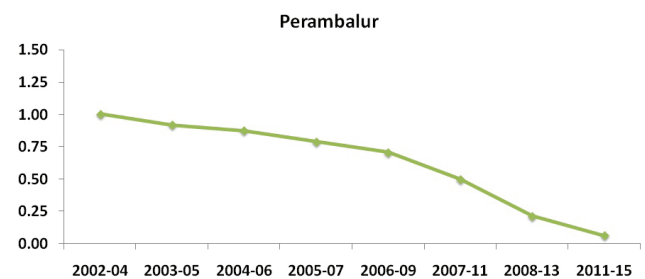


Figure 31

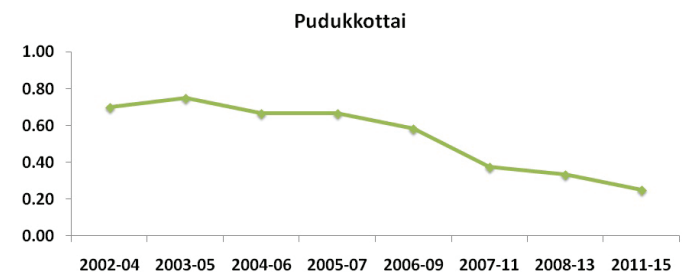


Figure 32

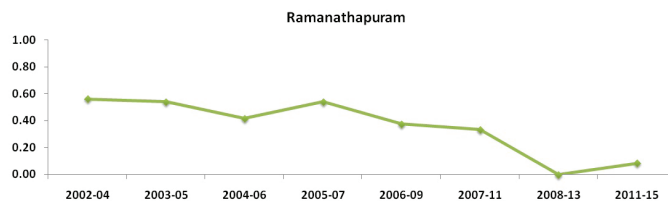


Figure 33

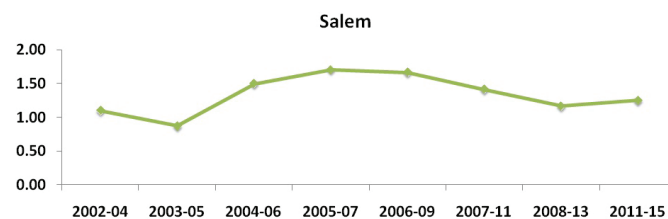


Figure 34

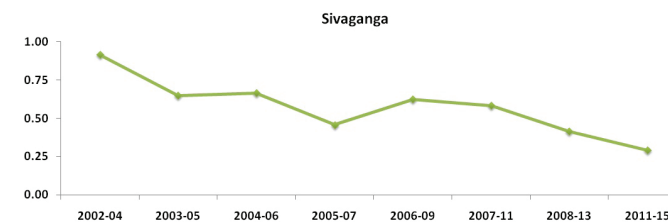


Figure 35

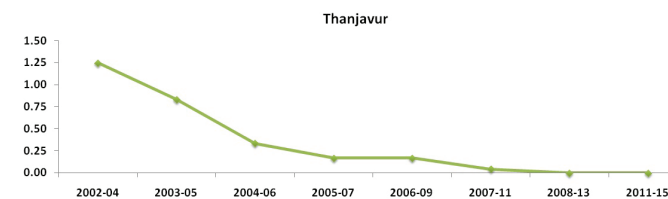


Figure 36

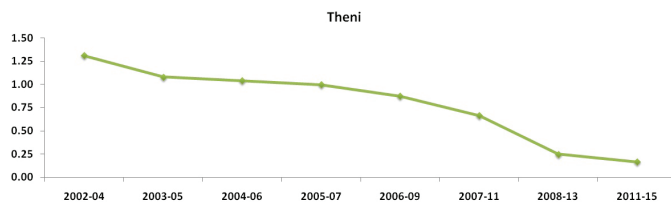


Figure 37

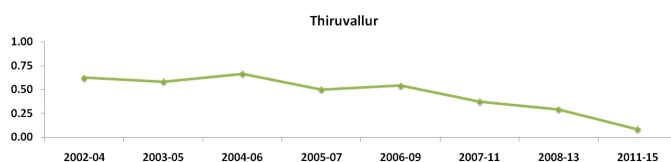


Figure 38

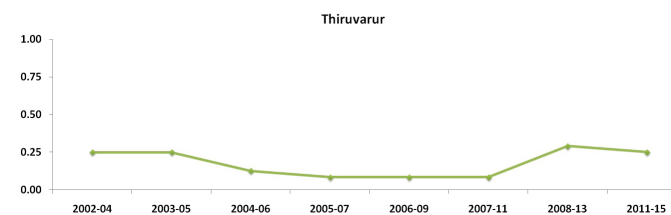


Figure 39

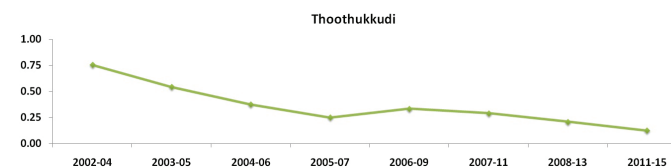


Figure 40

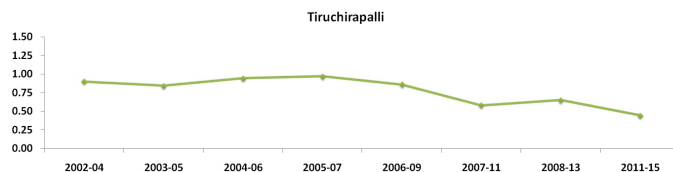


Figure 41

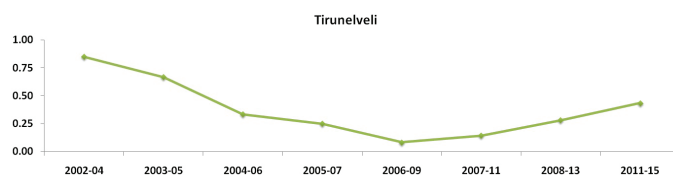


Figure 42

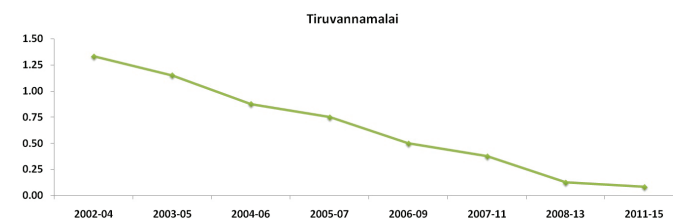


Figure 43

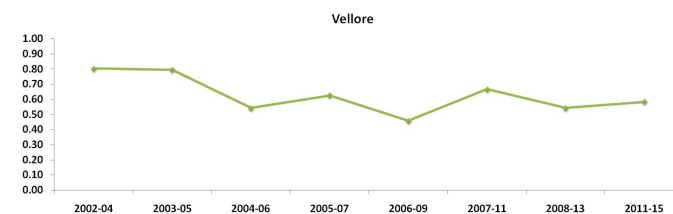




Figure 44

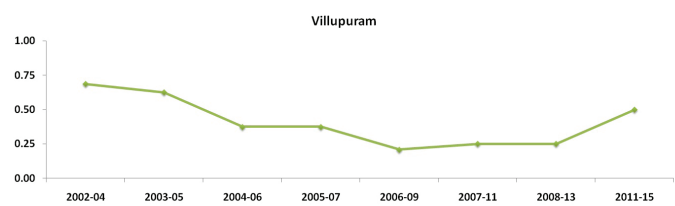
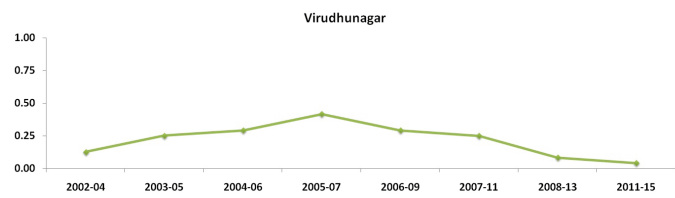


Figure 45





CHAPTER 7

Summary

- The total sample of ANC analyzed was 28772 across 32 districts in Tamil Nadu. The median age of respondents were 28 years in the state and ranged between 24 and 30 years across different districts.
- HIV Prevalence among the age group of 15-24 was 0.29% and the same was 0.24% in 25-45 years age group.
- The proportion of illiterate ANC was 4% at the state level and the HIV prevalence among them was 0.7%.
- The proportions of illiterates varied from less than 1% in Kanniyakumari to 12% in Krishnagiri.
- At the state level, 43.9% of the respondents reported being pregnant for the first time.
- The state level HIV prevalence among ANC clinic attendees in primi-gravida was 0.3 %, second gravida was 0.2 %, third gravida was 0.3 % and in fourth gravida it was 0.4 %.
- At the district level, the primi-gravida varies between 36.4 % in Viluppuram to 56.1 % in Pudukkottai.
- Government hospital/ANM/ASHA was identified as the major source of referral to ANC clinics, which accounting for 53.1 % of respondents.
- Referrals from government service providers was higher in the districts of Ariyalur (100 %), Perambalur (96.9 %), Tiruppur (96.4 %) and Krishnagiri (95.8 %).
- Highest HIV prevalence (0.9%) was seen in people referred by NGO.
- At the state level, 62.7 % of respondents reported to be currently residing in rural areas.
- The HIV Prevalence both in Urban and Rural was calculated as 0.3 %.
- At the state level, the majority of the respondents (88 %) were housewives.
- More than one percent of HIV prevalence was seen among the pregnant mothers whose occupations were reported as Domestic Servant and the same prevalence were seen in Petty business category also.
- At the state level, the spouses of ANC attendees accounting for more than one-fourths (27.8 %) were skilled/semi skilled worker and the HIV prevalence among the ANC attendees was calculated as 0.2%.
- HIV Prevalence among the ANCs having their spouse occupation as domestic servant was 1.4 % and as unemployed was 2.3 %.
- At the state level, 4.8% of respondents reported that their spouses were migrants. The highest proportion of migrant spouses observed in Perambalur (17.3 %).
- HIV Prevalence among migrant was 0.1 % and among non-migrants was 0.3.

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