SOCIOECONOMIC FACTORS INFLUENCING HIV/AIDS IN BANGALORE

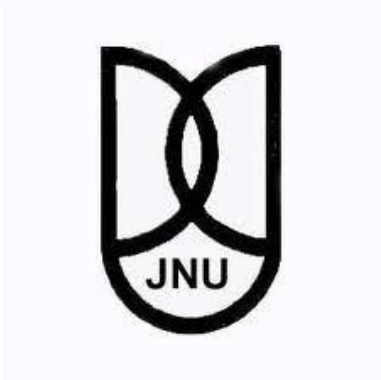
Thesis submitted to Jawaharlal Nehru University for the award of the Degree for

DOCTOR OF PHILOSOPHY

C. NAGENDRA

Supervisor

Dr. Nandita Saikia



Centre for the Study of Regional Development

School of Social Sciences

JAWAHARLAL NEHRU UNIVERSITY

New Delhi 110067

2021

RECOMMENDATION FORM FOR EVALUATION BY THE EXAMINER/S

CERTIFICATE

This is to certify that the thesis titled **"SOCIO-ECONOMIC FACTORS INFLUENCING HIV/AIDS IN BENGALURU"** submitted by Mr. C. Nagendra in partial fulfillment of the requirements for award of degree of Ph.D of Jawaharlal Nehru University, New Delhi, has not been previously submitted in part or in full for any other degree of this university or any other university/institution.

We recommend this thesis be placed before the examiners for evaluation for the award of the degree of Ph.D.

Signature of Supervisor

Date: 5th July 2021

Centre for the Study of Reg Dev.
School of Social Sciences
Jawaharlal Nehru University
New Delhi - 110067

Signature of Dean/Chairperson

Date: 6.7.21

Chairperson
Centre for the Study of Reg Dev.
School of Social Sciences
Jawaharlal Nehru University
New Delhi - 110067

Date

DECLARATION

I declare that the thesis entitled "Socioeconomic Factors Influencing HIV/AIDS in Bangalore" submitted by me for the award of the degree of **Doctor of Philosophy** of Jawaharlal Nehru University is my original work. The thesis has not been submitted for any other degree of this University or any other university.

(C. Nagendra)

CERTIFICATE

We recommend that the thesis may be placed before the examiners for evaluation.

NAME OF CHAIRPERSON	NAME OF SUPERVISOR
(Prof. Milap Punia) Chairperson, CSRD	(Dr. Nandita Saikia) Supervisor

Dedicated to all who have succumbed to AIDS

and who are coping with

HIV / AIDS

ACKNOWLEDGMENT

I am greatly indebted to my earlier supervisors Prof. P.M. Kulkarni and Prof. Aslam Mehmood and present supervisor Dr. Nandita Saikia for guiding, supporting and ensuring I complete the research thesis.

I am also grateful to other faculty members of CSRD, JNU, namely Prof. R.K. Sharma, Prof. M. Vemuri, Prof. B.S. Batola, Prof. D.N. Das, Prof. Sachidanad Sinha, Prof. Bhaswati Das, Prof. Amaresh Dubey, Prof. Anuradha Banerjee, Prof. Atul Sood, Prof. Milap Punia, Prof. Milap Chand Sharma, Prof. K.S. James, Prof. Kaushal Kumar Sharma, Dr. R. Suresh, Dr. Sanjeev Sharma, and Mr. Varghese for their continuous encouragement, guidance and support. Likewise, I sincerely acknowledge the guidance and support received during my research work from other faculty members, staff and students of the University namely Prof. Satish Jain, Prof. S.P. Gautam, Prof. Madhu Bala, Prof. Ritu Priya Mehrotra, Prof. Rama V. Baru, Dr. Saurabh Kumar Sharma, Smt. Shalini Pruthi, Sri. Harish Sharma, Sri. Biresh Mohanty, Sri. Adarsh Garg, Sri. Amitabha Sarkar, and staff in various offices of CSRD, Office of the Dean at School of Social Sciences, Evaluation Office, and Library respectively; and fellow research scholars under supervision of Dr. Nandita Saikia.

I must record my sincere appreciation for encouragement and moral boost up received from Mr. J.V.R. Prasada Rao, Mr. N.S. Kang, Mr. Rajiv Sadanandan, Mr. Rajesh Bhushan, Dr. P. Salil, Dr. D. Sengupta, Dr. D.C.S. Reddy, Dr. Debasish Gupta, Dr. S.N. Misra, Dr. B.B. Rewari, Dr. Sushma Mehrotra, Smt. Sonal Mehta, and Dr. Harimohan of my earlier organization the National AIDS Control Organization (NACO); Dr. Suniti Solomon of YRG Centre, Chennai, who was instrumental in discovering presence of HIV in India, members of Delhi AIDS Control Society, Dr. R.R. Gangakhedkar and Dr. R. S. Paranjape of National AIDS Research Institute (NARI), Dr. Geeta Mehta of Lady Hardinge College, Delhi, members of Delhi network, TN+ network, for guidance in drafting research instruments and encouragement.

I would also like to thank Smt. Salma Fahima, Dr. Dhanya Kumar, Dr. Halesh and Dr. Asha T.H. of Karnataka State AIDS Prevention Society for support. Further, KNP+ President Smt. Saroja & staff, staff of Sarvodaya ART Centre, Dr. Kantharaj Jain, Dr. R.V. Jalaja, Dr. Anand, Dr. Ambika, all staff of Victoria ART Centre, doctors and staff of Banashankari, Hoshalli, Victoria Hospital, Vanivilas Hospital, Jagjivanram Referral Hospital, Homeopathy college and Hospital, Rajajinagr and ESI Hospital, Rajajinagar testing centres for helping in interviewing respondents deserve my sincere thanks. I am grateful to all respondents; without whose participation and co-operation this study would not have been possible.

A note of thanks to my teachers, well-wishers, friends and relatives namely Prof. Mruidula Ramanna, Prof. Nirupama Prakash, Sri. Dilip Jawalkar, Dr. K.P. Suresh, Dr Jayanta Bora, Sri. Ananad Sharma, Dr. Ashok Motiwala, Prof. Ushadevi, Sri. Ramanathan, Smt. T. Sunanda, Sri. G. Natarajan, late Sri. G. Narahari, Sri. Namdev Meherwade, Sri. Tuljaram Bhute, Sri. Subramanya Nadigar, and Sri. Chandra Prakash Doundiyal for giving me timely support, guidance and encouragement.

Finally, I am indebted to my late mother Smt. M.V. Vimala, late father Sri. G.V. Chandra Shekara Iyer, my wife Smt. C. G. Rajeshwari and all members of my family for providing me support and encouragement throughout my endeavor.

Abbreviations

AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Antenatal Care Centres
ARC	AIDS Related Condition
ART	Anti-Retroviral Treatment
CDC	Centres for Disease Control and Prevention (USA)
CEB	Census Enumeration Blocks
CI	Confidence Interval
CLHIV	Children Living with HIV
CSRD	Centre for the Study of Regional Development (of JNU)
FSW	Female Sex Worker
HIV	Human Immunodeficiency Virus
ICMR	Indian Council of Medical Research
ICTC	Integrated Counselling and Testing Centres
IDU	Injecting Drug Users
IEC	Information, Education and Communication
IJCMPH	International Journal of Community Medicine and Public Health
ILO	International Labour Organization
JNU	Jawaharlal Nehru University
KNP +	Karnataka Positive People Network
KSAPS	Karnataka State AIDS Prevention Society
MSM	Men having Sex with Men
NACO	National AIDS Control Organization
NARI	National AIDS Research Institute
NFHS	National Family Health Surveys
OR	Odds Ratio
PLHIV	People Living With HIV
PMTCT	Prevention of Mother to Child Transmission
PSU	Primary Sampling Units
SIV	Simian Immunodeficiency Virus
STATA	Syllabic Abbreviation of the Words Statistics and Data (of StataCorp, USA)
STD	Sexually Transmitted Diseases
TB	Tuberculosis
TN+	Tamil Nadu Positive People Network
UK	United Kingdom
UNAIDS	The Joint United Nations Programme on HIV/AIDS
UNDP	The United Nations Development Programme
UNICEF	The United Nations Children's Fund
USA	The United States of America
UT	Union Territory
WHO	World Health Organisation

Table of Contents

CHAPTER I

Introduction, Literature Review and Chapter Plan

1.1 Introduction

1.1.1 HIV/AIDS Epidemic

It is claimed that "in health sector no other public health issue has engaged the attention of the global community the way HIV/AIDS did in the past two decades, not just in the measure of devastation it has caused but also in the unprecedented response, driven by political commitments and financial support by countries and global agencies" (Prasada Rao J.V.R, 2020).

Human Immunodeficiency Virus (HIV) "…is a virus that attacks cells in the immune system (the body's natural defence against illness). The virus destroys a type of white blood cell in the immune system called a T-helper cell – also referred to as a CD4 cell – and uses these cells to make copies of itself. As HIV destroys more CD4 cells and makes more copies of itself, it gradually weakens a person's immune system" (www.avert.org, (2020).

The year 2002 was crucial as the United Nation Development Progamme (2002) had declared that the HIV/AIDS) is posing itself as "the public health challenge of the new millennium". According to Avert Organisation, UK (2020) (www.avert.org), "…the origin of the HIV has been a subject of scientific research and debate since the virus was identified in the 1980s. There is now a wealth of evidence on how, when and where HIV first began to cause illness in humans. In 1999, researchers found a strain of SIV (called SIVcpz) in a chimpanzee that was almost identical to HIV in humans. The researchers who discovered this connection concluded that it proved chimpanzees were the source of HIV-1, and that the virus had at some point crossed species from chimps to humans."

Nonetheless, "while 1981 is generally referred to as the beginning of the HIV/AIDS epidemic, scientists believe that HIV was present years before the first case was brought to public attention. In 1959, The first known case of HIV in a human occurs

in a person who died in the Congo, later confirmed as having HIV infection from his preserved blood samples." (www.avert.org, 2020).

The first AIDS case was detected in the USA in 1981 (CDC, 1981). Then HIV had spread across all continents. It has been observed by Caldwell (1997) that "the sub-Saharan African epidemic is explained by an unusual conjunction of circumstances. It depends on; (1) a considerable level of premarital and extramarital sexual relations, often with parallel partners, and a belief that a man cannot be sexually satisfied by one woman over a lifetime, (2) a significant proportion of the non-marital male sexual activity begins with commercial female sex workers, partly because there is a wide spread economic component in sexual relations and partly because of the substantial level of male migration; and (3) a poor health service that leaves untreated many Sexually Transmitted Diseases (STDs) that act as cofactors or catalysts".

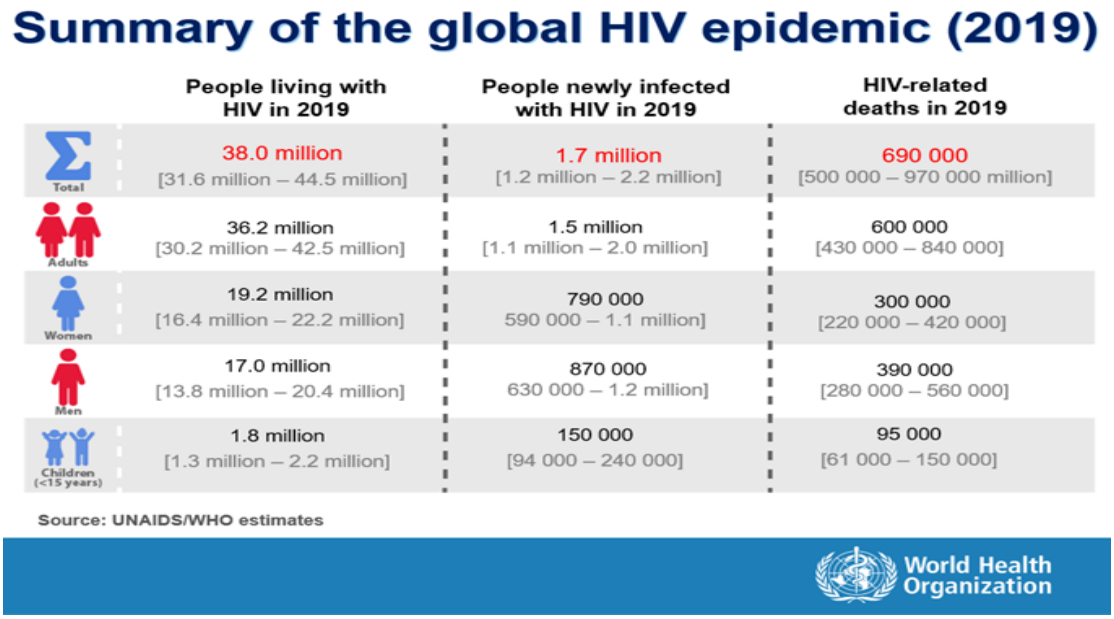
The UNDP Report (UNDP, 2003) identified *inter alia* common features correlated with the spread of HIV in all South Asian countries like poverty, gender inequality, high prevalence of communicable diseases such as Tuberculosis (TB), poor knowledge about methods to reduce risk of HIV infection, and migrant populations. Same report also found that "…factors that contribute to the epidemic are associated with prevailing socio-economic conditions, access to quality health facilities, and the openness of society to face the epidemic and its sexual and behavioural attributes". Therefore, these factors need to be addressed to manage spread of HIV.

1.1.2 The Global Scenario in 2019

Now almost every country has reported HIV/AIDS case. According to the UNAIDS Fact sheet 2020 (www.unaids.org), "…since the beginning of the epidemic, 75.7 million people have been infected with the HIV virus, about 32.7 million people have died of HIV/AIDS and globally 38.0 million people were living with HIV at the end of 2019".

As per the UNAIDS, the latest available data (UNAIDS / WHO estimates) (www.unaids.org) is as follows:

Figure 1.1: Global Scenario of HIV/AIDS in 2019



Source: UNAIDS, 2020 (www.unaids.org).

1.1.3 History of HIV Spread in India and the Current Scenario

It is stated that "India's response to the Acquired Immune Deficiency Syndrome (AIDS) began 30 years ago. The first Human Immunodeficiency Virus (HIV) infection was detected in the city of Chennai in 1986 while the first case of AIDS identified soon after in the city of Mumbai." (NACO, 2017).

"As a signatory to the Declaration of Commitment on HIV/AIDS 2001 and the Political Declaration on HIV/AIDS 2006, India remains devoted to AIDS prevention and roll-back thereby reaching universal access targets. The country has striven to proceed and expand its efforts to halt and reverse the HIV epidemic. India has systematically developed and moulded its National AIDS Control Programme according to the current pattern of AIDS epidemic — taking into account emerging evidence base — and in collaboration with its partners" (NACO, 2017).

"In India the HIV epidemic continues to be concentrated, with relatively higher prevalence among high-risk groups comprising FSW, MSM, H/TG, IDU, and bridge

population group of SMM and LDT, with lower prevalence among ANC attendees, which reflects proxy prevalence among the general population" (Vani Srinivas et al, 2019).

Further, it is maintained that "within India, HIV is concentrated in four southern states, where heterosexual transmission is primarily responsible for transmission, as well as in some north-eastern states, where the epidemic is driven largely by injection drug use" (Banandur et al., 2011).

The National Family Health Surveys (NFHS) conducted by the Ministry of Health & Family Welfare, Govt. of India, have tried to capture prevalence of HIV in the country along with knowledge on HIV/AIDS among the randomized samples interviewed across the country.

1.1.4 HIV Prevalence in India

In the NFHS 1 (1992-93) report, the HIV prevalence in India refers to results of earlier test results/estimates. They were updates of Ministry of Family and Welfare. By June 1988, 370 HIV positives were found. In 1992, HIV positives were increased by 6,00,000 and HIV positive cases among high-risk groups had shown an increase from 2.5 per 1000 population in 1986 to 11.2 per 1000 in 1992 according to Ministry of Health and Family Welfare data. Among the AIDS cases, up to March 1993, it is found that 75% had reportedly acquired through sexual transmission, 12% through blood transfusion and 7% through sharing of needles. As per the NACO update as of 31st March 1994, sero-positivity rate was 7.3 per1000. Furthermore, the number of reported AIDS cases was 713, though the WHO had estimated it to be substantially larger. As per the NFHS 2 (1997–98), India was reported to have at least 3.5 million HIV-infected people.

The NFHS 3 (2005-06) report, quoted NACO" … the revised HIV estimate of 2.47 million persons in India living with HIV (equivalent to 0.36% of the adult population). This was stated to be a reflection on the availability of improved data and expanded surveillance system rather than a substantial decrease in actual HIV prevalence" {comparatively at least 3.5 million reported in NHFS 2 (1998-99) and

official estimate of 5.2 million for the previous year}. Further findings of this Survey are nationwide, the HIV prevalence rate for the population age 15-49 was 0.28 % or 1.7 million HIV positive persons in April 2006. The HIV prevalence rate was 0.22 % for women and 0.36 % for men in the age group of 15 to 49. The high prevalence states were detected in the states, namely, Manipur (1.13%), Andhra Pradesh (0.97%), Karnataka (0.69%), and Maharashtra (0.62%). Likewise, as per the NFHS 4 (2015-16) report, the percentage of HIV positive among women and men in age 15-49 (and men age 15-54) was Women 0.23%, Men 0.25%, and Total 0.24%.

1.1.5 Knowledge of HIV/AIDS

With regard to HIV/AIDS awareness in India, the NHFS 1 round covered only 13 out of 25 states. The percentage of ever-married women in the age group of 13 – 49, who had heard about AIDS except Mizoram (84.8% and Manipur 72.5%), for other 11 States it was less than 50% including some of the major states like Delhi (35.8%), West Bengal (9.8%), Maharashtra (18.6%) and Tamil Nadu (23.4%). Regarding source of knowledge awareness about AIDS, television was the most prominent in most of the states followed by radio and others. Also, there are misconceptions like acquiring infection by shaking hands with infected persons, hugging, kissing, wearing clothes, sharing food, stepping on urine / stools, mosquito bite was found to be very high with very few exceptions and also there were misconceptions that AIDS was curable and vaccine was available. Regarding knowledge on prevention of infection, safe sex was identified with the use of condoms. There was also reference to other preventive measures like tested blood transfusion, use of only sterilized needle/syringes and avoiding pregnancy when infected.

During the NHFS 2, HIV/AIDS awareness was found to be only 4 out of 10 among ever-married women. Only 18 % of illiterate women had heard of AIDS compared with 92% of women, who had completed at least high school. Again, television was the most important information source followed by radio. About one-third of women who knew about AIDS also reported receiving information on AIDS from friends or relatives. In all 12 states with information available in both surveys (NHFS 1 & 2), AIDS awareness with the proportion of women, who had heard of AIDS more than doubling in several states like Tamil Nadu, Delhi, Maharashtra and Goa.

However, one-third of women who had heard of AIDS did not know any way of avoiding AIDS. Poorer women, illiterate women, scheduled-tribe women, and women not regularly exposed to any media were most likely not to know any way to avoid the disease. Among women who knew to prevent AIDS, the most commonly mentioned way was to have only one sex partner, followed by avoiding injections or using clean needles. Only 20 % mentioned condom use as a means to avoid AIDS. Sixty percent of women in India had never heard of AIDS. Developments like urban residence, education, and the standard of living had a very strong positive association with AIDS knowledge. Among women of different religions like Jain, Christian, Buddhist/Neo-Buddhist and Sikh women knew better about AIDS compared to women among Hindus, Muslims, or women belonging to other religions. Likewise, only 17 % of the Scheduled Tribe women and 32% of the Scheduled Caste women had heard about AIDS. In addition to that, the exposure to mass media facilitated to increase women's knowledge about AIDS substantially. Importantly, during this Survey, most of the ever-married women in their childbearing years had never heard of AIDS, and many of those who had heard did not know even one way to avoid infection. Thus, it was clear the educational components needed to be strengthened, especially among women.

During the NFHS 3 also, awareness was low among women who were not regularly exposed to media, Scheduled Tribe women, women with no education, women living in households with a low standard of living, and rural women. Overall, approximately 4 in 10 women and 7 in 10 men knew each of the three ABC methods of prevention—abstinence, being faithful, and condoms. Knowledge of each prevention method raised with increasing education and wealth. Women and men with regular exposure to mass media were twice as likely to know each of the three methods of prevention as do adults without access to media. Nationwide, only 17 % of women and 33 % of men had 'comprehensive knowledge' of HIV/AIDS. The knowledge about HIV/AIDS was relatively widespread in Mizoram, Delhi and Manipur. At the other extreme, in Assam, West Bengal, and Meghalaya, less than 15 % of men—and even fewer women— had comprehensive knowledge of HIV/AIDS. Regarding care to be given, three out of four women and men were willing to take care of a relative sick with HIV/AIDS in their own household and about two-thirds of women (64 %) and men

(65 %) said that they would not want to keep secret that a family member was infected with HIV/AIDS. The percentage expressing accepting attitudes on all four indicators was low (34 % among women and 37 % among men). Though reported prevalence of multiple sex partners was very low, the proportion of women and men who had sexual intercourse with someone other than a spouse or cohabiting partner in the previous 12 months was higher at 1 in every 500 women and 5 in every 100 men. Men who had sex with a non-marital and non-cohabiting partner during the year before the survey were more than twice as likely as women to report condom use at such sex (38 %). Nationally, 4 % of women and 3 % of men in the age group 15-49 had ever received a blood transfusion.

During the NFHS 4, the percentage of women and men (15-49 years) who had heard of HIV or AIDS was women (75.6) and men (88.9). The percentage who knew that HIV/AIDS could be prevented using condoms was Women (54.9) and Men (77.4). And, the percentage who had comprehensive knowledge about HIV/AIDS was Women (20.9) and Men (32.5). Percentage who knew that HIV/AIDS could be transmitted from a mother to her baby by all three means was Women 49 and Men 49.3. Comprehensive knowledge about HIV/AIDS among youth (age 15-24 years) was Women 21.7% and Men 31.5%.

According to NACO, "three decades on, the national response resulted in significant achievements of 66% reduction in new infections since 2000 and 54% reduction in AIDS-related deaths since 2007. In June 2016, India committed towards the goal of ending the AIDS epidemic as a public health threat by 2030. The next seven years are, therefore, critical and investments made now will result in substantive gains towards the vision of Ending of AIDS. The vision of the NACO is that of Paving the way for an AIDS free India through attaining universal coverage of HIV prevention, treatment to care continuum of services that are effective, inclusive, equitable and adapted to needs. The goals remain those of the Three Zeros - i.e., zero new infections, zero AIDS-related deaths and zero discrimination which form the basis of this strategic plan" (NACO, 2017).

As per the latest available HIV Estimate Report (NACO and ICMR, 2019) in 2019 "…at the national level, there were an estimated 23.49 lakh (17.98 lakh – 30.98 lakh)

people living with HIV (PLHIV), with an adult (15–49 years) HIV prevalence of 0.22% (0.17– 0.29%). Children living with HIV (CLHIV) comprised 3.4% of the total PLHIV estimates. HIV-infected women (15+ years) constituted around 44% of the total estimated 15+ years PLHIV. There were 69.22 thousand (37.03 thousand – 121.50 thousand) new HIV infections in 2019 which has declined by 37% since 2010 and by 86% since reaching the peak in 1997. There were 58.96 thousand (33.61 thousand – 102.16 thousand) AIDS related deaths in 2019, which has declined by 66% since 2010 and by 78% since attaining peak mortality in 2005. Also, HIV incidence was estimated at 0.05 per 1,000 uninfected population in 2019. Around 20.52 thousand (14.98 thousand – 28.13 thousand) pregnant women were estimated to be in need of prevention of mother-to-child transmission (PMTCT). Mizoram was estimated to have the highest adult HIV prevalence (2.32% [1.85–2.84%]) which was followed by Nagaland (1.45% [1.15–1.78%]) and Manipur (1.18% [0.97–1.46%]). The decline in annual new HIV infections has been noted in all States/UTs except for Tripura, Arunachal Pradesh, Chhattisgarh and Chandigarh. The highest decline has been noted in Karnataka (75%), which is followed by Himachal Pradesh (74%) and Andhra Pradesh (65%). The annual new HIV infections are estimated to have increased in Tripura, Arunachal Pradesh and Chhattisgarh; while they have stabilized in Mizoram and West Bengal. AIDS mortality was estimated at 4.43 per 100,000 population in 2019 at the national level, which peaked at around 25 during 2004/05 and then continued to decline".

However, being second most populous country in the world even low prevalent figure (0.20%) is alarming. "Because, in absolute numbers, South Africa (7.1 million), followed by Nigeria (3.2 million), and India (2.1 million) had the highest HIV/AIDS number of cases by the end of 2016" (www.unaids.org).

"While key indicators measured through Spectrum modelling confirm success of the National AIDS Control Programme, there is no room for complacency as rising incidence trends in some geographical areas and population pockets remain the cause of concern. Progress achieved so far in responding to HIV/AIDS needs to be sustained to end the HIV epidemic." (Arvind Pandey, et al, 2017).

1.1.6 Status in Karnataka

The first case of HIV was detected in Karnataka during 1988 and first AIDS case also was reported during the same year (UNDP, 2006). In case of Karnataka, the NHFS 1 and NFHS 2 did not cover the State on HIV/AIDS. So, state specific data is not available.

However, the NFHS 3 Report reported "…0.69 % of adults age 15-49 infected with HIV, including 0.54 % in urban areas and 0.79 % in rural areas in Karnataka. Women (0.54%) were less likely than men (0.85%) to be HIV-positive. Prevalence among youth (age 15-24) was 0.25 %. Only Manipur and Andhra Pradesh had higher HIV prevalence than Karnataka and more than twice as high as the national average."

During the NFHS 4, percentage of HIV positive among women aged 15-49 and men aged 15-54 was found to be Women 0.71%, Men 0.56%, and Total 0.64%. As per the latest the NACO's HIV Estimation (NACO & ICMR, 2019), Karnataka with 0.41% has shown estimated adult HIV prevalence greater than the national prevalence of 0.22% and other key facts of the State are:

- HIV prevalence (adults of 15–49 years - %): 0.45 male, 0.48 female, 0.41 total
- Number of people living with HIV (in thousand): 261.15 adults (15+ years), 133.21 female (15+ years), 8.31 children (< 15 years), 67.94 total
- HIV incidence per 1,000 uninfected population: 0.02 male, 0.02 female, 0.15 total
- New HIV infections (in thousand): 1.42 adults (15+ years), 0.70 female (15+ years), 0.14 children (< 15 years), 1.57 total
- Decline in new HIV infections since 2010 (%): 71.7 adults (15+ years), 71.7 female (15+ years), 88.7 children, 75.15 total
- AIDS-related mortality (in thousand): 6.13 adults (15+ years), 2.05 female (15+ years), 0.24 children (< 15 years), 6.39 total
- Decline in AIDS-related mortality since 2010 (%): 80.1 adults (15+ years). 86.0 female (15+ years). 84.8 children (< 15 years), 80.36 total

As per the Karnataka State AIDS Prevention Society (https://ksaps.karnataka.gov.in/english) as on 4.9.2020, it is evident from following table Sero-positivity is declining in tests conducted at ICTCs and ANCs in the State:

Figure 1.2: Tested for HIV and Positivity for Karnataka 2013-14 to 2019-20

Tested and Found Positive in ICTC						
Year	General clients			ANC		
	Tested	+ve	% Positivity	Tested	+ve	% Positivity
2013-14	16,64,848	29,473	1.77	11,78,907	1,445	0.12
2014-15	19,06,237	26,509	1.39	12,32,862	1,295	0.11
2015-16	19,45,282	21,989	1.13	12,80,862	1,034	0.08
2016-17	19,40,589	20,004	1.03	13,21,668	856	0.06
2017-18	22,20,292	18,862	0.85	14,18,176	891	0.06
2018-19	24,73,845	18,143	0.73	14,23,045	776	0.05
2019-20	25,82,946	15,683	0.61	14,50,538	622	0.04

Source: https://ksaps.karnataka.gov.in/english, 2020

1.1.7 HIV/AIDS Awareness

As regard specifically for Karnataka, data is not available in the NHFS 1 and NHFS 2 as state specific data was not collected. However, in the NFHS 3 it was obtained and found that among ever-married women of age 15-49, 58% had heard of AIDS, much higher than the national level of 40%. Almost four-fifths of women in urban areas (79 %) had heard of AIDS, compared with only 47 % of women in rural areas. The

knowledge of AIDS increased from only 35 % for illiterate women to 98 % for women who had completed at least high school education. Among religious background, Christians (94%) had better knowledge than Muslims (48%) or Hindus (58%). Knowledge of AIDS was very low among women from scheduled tribes and scheduled castes. Only 20 % of women who were not regularly exposed to media, had heard about AIDS. Here also, Television was the most important source of information (81%), followed by radio (68%). Only 4 % received information from a health worker. Among women who had heard about AIDS, 36% did not know any way to avoid infection, compared with 33% for India as a whole.

It is said that HIV/AIDS Awareness was 70% among women in Karnataka. However, even in urban areas, only 16 % did know AIDS. More women knew about AIDS under this Survey than in the late 1990s; among ever-married women interviewed in the NFHS-2, 58 % knew about AIDS compared with 66 % of ever-married women interviewed in NFHS-3. 87 % of men had heard of AIDS, including 96 % in urban areas. The knowledge of AIDS among both women and men increases sharply with education and wealth status. In case of knowledge of prevention and transmission, men knew better than women. Only 12 % of women and 29 % of men had 'comprehensive knowledge' of HIV/AIDS. Also, HIV-related stigma among adults, who had heard of AIDS in Karnataka, 65 % of women and 69 % of men would be willing to take care of a family member with HIV/AIDS in their home. Six out of 10 adults (62% of women and 58% of men) in Karnataka said that if a family member became infected with HIV/AIDS, they would not want to keep it a secret. Overall, however, only about three in ten adults expressed all four of these accepting attitudes toward persons with HIV/AIDS.

During the NFHS 4, 82 % of women in Karnataka had heard of HIV or AIDS. In the Urban areas, 88 % of women knew about HIV or AIDS, compared with 76 % in rural areas. Young women age group 15-24 years were more likely (87%) than older women age 40-49 (76%) who had heard of HIV or AIDS. Women having no schooling (62%) were less likely than other women to have heard of HIV or AIDS; and Christian women (89%) were more likely than Hindu or Muslim women to have heard of HIV or AIDS. Men were much more likely than women to know about HIV or AIDS. Most of the men (91%) in Karnataka had heard of HIV or AIDS, including

94 % in urban areas. Men were more likely than women to know how HIV is transmitted and how to prevent from getting it. Only 9.5% women and 26.2% of men had a 'comprehensive knowledge' about HIV/AIDS. Among youth (15-24 years) percentage with comprehensive knowledge of HIV/AIDS was women 10 and men 27.9.

1.2 Literature Review

Available literature on HIV/AIDS have been examined. Based on this, various factors influencing the vulnerability of individuals for HIV infection and factors which can help prevention have been identified. Further, to specifically understand these factors this study has been taken up.

1.2.1 Poverty and Income

Poverty is found to be a major factor in spread of the infection. It is reported by Oppong (1995) that based on various studies "in many situations girls and women have to engage in sexual intercourse through necessity; to pass school examinations or obtain training places, to retain access to their children, to get access to farming land, to get money and food for daily subsistence, to get jobs and stay in them." The World Health Organisation's (WHO) Global Health Report of 1995 has "…also found the crucial links between and among poverty, inequality and morbidity and mortality. Thus, connections between female inequality (along with insecurity, poverty and powerlessness) and health outcomes are established".

A study in Yunnan province of China (Mark, et al, 2002) found that poverty was responsible for inaccessibility to health care and education. The families of HIV infected persons are not able to meet the medical expenses though they need it because they are already facing the economic hardship". Further, "…these expenses have forced many families into heavy debt". To make situation worse for families with such low incomes the economic development of the area was found to be lagging behind. In such circumstances, it can be concluded that, "…low levels of economic income, education and availability and accessibility of medical care make it hard for

the people …to shoulder the overwhelming burden created by the spread of AIDS epidemic".

It was observed by Amuyunzu-Nyamongo et al, (1999) that "poverty is a major problem especially among the out-of-school youth that often feel demoralised and are therefore inclined to early sexual exploits". Because of their poor economic condition, they would be able to avail available health facilities nor can they bargain safe sex.

It is stated by Oppong (1995) that "multiple-partner situations involving various forms of sexual patron-client relationships appear to be increasing as a result of the economic crisis". Further, due to poor economic conditions women undertake "…long-distance trading who otherwise would not customarily involve in such activities". It is noted that "women traders, especially itinerant traders, are often perceived as promiscuous" (Oppong, 1995). In turn these traders might use sexual strategies for economic advantage like officials to facilitate transactions and help meet travel and trading expenses. Further, Oppong (1995) is of the opinion that "for many poor women it is not a profession sought after but simply a temporary or longer-term survival strategy resorted to when other strategies fail".

A study in a Kenyan clinic (Oppong, 1995) showed that "…70 % of the women had three or more dependents and but no access to resources or home other than rented accommodation. The majority of them depended upon commercial sex activity as their only source of income. It was also found that majority were young. Most of their clients were mobile that is truck drivers. They had no land and nor had education". The conclusion was that they were "bound to engage continuously in unrestricted sexual behaviour with unattached men such as truck drivers unless provided with economic power" ...

Moreover, increasing young orphans add to livelihood problems as they do not have any arrangements for their proper living. Because of destitution these children find themselves as prime target for those who are desperate in getting their sexual needs fulfilled. It has been rightly commented by Andeokun, et al, (1995) that "these minors have very limited options other than seeking marginal employment in the service sector, often in sexually exploited positions. In effect, those who acquired infection

without having had multiple sexual partnerships turn to acquiring further sexual partners for survival".

It is found (Oppong, 1995) that "…inequality, subordination, dependence, neglect, deprivation, irresponsibility, coercion and even violence, suffered by girls and women have only deprived them for socio-legal protection and control resources for their sustainable livelihood". Further, "…there is enough evidence of higher incidence of sero-positivity among certain occupational groups. And there is linkage between "impoverishment, inequality, social breakdown, social justice and potential rate of spread of HIV /AIDS".

It was observed by Cleland and Way (1994) that "as knowledge accumulates about commercial female sex workers, huge disparities in working conditions and vulnerability to infection are becoming increasingly apparent between different types of worker".

1.2.2 Migration

"The association of migration with AIDS in sub-Saharan Africa is well documented, yet the social and behavioural mechanisms underlying this relationship remain poorly understood… Results indicate that migration is a critical factor in high-risk sexual behaviour and that its importance varies by gender and by the direction of movement. Independent of marital and cohabitation status, social milieu, awareness of AIDS, and other crucial influences on sexual behaviour, male migrants between urban areas and female migrants within rural areas are much more likely than nonmigrant counterparts to engage in sexual practices conducive to HIV infection" (Martin Brockerhoff and Ann E. Biddlecom, 1999).

It is also observed that migration has close association with urbanisation and Sexually Transmitted Diseases (STD). Migrations especially of men to urban areas have resulted in sex imbalance and thereby facilitating contacts with commercial sex workers. It is opined by Fontanet and Piot (1994) that "such sexual mixing …and in which a small proportion of the population contributes to the maintenance of the epidemic, may play a major role in determining the spread of HIV, particularly in the

early stages of the epidemic".

A study in China (Mark, et al, 2002) revealed that "…many of China's HIV-infected come from the 100 million migrants, a group said to account for 15-30% of the workforce. The Shanxi Province Epidemiology Station reported that out of 176 HIV cases, two-thirds were migrant workers. In other provinces, up to 50% of those found to be HIV positive were migrants". The migrants (Oppong, 1995) "…include mobile professionals and those whose power and prestige emanating from their occupational roles give them access to a wide range of sexual partners, as well as seasonal workers, traders, and lorry drivers. The high levels of incidence and therefore risk in urban centres, which are poles of attraction for migrants who later return home, give considerable cause for alarm with respect to the influence of spatial mobility".

It is reported by Caldwell (1997) that "the studies in Zimbabwe and by extension all of Southern Africa, have indicated higher HIV levels arise from greater economic development which fosters more movement, more buses and trucks, greater urbanisation and more husbands away from wives on the business".

1.2.3 Vulnerability of Women

"Since the start of the global HIV epidemic, in many regions, women have remained at a much higher risk of HIV infection than men. Young women and adolescent girls in particular, account for a disproportionate number of new HIV infections among young people living with HIV." (Azadeh, 2017). Moreover, "…AIDS remains the leading cause of death of women of reproductive age…" (UNAIDS, 2020).

Likewise, Nnko and Pool (1997) have found evidence of gender inequality in sexual relationships. It was found out in their study that boys do use force and intimidation to seduce girls, and in turn girls endure because of their inability to negotiate adequately on these issues. At times even belief in the possibility of force compelled girls to meekly accept sexual encounters.

There are already estimates in Yunnan of 500 children infected by their mothers (Mark, et al, 2002). "With an increasing number of women becoming infected without

knowing their status and then giving birth, the number of HIV positive children will increase".

Among facilitating factors for HIV infection is the gender issue. It is reported by Mark, et al, (2002) that fieldwork data suggested that "women's health is compromised by overwork, malnutrition, reluctance to spend on health, lack of specialists and female doctors, and post-natal care". Same study also reported shortage of girls due to sex ratio imbalance due to traditional preference for sons. In India also such sex ratio imbalance is noticed.

It is reported by Oppong (1995) that faithfulness alone does not protect a woman. She has inferred this on the estimates that 50 to 80 % of "…infected women in Africa have no other sexual partner than their husband". Fontanet and Piot have reported (1994) [that] "…epidemiologically a woman is more vulnerable than a man since rate of transmission of male-to-female is 1.47 as against female-to-male1". In a study conducted in Thailand, Archavinitkul and Guest (1994) have realized that most "…female migrants were young and unmarried. They had relatively low levels of education and migrated in search of employment". However, they found commercial sex activity as one of the few occupations in which they could make relatively high incomes. These young women resorted such easy way of better income to meet their family needs. In turn they were found to feel more responsible to their family. Besides women also feel need for additional economic support, and physical protection.

It is reported by Caldwell (1999) that "gender-based violence was often seen as a sign of affection. (and)…most of their peers would ridicule them for their failure to hold a boyfriend because they refused sexual relations". It is found by Oppong (1995) that "women are most vulnerable …in times of civil strife. Massive dislocations of people …which have been continual in a number of countries, have been clearly associated with the speed of spread of disease". It is observed that in such circumstances adolescent girls are particularly vulnerable to sexual coercion. Interestingly he has further observed that "in some instances it may be hypothesised that female dependence and subordination are crucial factors in the spread of AIDS. In other cases, it may be female autonomy, mobility and sexual freedom, which are associated with their vulnerability".

The World Bank (2001) has reported that “infection rates among women are rising. Low status of women as expressed in limited access to human, financial and economic assets within community and household and unequal power relations - weakens women’s ability to protect them and negotiate for safer sex”. Based on various studies, Oppang (1995) has concluded “…that in many countries working environment is not particularly conducive to women. They are often unprotected. In fact, these workplaces being managed by men, their livelihood and that of their families are at the mercy of these men, even extending to sexual services. Further with no alternative means of income and existing high unemployment situations enhance the vulnerability of female workers. It is found that sexual harassment of girls and women in work place is a common phenomenon in African and other parts of the developing world. It is also found that young people particularly schoolgirls are frequent sexual target of old infected men because of presumption that they are free from infection. This has increased the economic and sexual vulnerability of girls”. Varga (1999) has suggested the “…need to consider the implications of sexual decision-making and negotiation among youth in view of growing mother-to-child transmission”.

1.2.4 Health Services

After a global study on preventive efforts in relation with available health facilities, Serwadda (2003) has reported that “…only 5% of women had access to drugs and 12% to voluntary counselling; among at high risk, only 24% had access to AIDS education; and 42% of people in need had access to condoms. Thus, poor availability of various health facilities globally is evident”.

A survey (Mark, et al, 2002) of China's 300 poorest counties conducted by China's MOH “…revealed that only a third of the women surveyed received any pre- or post-natal care. It is reported that there are very few AIDS-related health services available in China, and substantial erosion in both quality and efficiency of health care was also noted”. The authors have remarked, “the majority of people with HIV simply have no resources to access health care. In such a situation, HIV does not threaten to overwhelm health services, as much as overcome the capacity of communities to cope

with care needs, whilst those services that do exist will remain underutilised". With regard to antiretroviral medications still fewer people had access in China.

Same study found "…use of reusable syringes were noticed in rural and poor areas, besides widespread reselling and reuse of disposable syringes". In the context of HIV/AIDS, Amuyunzu-Nyamongo, et al,(1999) have reported that main problems are "inaccurate information and inaccessibility of health care services for young people's sexual and reproductive health". Further they have opined that "lack of resources for providing health services and appropriate awareness programmes prevent sensitisation of vulnerable population regarding HIV and other STDs". It is submitted by Andeokun, et al, (1995) that the "…duration of AIDS Related Condition (ARC) stage can be prolonged by effective treatment of each episode, or shortened by the rapidity of health status decline".

1.2.5 Education and Awareness

"Programme managers and policy makers have often recommended that schools can act at the centre point for disseminating information and education on HIV/AIDS. Hence school education has been described as a 'social vaccine', and it can serve as a powerful preventive tool. In India, there is a wide gap between the inputs in the HIV/AIDS curriculum for schools and the actual education that is imparted." (P Lal et al, 2008).

HIV/AIDS awareness is necessary to overcome stigma and discrimination and also to avoid HIV spread by educating regarding its transmission through educational sessions, training workshops, community meetings, focus groups, and wellness programs. All educational efforts should be modelled to suit target groups.

Amuyunzu-Nyamongo, et al, (1999) are of the opinion that "high illiteracy levels hinder information–sharing on HIV and other STDs. Further, the illiterate are (sic) denied access to more detailed and elaborate information in print and electronic media". It is observed by Ayiga, et al, (1999) that "the majority of those engaged in non-farming occupations are either traders or casual workers and most of them have little or no education. They are more likely to practise traditional sexual behaviour

such as polygamy, widow inheritance and remarriage." Further they observed "resistance to sexual behaviour change among those who had no education or only primary education and the unemployed".

According to the UNICEF survey reported by Mark, et al, (2002) "Chinese adolescents were woefully unprepared to handle HIV/AIDS, since …they knew absolutely nothing about HIV/AIDS or only knew the name". Further they have said that "AIDS awareness also remains insufficient among both public and decision makers. Involvement by civil society and affected communities remains embryonic, while the overall AIDS response remains far too medical within a health care system in deep crisis".

1.2.6 Environmental Factors

There are very limited studies on HIV and environmental barriers. Environmental barriers cover educational institutions, personal settings, individual accepting attitudes, governmental policies, and access to health services.

It is noted by Cleland and Way (1994) that "Thailand has a long history of widespread commercial sex activity. Such cultural settings are conducive to spread of HIV infection". In their study they found "that large proportion of commercial female sex workers' savings is remitted to their families of origin. This feature of commercial sex activity in Thailand probably distinguishes it from its counterpart in Africa".

In a study in Indonesia, Cleland and Way (1994) found "…that women working in low-priced brothels had larger numbers of clients. But they were, less educated and less knowledgeable on HIV/AIDS. It was also found that they were less likely to use condoms than women charging a higher price and operating in different locations are. It is also reported based on various studies that HIV prevalence even among commercial female sex workers there exists differences between types and levels of infection".

Arnaud and Piot (1994) have noted that "…urban settings are associated with late marriage, new forms of union, more sexual freedom, more paid sex, and more

premarital sex". They are of the opinion that "women's social status is also an important determinant of HIV spread". A study in Yunnan province of China (Mark, et al, 2002) found that "…in spite of ban on professional donors, because of shortages of blood and financial incentives sale of blood had not stopped. Same study also found stigmatisation of people living with HIV/AIDS and as a result of which these individuals and their families faced social ostracisation and lack of avenues for income".

1.2.7 Vulnerability of Single Persons

"The vulnerability concept is complex one, with a range of definitions coming from different disciplines. Its goal is to understand how individuals and groups are exposed to a given health problem, departing from totalities that consists of pragmatically constructed syntheses based on three analytic dimensions: individual, social and programmatic or institutional. From the individual viewpoint, it involves aspects related to biological and personal characteristics, risk perception, self-protection attitudes and negotiation skills, among others, which imply exposure and susceptibility to that problem. Social vulnerability refers to the economic structure, public health and educational policies, culture, ideology and gender relations, and programmatic vulnerability to public coping policies, with their targets, proposed actions, organization and distribution of resources for prevention and control". (Marli Teresinha Cassamassimo Duarte, Cristina Maria Garcia de Lima Parada, and Lenice do Rosário de Souza, 2014).

It is observed by Oppong (1995) that "…marriage is becoming less stable, and in turn increases vulnerability of women and men to sexually transmitted disease". Further it is found by Ayiga, et al, (1999) that "…there is resistance to sexual behaviour change among separated, divorced and widowed persons". Caldwell (1997) has observed "majority of widows leaving their deceased husbands' homes on the deaths of the husbands". He is of the opinion that "it is this enforced mobility that may result in spreading the epidemic. Widows who do not remarry may well spread the infection more than women who do, because they are probably more likely to have to resort to commercial sex for support".

In a study Cleland and Way (1994) found that "…contact with commercial female sex workers was more common in urban than in rural areas. They also noted such contacts being higher among single and formerly married men than currently married". Further they have observed that in "few Asian surveys, commercial sex is almost entirely concentrated among single men".

1.2.8 Coping Strategies Adopted by Infected and Affected People

"Most patients with serious, progressive illness confront a range of psychological challenges, including the prospect of real and anticipated losses, worsening quality of life, the fear of physical decline and death, and coping with uncertainty. HIV infection and/or AIDS brings additional challenges due to the rapidly changing treatment developments and outlook. In addition, this disease is unusual in the extent of stigma associated with it and the fact that HIV is both infectious and potentially fatal." (Robert H Remien and Judith G Rabkin, 2001).

In a study in India by the ILO (2003), it is observed "…that women have attained more responsibility to run households after husbands' death. And ones with better education are coping the challenge better". It was also noticed that women adopt income-generating avenues in the absence of any other earning member in the family "…to support family and children in whatever way they can. This may include using sex as one of the few avenues of economic support open to her". In case of children, due to financial compulsions, children also resorted to working. Possibly, they might have discontinued the education. But, it was found that orphans became part of households. However, in cases where women were taking their care they could not attend to school. Extended family members gave support especially for medical and burial expenses. Local community and NGOs offered short time assistance.

Likewise, "families are also silent about members suffering from HIV/AIDS because they fear isolation or ostracism from neighbours or, in a few reported cases, violence" (Caldwell, 2000). It was good to note that the PLWHA took care of their spouses and children. But when they were helpless, they "…faced psychological problems like depression, lack of self–worth, and despair". It is also observed from various studies "…many South Africans view HIV infection with a mixture of fatalism, helplessness,

fear, and even disbelief in its existence. Finally, there is growing evidence that many South Africans do not want to know their HIV status" (Varga, 1999). In some cases, it was noted "…youth are tired of hearing HIV/AIDS (Varga, 1999). It is disheartening to note in South Africa "…many of the young see no reason for caution because they already regard themselves as the corrupted and doomed generation" (Caldwell, 1999).

In a study of the UNDP in South Asia (2003), "…better coping mechanism was noticed among richer households than poorer families; and self-employed coping better than wage earners or salary workers". It was observed by Kofi Awusabo-Asare (1995) "…that though family support is strong in African studies, it is coming under strain". Further, it is noted "…that from paternal extended family support in the past, it is changing to maternal extended family for care and support to orphans (Urassa Mark, et al, 1997). Foster Geoff, et. al, (1997) have opined that "…the new phenomena of child-headed households appearing in communities affected by AIDS is an indication of saturation of traditional extended-family orphan coping mechanism. Some communities may have better preservation of traditional coping mechanism, such as those in remote rural areas with little urban migration and with lower life expectancy; the more traditional the community, the more capable it may be to cope with increasing numbers of orphans".

"To support those who are infected and affected many community initiatives by NGOs, religious groups, traditional healers, the PLWHA, women, etc. are noticed. In addition, infected persons are forming their own networks and raising related concerns. In case of sex workers their networks are providing peer education and helping access to medical help. Further they also arbitrate disputes, lobby with police, and develop leadership potential". They want to "become agents for change for both themselves and the broader community" (UNDP, 2003). "Gay men in particular have proved their successful coping mechanism with infection, and have shown remarkable behavioural change" (Dowsett, 1999).

It is found in various studies conducted by the UNAIDS (1999) in Sub-Saharan Africa "…that affected families adopt variety of strategies like improving food security (substitute cheaper commodities, reduce consumption, begging, etc.; raising and supplementing income (income diversification, migrate, borrowing, assets sale,

use savings, etc); and alleviating loss of labour (intra household labour reallocation, extra work, decreasing area cultivated, etc.). In turn these strategies are in sequence starting with use of savings, followed by sale of assets, borrowings, wage labour, community assistance and finally doing nothing (on verge of calamity)". However, coping strategies that do not require any cash happened to be frequently adopted. It is concluded by the UNAIDS study (1999) that in the rural areas of sub-Saharan Africa that "…a variety of coping responses have been deployed by households to mitigate the impact of the pandemic. In general terms, some of the coping responses adopted have been found to render households insecure and vulnerable all have negative impacts on the future well-being of the family like sale of assets, withdrawal of children from schools, etc., On the other hand, some household coping responses have positive impacts on the long-term well-being of the household like income diversification, share-cropping, etc.".

1.2.9 Indian scenario

As per the NACO HIV estimates in 2019 (NACO and ICMR, 2020) "…at the national level, there were an estimated 23.49 lakh (17.98 lakh – 30.98 lakh) people living with HIV (PLHIV), with an adult (15–49 years) HIV prevalence of 0.22% (0.17– 0.29%). Children living with HIV (CLHIV) comprised 3.4% of the total PLHIV estimates. HIV-infected women (15+ years) constituted around 44% of the total estimated 15+ years PLHIV. There were 69.22 thousand (37.03 thousand – 121.50 thousand) new HIV infections in 2019 which has declined by 37% since 2010 and by 86% since reaching the peak in 1997. There were 58.96 thousand (33.61 thousand – 102.16 thousand) AIDS related deaths in 2019, which has declined by 66% since 2010 and by 78% since attaining peak mortality in 2005. HIV incidence was estimated at 0.05 per 1,000 uninfected population in 2019. Around 20.52 thousand (14.98 thousand – 28.13 thousand) pregnant women were estimated to be in need of prevention of mother-to-child transmission (PMTCT)".

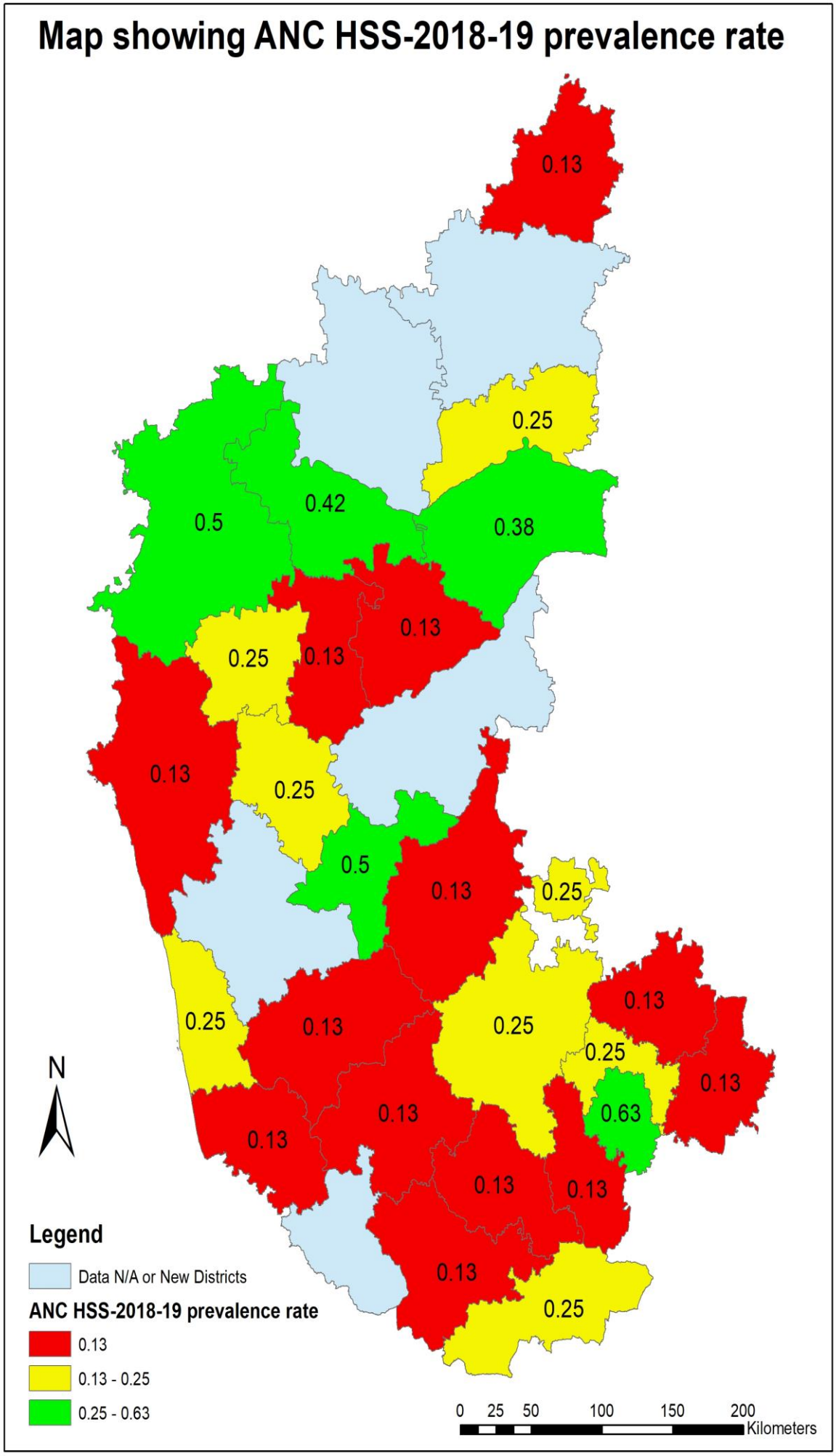
The key findings of the NFHS 4 regarding HIV prevalence nationally were: "

- HIV Prevalence: HIV prevalence among women and men age 15-49 were 0.28 % to 0.24 % respectively. HIV prevalence among men 0.25 % and among women 0.23%.

- HIV prevalence by residence: HIV prevalence is twice as high in urban areas as in rural areas (0.38% versus 0.17%).
- HIV prevalence according to region: HIV prevalence among women and men is highest in the states in Group comprising Mizoram, Manipur, and Nagaland (1.49%), followed by states in Group comprising Andhra Pradesh and Telangana (0.91%) and Karnataka (0.64%). In the remaining groups of states, HIV prevalence ranges from 0.08 % to 0.39 %.
- HIV prevalence by age: HIV prevalence is lowest among women and men age 15-24 (0.08% among women and 0.12% among men). HIV prevalence increases with age through age 35-39 and decreases thereafter."

It is observed that within Karnataka, there is regional difference with regard to HIV prevalence. From the data obtained from the KSAPS, a graphical representation of the same based on the ANC data is given below:

Figure 1.3: Graphical representation of district wise HIV prevalence based on ANC HSS 2018-19 data in Karnataka


Map showing ANC HSS-2018-19 prevalence rate
0.13
0.25
0.5
0.42
0.38
0.13
0.25
0.13
0.13
0.25
0.5
0.13
0.25
0.25
0.13
0.25
0.13
0.13
0.25
0.63
0.13
0.13
0.13
0.13
0.13
0.25
N
Legend
Data N/A or New Districts
ANC HSS-2018-19 prevalence rate
0.13
0.13 - 0.25
0.25 - 0.63
0 25 50 100 150 200
Kilometers

Source: Obtained from KSAPS through e mail on 11.1.2021

1.3 Research Questions

Based on the above literature review and broad objectives of this study, the study was to seek answers the following research questions:

(i) What are the Socio-economic factors like age, sex, religion, income, housing, marital status, migration that make an individual more vulnerable to HIV infection?
(ii) Whether lack of awareness, specific health seeking & sexual behaviors, lack of health facilities, specific environment of an individual adds to risk of attracting HIV infection?
(iii) What reactions an infected individual face and how they cope in the context of health facilities that are available, their accessibility and their affordability?
(iv) What are the consequences, impact, response by the families of HIV/AIDS persons including costs and their sustainability?

1.4 Objectives of the Study

The broad major objectives of the study are:

(i) To examine the level and trends in HIV in Karnataka
(ii) To investigate the socio-economic factors like age, sex, religion, income, housing, marital status, migration that make an individual more vulnerable to HIV infection
(iii) To examine the association the level of Awareness and health-seeking / sexual behaviour among HIV Positive and HIV Negative people
(iv) To examine the detection, reaction and coping mechanism among HIV positive people

The locations for study were NACO approved Integrated Counselling and Testing Centres (ICTCs), Antenatal Care Centres (ANCs), Care Centres and Anti-Retroviral

Treatment (ART) Centres in Bengaluru. The City is capital of Karnataka state, which is one of the high-prevalence states in India.

1.5 Chapter Organizations

This study has been designed into different chapters. The First Chapter covers 'Introduction, Literature Review and Chapter Plan'. This explains HIV definition, history of the epidemic, current status globally, in India, Karnataka and Bengaluru, where research study was conducted. Then in chapter 2 under 'Data and Methodology', describes methodology for primary data collection & also secondary data obtained in NFHS 4 (2015-16). Under chapter 3 'Level of Awareness, Correct knowledge and Accepting Attitude Among Men (15-54) and Women (15-49) in Karnataka from NFHS-4', data interpretation for factors as available for Karnataka from NHFS 4 to identify relevance with present research study has been attempted. Thereafter, three chapters cover main research study. In chapter 4 'Socio-Economic Factors Affecting HIV Status in Bengaluru' identified socio-economic factors, which are facilitating contracting the HIV infection by their presence or otherwise due to absence through a comparative study of HIV positive and HIV negative persons. Similarly, how awareness on HIV/AIDS, health-seeking behaviour and sexual behaviour contribute for HIV infection through a comparative study of HIV positive and HIV negative persons in chapter 5, 'Awareness and Health-Seeking Behaviour Among HIV Positive and HIV Negative People'. Then, chapter 6 'Detection, Reaction and Coping Mechanism Among HIV Positive People' describes experience of people, who are HIV positive with regard to testing (reason and place), reaction (own and others), precaution taken for protecting family members and coping efforts after the positive status is found. Finally, chapter 7 'Conclusion' sums up the findings in other chapters based on primary and secondary data.

CHAPTER II

Data and Methodology

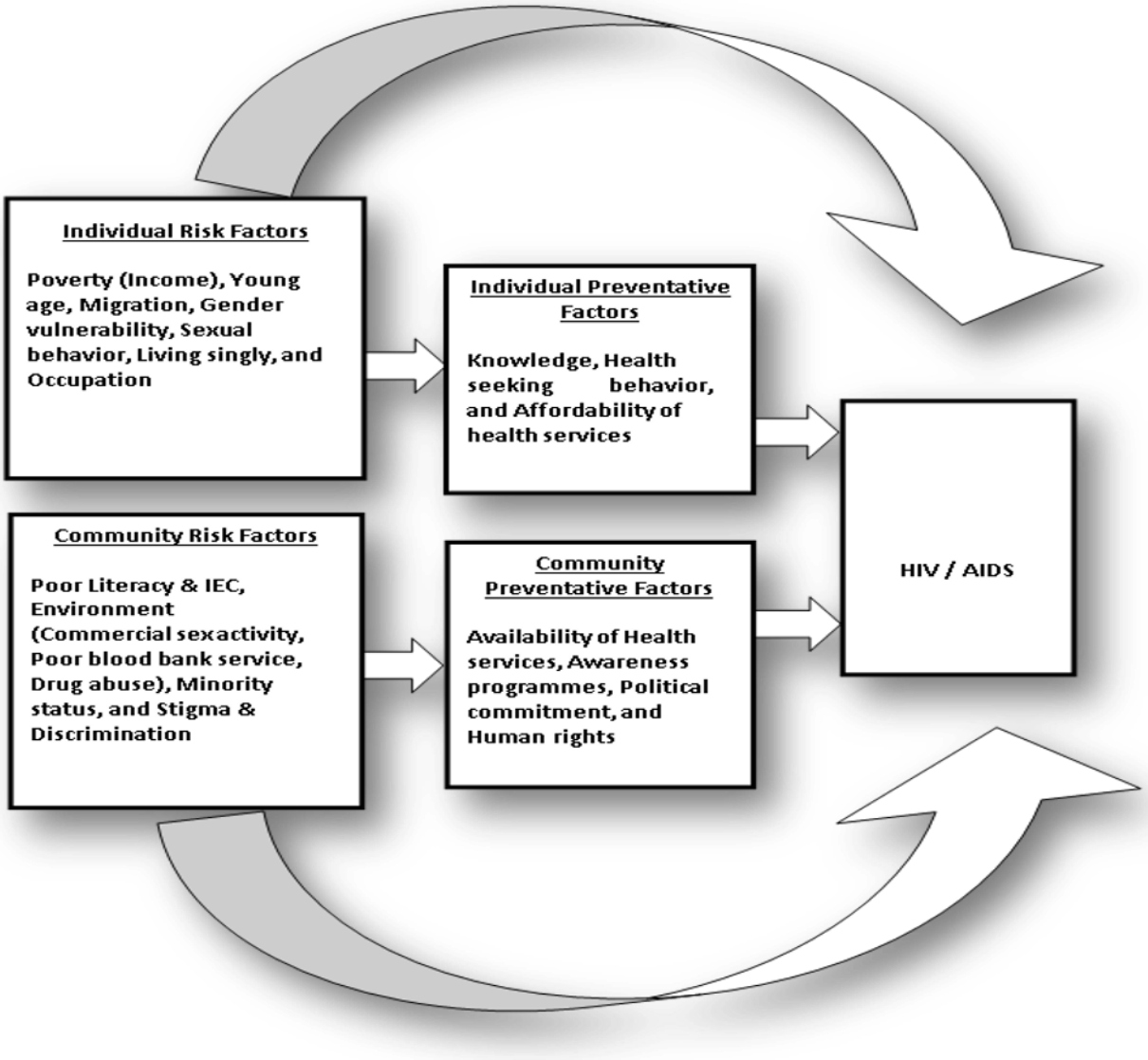
2.1 Conceptual Framework

From the literature review, it is found that there are several factors that expose people to risk of HIV infection, and there are also factors absence of which is contributing to spread of infection. These factors are both at individual and community levels. At individual level factors contributing to the exposure of a person to HIV infection are: one's poverty (poor income), young age, migration from home, gender vulnerability (especially for women), risky sexual behaviour, living singly (unmarried, divorced or separated), and working environment. Similarly, the factors like surroundings (commercial sex activity, poor quality of health services particularly in blood banks, and drug abuse), poor literacy, poor IEC and stigma/discrimination meted out to infected persons in a community are furthering the spread of infection.

On the other hand, there are certain factors, which would help in prevention of the infection. However, absence of these factors is adding to the cause of further spread. These factors are also on an individual level (lack of knowledge on HIV/AIDS, health seeking behaviour and capacity to avail the available health services) and at the community level such factors are absence of health services (both in terms of quality and numbers), awareness programmes {Information, Education and Communication (IEC) campaigns}, political commitment (first to accept the seriousness of the situation instead of denials; and then according priority for preventive, care and support efforts with sufficient resource allocations), and creating an enabling environment that respects ethical and human rights issues by all concerned and at all levels. It is also to be noted that criminalization of MSMs through IPC Section 377 till abrogated recently had led to their marginalization.

Thus, both types of factors - positive and negative influence spread of HIV infection is represented in the following diagram:

Figure 2.1: Conceptual Framework



2.2 Research Design

There are various methods for conducting research studies. They are case-control study, cross-sectional study, cohort study, prospective cohort study, qualitative survey, demographic and health surveys, demographic surveillance, questionnaire, interviews and focus group discussions, etc.

The first question to be addressed is 'epidemiological' one. This is to identify the representative samples for doing research. For this, it was proposed to adopt the case control study methodology (Park, 1995). This was found to be appropriate considering that the study will be from among referral cases to the ICTCs or ANCs or Care centres or ART centres instead of general population, which in case of HIV/AIDS raises ethical and human rights issues. According to Park (1995), "… This methodology requires two sets of samples for comparison – "…cases' and 'controls'. They are comparable with respect to known confounding factors such as age, sex, occupation, social status, etc. The basic four steps in conducting such studies are selection of cases & controls; matching; measurement of exposure; and analysis & interpretation". Proper definition of a case is crucial for a study. Moreover, in this both diagnostic criteria and eligibility criteria need to be defined. As regard to selection of cases, the source could be hospitals or general population. Similarly, selection of controls could be from hospitals, relatives, neighbourhood or general population. These selections of 'cases' and 'controls' are important to avoid influence of any 'selection bias'. At times, it is also suggested to conduct Case Control studies at different geographical areas to validate ultimate findings".

Further, it suggested that while matching samples, it is necessary "…to ensure comparability between cases and controls". Both groups should be similar for select selected characteristics. Important factor is association by both groups for exposure and distributed unequally. Matching types could be either group matching or pair matching. For this study, group matching was applied. Then measurement of exposure could be by interview and questionnaire.

The final step is analysis. In the case control studies that could be exposure rates or estimation of risk. In the former it is derived from statistical association (p value). In

the latter it is estimation of associated disease risk. In this study, incidence rate was not captured and so relative risk could not be calculated. However, Odds Ratio was derived, measuring association strength between the risk and outcome.

In such case control studies, it is very important that bias or systematic errors be ruled out. There could be varieties of bias like memory (difficulty in recalling distant past), wrong selection of cases and controls, and interviewer's bias, which could be avoided by proper training of interviewers. However, in this study it was taken care as researcher personally interviewed almost all respondents (excepting four).

The advantages of the selected method include easier to conduct, fast, less expensive, subjects do not have any risk in participation, include multiple variables, no attrition, and minimum ethical issues. However, disadvantages include problems of bias, difficulty in selecting appropriate control group, can only measure relative risk and not incidence, not distinguish causes and associated factors, possible not true representativeness of cases and controls.

In one such study (Panda, et. al, 2000) based on case-control methodology related to HIV/AIDS, the authors "…aimed to identify factors associated with transmission of HIV from the Injecting Drug Users (IDUs) to their wives in Manipur (India)".

There are many studies in the field of HIV/AIDS that have been conducted through interviews, group discussions and questionnaires. A study was conducted by Seal, et al (2003) on HIV and STD risk behaviour young men released from US prisons. In another instance, Guerriero, et al (2002) studied masculinity and vulnerability to HIV among heterosexual men in Sao Paulo (Brazil) through individual interviews and workshops. Wolffers, et al (2002), carried out a qualitative research across several countries in Asia during 1997-99 on migrant workers regarding their sexual behaviour and vulnerability for HIV infection through interviews and group discussions. In Lusaka (Zambia) from among street and night-club-based sex workers, Agha and Nchima (2001) could gather qualitative data through in-depth interviews.

For the present study, the samples were selected from the ICTCs, the ANCS, Care Centres and the ART Centres in Bengaluru approved/identified by the NACO. It was

proposed for sample size to consider all persons who have tested positive and they would form ‘case’ group. Such inclusion of all positive persons was necessary, since actual number available for study might be limited. This apprehension was because first these positive individuals had to be traced. Then these individuals should be willing to respond. In case of ‘control’ group appropriate number of persons would be selected suitably for a realistic representation.

After samples are selected to prepare ‘case’ and ‘control’ groups, the second question to be addressed is ‘management issue’. To seek answer for this category of questions relating to vulnerability due to poverty, unemployment, migration, illiteracy, gender, young age; and availability, accessibility, affordability and utilisation of health facilities; it was proposed to collect data through structured questionnaire. This questionnaire was administered to HIV positive persons to know how they had managed with the HIV positive status, including challenges on various fronts – individual, family, peer group and community. The data collection was through personal interviews.

The questionnaire and other research instruments were prepared under guidance from my earlier supervisors and consultation with experts. The guidelines of the ICMR and the Centre for Enquiry into Health and Allied Themes, Pune were also studied and adhered to. The research instruments were presented to the Ethics Committee of Jawaharlal Nehru University, which was constituted exclusively for this study, as there was no such Committee in existence then.

The structured data collection included both quantitative and qualitative set of questions. This was necessary since the issues involved are not exactly quantitative, but also qualitative in nature for correct understanding. The questionnaire was divided into 10 sections consisting 163 questions. The first seven sections were meant for both HIV positives and HIV negatives covering social factors (12 questions), economic factors (10 questions), housing aspects (8 questions), family issues (8 questions), awareness on HIV/AIDS (18 questions), Health services and Seeking behaviour (10 questions) and Sexual behaviour indicators (34 questions). Then, final three sections were only for positives covering personal experience (36 questions), coping mechanism (14 questions), and Impact and Consequences (13 questions). In

addition, almost all questions had optional open-ended question "anything else" giving them an opportunity to share any additional information, they would like to. Also, at the end of the session, they were asked once again to share anything else they wanted to.

In these centres, the prospective respondents were asked by the Counsellors, whether they were willing to participate. After ascertaining their willingness, in all 409 cases (except four cases) myself administered the questionnaire. For their convenience, it was translated into Kannada (local language), besides other languages like Hindi and Tamil were prepared. Personally, my knowledge of Kannada, Tamil, Telugu, Bengali and Hindi helped to speak in their mother tongue, whenever required, assuring comfort to the respondents. Before, administering the questionnaire, it was explained to all respondents the reasons of the study, make response categories as broad as possible, frame it in a non-judgmental style that avoided the appearance of censure, or, if possible, make the behaviour in question appear to be socially acceptable, and guarantee confidentiality. The questionnaire took into consideration *inter alia* the purpose of the survey, questions that help the survey to get answers, planning questionnaire research: prepare written objectives, objectives being reviewed by others, determine the feasibility of administering the questionnaire, group the items by content, and prepare an informed consent form. All efforts were taken to keep the surveys anonymous, and to find a way to make the respondents minimally uncomfortable. It is stated that all respondents, especially with HIV positive were very supportive and willingly answered. In all responses were obtained from 209 positive respondents and 200 negative respondents against the target of 200 each.

The interview centers and their respective nature were:

(i) Arunodaya - Care Centre
(ii) Banashankari - ANC ICTC
(iii) KNP + Office - Care Centre
(iv) Hoshalli - ANC ICTC
(v) Victoria Hospital - ART Centre
(vi) Homeopathy College and Hospital - General ICTC
(vii) Vanivilas Hospital - ANC ICTC
(viii) Jagjivanram Referral Hospital - ANC ICTC

(ix) ESI Hospital, Rajajinagar - General ICTC

{ANC "Antenatal Care Centre', ICTC "Integrated Counselling and Testing Centre", ART centre "Anti-retroviral Treatment" drugs dispensation centre}

Figure 2.2: Graphical Representation and Distribution of Primary Data Collection

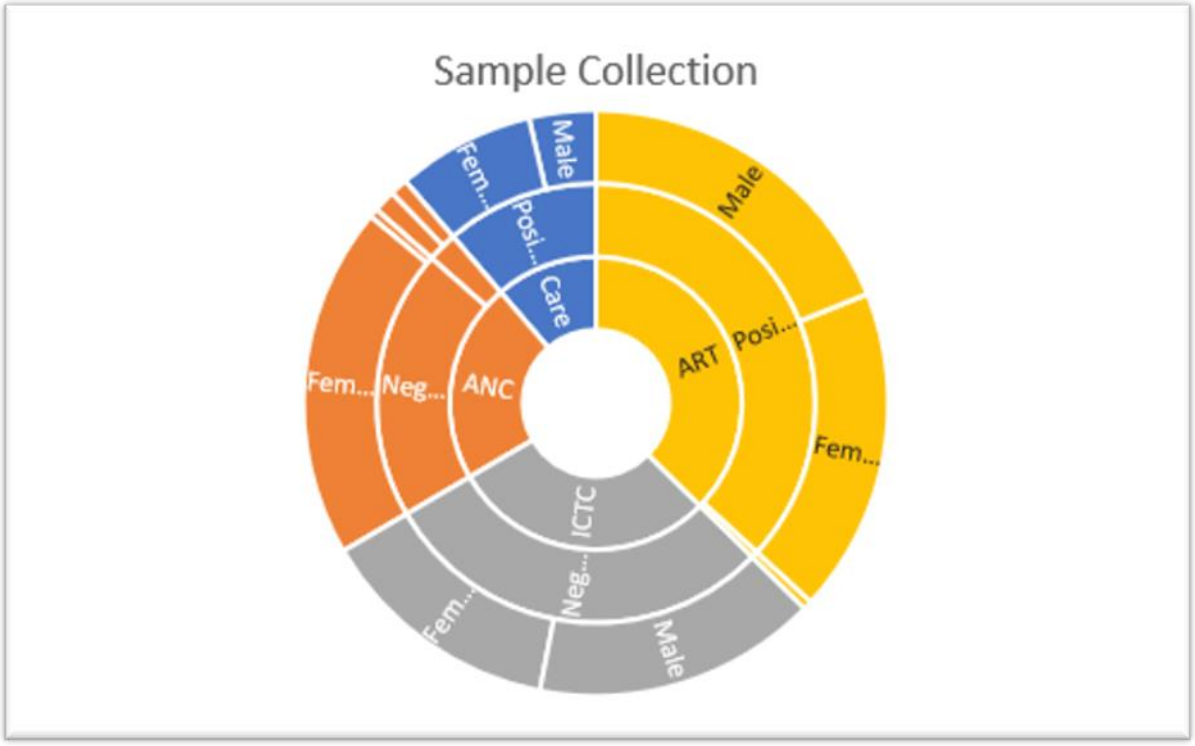


Table 2.1: Primary Data Collection Centres

Primary Data Collection - Centre / Sex / Status wise										
	Positives			Negatives		Total			Grand Total	%
	Male	Female	Others	Male	Female	Male	Female	Others		
Care Centre	15	31	2	0	0	15	31	2	48	11.74
ANC	4	5	0	2	79	6	84	0	90	22.00
ICTC	0	0	0	64	55	64	55	0	119	29.10

ART Centre	77	73	2	0	0	77	73	2	152	37.16
Total	96	109	4	62	134	162	243	4	409	100.00

Source: Author's Primary Data Collection, 2013

2.3 Ethical Issues

Guidelines on ethical issues issued by the ICMR, the WHO and other research institutes like the Centre for Enquiry into Health and Allied Themes, Pune besides researchers and persons involved in HIV AIDS programme were consulted. These instruments were discussed with Delhi Positive Network members. Each participant was requested through Centre's Counsellor for permission to interview. Only after knowing their willingness, they were given Consent Letter. Thereafter questionnaire was administered through personal interview. The questionnaire was prepared in both, Kannada and English. As myself am aware of Kannada, Tamil, Telugu, Hindi, Bengali and English it was easy to converse with the participants. To ensure strict confidentiality, consent letter along with participant's particulars were detached from questionnaire. They are kept separately. The details were collected for the sake of establishing authenticity in case called upon to substantiate. All responses are coded. In fact, the KSAPS was requested to keep these records, but was instructed to keep them myself. They are in safe custody with me. Thus, utmost care has taken to ensure confidentiality and respect for human rights of the respondents.

Minutes of meetings of the Ethics Committee of JNU held on March 22, 2006 and May 12, 2006 along with the note prepared for the committee before approving methodology are annexed for reference in the Annexure at the end.

CHAPTER III

Level of Awareness, Correct Knowledge and Accepting Attitude among Men (15-54) and Women (15-49) in Karnataka from the NFHS-4 (2015-16)

3.1 Introduction

This chapter covers findings of the National Family Health Survey (NFHS) 4 (2015-16) for the State of Karnataka. The aim of this chapter is to study findings of the survey and analyse as secondary data for this research work. The NFHS explains the overall prevalence in India and Karnataka with regard to HIV/AIDS along with various characteristics/factors for general population. In contrast, the present research work covered collection of primary data through non-randomised representative sample and for a specific study area with data collected from only those respondents, who volunteered to participate. Therefore, the NFHS-4 represents the state and country better for overall understanding. However, it may be pointed out that, the data is for general population and age being limited to 15 to 54 years for men and 15-49 years for women, whereas the present study covered both HIV positive and negative persons and applicable responses for identical characteristics/factors without age barrier. Also, the study covered certain factors applicable/experienced by persons with HIV positive status.

The National Family Health Surveys (NFHS) are conducted periodically by the International Institute of Population Studies under the aegis of Ministry of Health and Family Welfare, Government of India. According to the NFHS 4 Report (2015-16), "…its primary objective was to provide essential data on health and family welfare, as well as data on emerging issues in these areas. It was designed to provide vital estimates of the prevalence of malnutrition, anaemia, hypertension, HIV, and High Blood Glucose levels. It was also intended to assist policymakers and programme managers in setting benchmarks and examining progress over time in India's health sector. Furthermore, it was to provide evidence on the effectiveness of ongoing programmes and to identify the need for new programmes in specific health areas".

The sample size depended on required indicators at the District, State/Union Territory (UT), and National levels. It also covered separately for urban and rural areas besides

slum and non-slum areas in eight selected cities. 15% of households as a representative sample was covered in the interview. It involved two-stage stratified sample based on 2011 census. It was also aimed to keep minimum the non-sampling error and at the same time data quality is assured.

The survey questionnaires were on Household, Women, Men, and Biomarker. For HIV/AIDS, it was aimed to capture HIV prevalence. It also covered other aspects like sexual behaviour; knowledge of HIV and AIDS, HIV transmission, HIV testing, stigma, and accepting attitudes.

In Karnataka, district module also collected information on marriage, fertility, contraception, reproductive health, immunizations, and childhood illnesses from women. At state level survey for women covered sexual behaviour, HIV/AIDS, husband's background and woman's work, and domestic violence. For men, it covered sexual behaviour and HIV/AIDS. All 30 districts were covered. Survey response among household was good at 97 %.

The key findings in the NFHS 4 Report at national level for HIV/AIDS-related knowledge, attitudes, and behaviour were:

- 21% of women and one-third of men had comprehensive knowledge
- Varied knowledge about mother-to-child transmission between 55 and 62% for women; between 56 and 69% for men.
- 3 % of never-married women and 11 % of never-married men had pre-marital sex
- 35 % of men and 2 % of women had higher-risk sex.

The survey for Karnataka also covered women aged between 15 and 49 years; men aged between 15 and 54 years. The information was collected on HIV/AIDS awareness, prevention and transmission, and towards HIV/AIDS people accepting attitudes

3.2 Findings of Karnataka State compared to all India data:

The findings with difference of less than 10% were found in some areas namely, for comprehensive knowledge for women it was only 9.5% compared to all India 20.9%, prevention by using condoms for men only 65.9% compared to all India 77.4%. On the other hand, it was better with regard to who have heard of HIV/AIDS, women 81.5% and men 90.5% compared to all India 75.6% and 88.9% respectively. So also, women had better knowledge with 55.5% than all India 49% regarding transmission from mother to child.

The findings in Karnataka were poorer than all India average for both women and men on all factors regarding the sexual behaviour indicators except for who had higher-risk sexual intercourse among men being lower with 5.5% compared to all India 7.1%. For women, it was more alarming that is, who had two or more partners 4.4% (India 0.6%) and who had higher-risk sexual intercourse 1.6% (India 0.7%).

3.3 Further analysis has been made for women and men separately from the available raw data in http://rchiips.org/nfhs/nfhs-4Reports/India.pdf under three distinctive factors namely Awareness of HIV/AIDS, Correct knowledge about HIV/AIDS and Accepting attitudes towards those living with HIV/AIDS. They are explained below.

3.3.1: Sample Description of the Variables used in the Analysis for Women in Karnataka, NFHS 4: 2015-16

From the Table 3.1 below, it is found that the sample description of 5,945 interviewed among women, consisted of 33.2% in age group of 20-29 years, followed by 30-39 years (28.8%), 29 and above (23.4%) and 15-19 (14.7%). The Secondary Education was in majority at 53.9% more than all levels namely, No education (21.0%), Higher (13.9%), and Primary (11.2%).

In case of household wealth, the composition category ‘Richer’ was in lead with 27.7%. Other categories were ‘Middle’ 26.5%, ‘Richest’ 22.3%, ‘Poorer’ 18.5% and ‘Poorest’ 5.0%. Rural respondents were 53.7% and rest were from Urban area. The

Hindus were 82.6%, Muslims 15.0% and 2.4% Christians / others. 91.0% had Media exposure. Married were 71.4%, whereas Never married were 22.1% and Widow/divorced/separated were only 6.5%. Among all respondents (5,945) only 28.0% did have HIV testing. And 7.4% did not have blood transfusion. Majority of them did not have any injection or maximum of 4 injections. 81.5% had heard of HIV/AIDS. But Correct knowledge was only to extent of 9.5%. Similarly, was very low percentage of only 11.6%, who had accepting attitude toward HIV positive people.

Table 3.1: Sample Description of the Variables used in the Analysis for Women in Karnataka, the NFHS 4: 2015-16

Background Characteristics	N	%
Socio-Demographic and Economic		
Age in Years[@]		
15-19	872	14.7
20-29	1972	33.2
30-39	1709	28.8
39 and Above	1392	23.4
Total	5945	100.0
Education		
No Education	1251	21.0
Primary	665	11.2
Secondary	3202	53.9
Higher	827	13.9
Total	5945	100.0
Wealth of the Household		
Poorest	295	5.0
Poorer	1102	18.5
Middle	1577	26.5
Richer	1648	27.7
Richest	1323	22.3
Total	5945	100.0
Place of Residence		

Urban	2755	46.3
Rural	3190	53.7
Total	5945	100.0
Religion		
Hindu	4909	82.6
Muslim	893	15.0
Christian/Others	144	2.4
Total	5945	100.0
Media Exposure[#]		
Without Media Exposure	534	9.0
With Media Exposure	5411	91.0
Total	5945	100.0
Marital Status		
Never Married	1311	22.1
Married	4246	71.4
Widow/Divorced/Separated	388	6.5
Total	5945	100.0
Health Seeking Behaviour		
Ever been tested for HIV		
No	4279	72.0
Yes	1666	28.0
Total	5945	100.0
Ever had a blood transfusion		
No	5507	92.6
Yes	438	7.4
Total	5945	100.0
Number of injections taken in last 12 Months		
None	2331	39.2
1-4	2768	46.6
5-10	589	9.9
More than 10	257	4.3
Total	5945	100.0

Others		
Ever Heard about HIV/AIDS		
No	1098	18.5
Yes	4847	81.5
Total	5945	100.0
Correct Knowledge about HIV/AIDS[&]		
No	5380	90.5
Yes	565	9.5
Total	5945	100.0
Percentage of Accepting Attitudes towards HIV/AIDS[$$]		
No	5258	88.5
Yes	687	11.6
Total	**5945**	**100.0**

Note: [@] age group is from 15 to 49 years

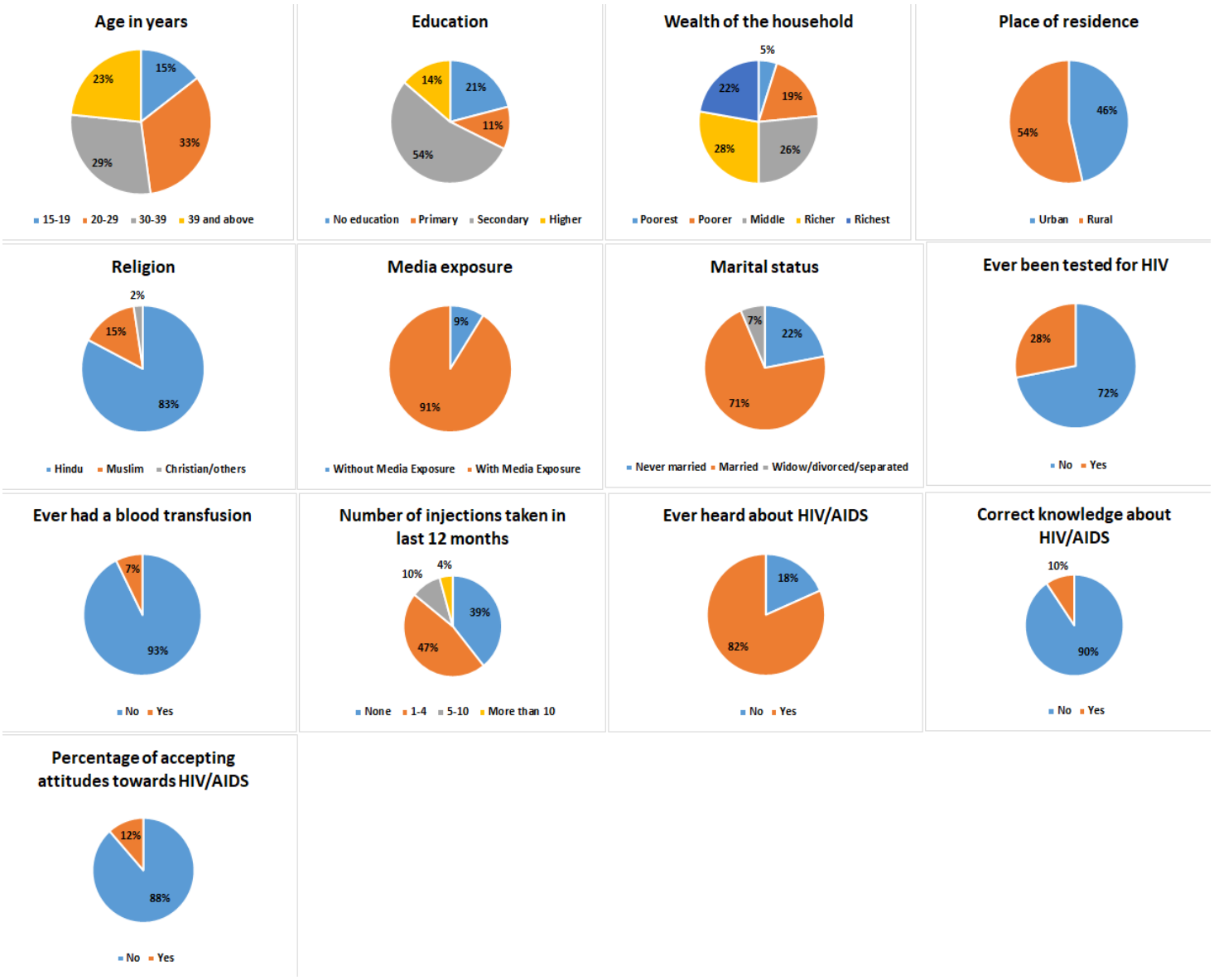
#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

[&]Correct (Comprehensive) Knowledge about HIV/AIDS - respondent knowing that consistent use of condoms every time they have sex and having just one uninfected faithful sex partner can reduce the chance of getting HIV/AIDS, knowing that a healthy-looking person can have HIV/AIDS, and rejecting two common misconceptions about transmission of HIV/AIDS that is HIV cannot be transmitted by mosquito bites, and by sharing food.

[$$]Accepting Attitudes – expressing accepting attitudes on all four indicators namely, who are willing to care for a relative with HIV/AIDS in own home, would buy vegetables from a shopkeeper or vendor with HIV/AIDS, agree a female teacher infected with HIV/AIDS, but is not sick, should be allowed to continue teaching; and would not want to keep secret if a family member got infected with HIV/AIDS.

Source: the NFHS 4 2015-16 data, 2020

Figure 3.1: Sample Description of the Variables used in the Analysis for Women in Karnataka, NFHS 4: 2015-16



3.3.2 The distribution of respondents for awareness of HIV/AIDS on Socio-Demographic, Economic and Health Seeking Behaviour characteristics, it was almost evenly distributed among all age groups ranging from 75.9% to 86.0% who had heard and who had not heard ranged from 14.0% to 24.1%. In case of Education, who had heard 'Higher' level of education was highest with 96.2%, whereas others were 'Secondary' 88.3%, 'Primary' 67.3% and even 'No education' with 62.0% was appreciable. The distribution for Household wealth characteristic, it was 'Richest' 93.3%, 'Richer' 87.2%, 'Middle' 78.9%, 'Poorer' 67.0%, and 'Poorest' 65.5%. 88.2% among Urban respondents had heard of HIV, whereas it was 75.8% among Rural interviewees. In case of religious background, among Christians/others 89.2% had heard of HIV and almost same among Hindus (81.7%) and Muslims (79.5%). 64.5% among who had no Media exposure also had heard of HIV, it was better at 83.2% among those who had media exposure. The distribution based on marital status who had heard of HIV was among Never married 86.5%, Married 80.8% and Widow/divorced/separated 72.9%. Among those who had undertaken HIV testing 100% had heard of HIV. Even 74.3% of who had taken test were aware of HIV. Among those who had taken blood transfusion 87.1% and 81.1% who had not taken were aware. As far as injections taken, all categories from none to more than 10 injections ranged from 76.6% to 82.1%.

Table 3.2: Distribution of Awareness/Heard of HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among Women in Karnataka, the NFHS 4: 2015-16

Background Characteristics	No		Yes	
	N	%	N	%
Socio-Demographic and Economic				
Age in Years[@]				
15-19	122	14.0	751	86.0
20-29	299	15.2	1673	84.8
30-39	342	20.0	1367	80.0
39 and Above	335	24.1	1057	75.9
Education				
No Education	475	38.0	776	62.0

Primary	218	32.7	447	67.3
Secondary	374	11.7	2828	88.3
Higher	31	3.8	796	96.2
Wealth of the Household				
Poorest	102	34.5	193	65.5
Poorer	364	33.0	738	67.0
Middle	332	21.1	1244	78.9
Richer	211	12.8	1437	87.2
Richest	89	6.7	1234	93.3
Place of Residence				
Urban	325	11.8	2430	88.2
Rural	773	24.2	2417	75.8
Religion				
Hindu	900	18.3	4009	81.7
Muslim	183	20.5	710	79.5
Christian/others	16	10.8	128	89.2
Media exposure[#]				
Without Media Exposure	190	35.5	344	64.5
With Media Exposure	908	16.8	4503	83.2
Marital status				
Never married	177	13.5	1134	86.5
Married	816	19.2	3430	80.8
Widow/divorced/separated	105	27.1	283	72.9
Health Seeking Behaviour				
Ever been tested for HIV				
No	1098	25.7	3181	74.3
Yes	0	0.0	1666	100.0
Ever had a Blood Transfusion				
No	1042	18.9	4465	81.1
Yes	56	12.9	382	87.1
Number of injections taken in last 12 Months				
None	419	18.0	1912	82.0

1-4	495	17.9	2273	82.1
5-10	138	23.4	451	76.6
More than 10	46	18.0	210	82.0
Total	**1098**	**18.5**	**4847**	**81.5**

Note: @women age is taken from 15 to 49 years

#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

Source: the NFHS 4: 2015-16 data, 2020

3.3.3 The distribution of respondents for correct knowledge about HIV/AIDS on Socio-Demographic, Economic and Health Seeking Behaviour characteristics, it was almost evenly distributed among all age groups ranging from 8.3% to 10.5% who had heard & who had not heard ranged from 89.5% to 91.7%. In case of Education, who had heard 'Higher' level of education was highest with 17.8%, whereas others were 'Secondary' 10.1%, 'Primary' 5.9% and 'No education' 4.4%. The distribution for Household wealth characteristic, it was 'Richest' 12.5%, 'Richer' 12.0%, 'Middle' 7.0%, 'Poorer' 6.7%, and 'Poorest' 6.0%. For residence it was almost same with 9.8% among Urban respondents and 9.3% among Rural interviewees. In case of religious background, among Christians/others 16.1% had correct knowledge about HIV and almost same among Hindus (9.4%) and Muslims (8.8%). Only 9.9% who had media exposure and 5.3% who had no Media exposure had correct knowledge about HIV. The distribution based on marital status was Never married 11.9%, Married 9.2% and Widow/divorced/separated 5.2% only had correct knowledge about HIV. Among those who had undertaken HIV testing only 15.0% and who had not taken test only 7.4% had correct knowledge. Among those who had taken blood transfusion 7.4% and 9.7% who had not taken had correct knowledge. As far as injections taken, all categories from none to more than 10 injections ranged from 9.0% to 11.0% only.

Table 3.3: Distribution of Correct Knowledge about HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among Women in Karnataka, NFHS 4: 2015-16

Background Characteristics	No Correct Knowledge		Having Correct Knowledge	
	N	%	N	%
Socio-Demographic and Economic				
Age in Years[@]				
15-19	781	89.5	91	10.5
20-29	1775	90.0	197	10.0
30-39	1567	91.7	142	8.3
39 and Above	1257	90.3	135	9.7
Education				
No Education	1196	95.6	55	4.4
Primary	626	94.1	39	5.9
Secondary	2879	89.9	324	10.1
Higher	680	82.2	148	17.8
Wealth of the Household				
Poorest	277	94.0	18	6.0
Poorer	1028	93.3	74	6.7
Middle	1467	93.0	110	7.0
Richer	1451	88.0	197	12.0
Richest	1158	87.5	166	12.5
Place of Residence				
Urban	2485	90.2	270	9.8
Rural	2895	90.7	295	9.3
Religion				
Hindu	4445	90.6	464	9.4
Muslim	815	91.2	78	8.8
Christian/others	121	83.9	23	16.1
Media Exposure[#]				

Without Media Exposure	506	94.7	28	5.3
With Media Exposure	4874	90.1	537	9.9
Marital status				
Never married	1155	88.1	156	11.9
Married	3857	90.8	389	9.2
Widow/divorced/separated	368	94.8	20	5.2
Health Seeking Behaviour				
Ever been tested for HIV				
No	3964	92.6	315	7.4
Yes	1416	85.0	250	15.0
Ever had a blood transfusion				
No	4974	90.3	532	9.7
Yes	406	92.6	33	7.4
Number of injections taken in last 12 months				
None	2121	91.0	210	9.0
1-4	2496	90.2	272	9.8
5-10	535	90.8	54	9.2
More than 10	228	89.0	28	11.0
Total	**5380**	**90.5**	**565**	**9.5**

Note: [@]women age group is from 15 to 49 years

#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

[&]Correct (Comprehensive) Knowledge about HIV/AIDS - respondent knowing that consistent use of condoms every time they have sex and having just one uninfected faithful sex partner can reduce the chance of getting HIV/AIDS, knowing that a healthy-looking person can have HIV/AIDS, and rejecting two common misconceptions about transmission of HIV/AIDS that is HIV cannot be transmitted by mosquito bites, and by sharing food.

Source: the NFHS 4: 2015-16 Data, 2020

3.3.4 The distribution of respondents with accepting attitudes towards those living with HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics, it was almost evenly distributed among all age groups ranging from

10.9% to 12.4%. In case of Education, 'Higher' level of education was highest with 17.3%, followed by 'Secondary' (12.7%), 'Primary' (8.4%), and 'No education' (6.5%). The distribution for Household wealth characteristic was 'Richest' (15.9%), 'Richer' (11.9%), 'Middle' (11.7%), 'Poorer' (7.1%), and 'Poorest' (6.2%). For residence, it was almost same with 12.0% among Urban respondents and 11.1% among Rural interviewees. In case of religious background, among Hindus acceptance level was highest with 12.3% and lesser was among Christians/others (9.6%) and Muslims (7.9%). 12.0% of who had media exposure and 6.8% who had no Media exposure expressed acceptance attitude. The distribution based on marital status, it was Never married (14.2%), Married (10.8%), and Widow/divorced/separated (10.3%). Among those who had undertaken HIV testing, only 16.6% expressed willingness to accept and among those who had not taken testing was 9.6%. Then, 8.5% who had taken blood transfusion and 11.8% who had not taken had positive attitude. As far as taking injections, the distribution for accepting attitude was in the order who had not taken (13.7%), up to 4 injections (11.5%), 5 to 10 injections (6.2%), and more than 10 injections (4.8%).

Table 3.4: Percent of People with Accepting Attitudes towards those living with HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among Women in Karnataka, NFHS 4: 2015-16

Background Characteristics	Not Accepting Attitudes		Accepting Attitudes	
	N	%	N	%
Socio-Demographic and Economic				
Age in Years@				
15-19	764	87.6	108	12.4
20-29	1732	87.8	240	12.2
30-39	1522	89.0	188	11.0
39 and Above	1240	89.1	151	10.9
Education				
No education	1169	93.5	82	6.5

Primary	609	91.6	56	8.4
Secondary	2796	87.3	407	12.7
Higher	684	82.7	143	17.3
Wealth of the Household				
Poorest	276	93.8	18	6.2
Poorer	1024	92.9	79	7.1
Middle	1393	88.3	184	11.7
Richer	1453	88.1	196	11.9
Richest	1113	84.1	211	15.9
Place of Residence				
Urban	2423	88.0	332	12.0
Rural	2835	88.9	355	11.1
Religion				
Hindu	4306	87.7	603	12.3
Muslim	823	92.1	70	7.9
Christian/others	130	90.4	14	9.6
Media Exposure[#]				
Without Media Exposure	498	93.2	37	6.8
With Media Exposure	4760	88.0	651	12.0
Marital status				
Never married	1124	85.8	187	14.2
Married	3785	89.2	460	10.8
Widow/Divorced/Separated	348	89.7	40	10.3
Health Seeking Behaviour				
Ever been tested for HIV				
No	3869	90.4	410	9.6
Yes	1389	83.4	277	16.6
Ever had a Blood Transfusion				
No	4857	88.2	650	11.8
Yes	401	91.5	37	8.5
Number of injections taken in last 12 months				
None	2011	86.3	320	13.7

1-4	2451	88.5	318	11.5
5-10	552	93.8	37	6.2
More than 10	244	95.2	12	4.8
Total	**5258**	**88.4**	**687**	**11.6**

Note: [@]women age group is from 15 to 49 years

#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

[$$]Accepting Attitudes – expressing accepting attitudes on all four indicators namely, who are willing to care for a relative with HIV/AIDS in own home, would buy vegetables from a shopkeeper or vendor with HIV/AIDS, agree a female teacher infected with HIV/AIDS, but is not sick, should be allowed to continue teaching; and would not want to keep secret if a family member got infected with HIV/AIDS.

Source: The NFHS 4: 2015-16 data, 2020

3.3.5 As the study exhibited above how HIV/AIDS was spread and distinct factors responsible associated with it such as, correct knowledge about HIV/AIDS, age, education, wealth of the household, place of residence, religion, media exposure, marital status, tested for HIV, blood transfusion, injections taken among women in Karnataka. Likewise, the logistic regression analysis has been employed to investigate accepting attitudes those living with HIV/AIDS. The media exposure played a critical role in the prevention of HIV disease as they were informed by the radio, the major medium to communicate informations, followed by other electronics devices. The blood transfusion was seen had major affects in the disease expansion from one to another person.

Number of observations in this analysis is 4,387. Statistical significance was set at P <0.05 for the study. Dependent variable is 1= women who have accepting attitude; 0= women who do not have accepting attitude.

From the analysis, significant association was found for some of these characteristics only. There are persons with correct knowledge about HIV/AIDS having 3.74 times more possibility of favourable accepting attitudes compared to those who did not have correct knowledge. It is a significant factor of deciding the outcome in HIV/AIDS. Also, there is a positive association for who had Secondary education with odds of 1.43 as against 'No education'; compared to 'Poorest' persons those belonging to 'Middle' (OR:1.82) and 'Richest' (OR: 2.06) categories; Rural respondents with 1.32 more favourable than from Urban respondents; and who had undergone HIV testing with odds of 1.92 compared to those did not take HIV testing. Whereas, there was negative association for Muslims with odds of 0.66 compared to Hindus; married persons with odds at 0.55 with reference to never married persons; and persons who had taken five to ten injections (OR:0.57) compared to those who had taken not any injections. Thus, media exposer, education, ruler-urban and other elements were considered indispensable variables to correct the understanding of the disease and how each group varies from other group.

Table 3.5: Logistic Regression Results for the Accepting Attitudes towards those living with HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among Women in Karnataka, NFHS 4: 2015-16

Background Characteristics	Odds Ratio (95% CI)
Correct Knowledge about HIV/AIDS	
No Correct Knowledge (ref)	
Having Correct Knowledge	3.74***(2.87 - 4.87)
Age in Years	
15-19 (ref)	
20-29	1.40*(0.96 - 2.04)
30-39	1.27(0.82 - 1.99)
39 and Above	1.48(0.93 - 2.37)
Education	
No Education (ref)	
Primary	0.95(0.61 - 1.49)
Secondary	1.43**(1.01 - 2.02)

Higher	1.24(0.78 - 1.97)
Wealth of the Household	
Poorest (ref)	
Poorer	1.15(0.62 - 2.13)
Middle	1.82**(1.00 - 3.31)
Richer	1.60(0.86 - 2.98)
Richest	2.06**(1.07 - 4.00)
Place of Residence	
Urban (ref)	
Rural	1.32**(1.02 - 1.70)
Religion	
Hindu (ref)	
Muslim	0.66**(0.47 - 0.91)
Christian/others	0.65(0.30 - 1.40)
Media exposure	
Without Media Exposure (ref)	
With Media Exposure	1.27(0.79 - 2.02)
Marital Status	
Never married (ref)	
Married	0.55***(0.38 - 0.78)
Widow/Divorced/Separated	0.78(0.44 - 1.36)
Ever been tested for HIV	
No (ref)	
Yes	1.92***(1.49 - 2.46)
Ever had a Blood Transfusion	
No (ref)	
Yes	0.95(0.62 - 1.47)
Number of injections taken in last 12 Months	
None (ref)	
1-4	0.93(0.74 - 1.16)
5-10	0.57***(0.38 - 0.85)
More than 10	0.42***(0.22 - 0.80)

Constant	0.03***(0.02 - 0.07)
Observations	4,387
Pseudo R-squared	0.0767

Note: *** p<0.01, ** p<0.05, * p<0.1

Dependent variable: 1: women who have accepting attitude; 0= women who do not have accepting attitude

Source: NFHS 4: 2015-16 data, 2020

3.3.6 Discussion for Women

Among women age group of 20-29 years had the highest percentage of respondents (33.2%). But level of "awareness of HIV/AIDS" was highest among age group of 15 to 19 years (86.0%). However, the highest percentage of having Correct knowledge was only 10.5% among the same group of 15 -19 years. Respondents were in majority with Secondary education (53.9%). However, highest level of awareness was among those who had Higher Education (96.2%). However, their correct knowledge was only 17.8% and their accepting attitude was 17.3%. 'Richest' category had better awareness than other categories. However, in their case also, though level of awareness was 93.0%, correct knowledge was only 12.5% and accepting attitude was 15.9%. As far, 'Place of Residence' is concerned not much difference was found. Urban persons were very marginally better. But on some aspects rural respondents were more knowledgeable. Understandably, Hindus constituted majority respondents followed by Muslims and Christian/others. But awareness and correct knowledge were better among Christian/others followed by Hindus and Muslims. Whereas, Hindus had better accepting attitudes compared to among others. Media Exposure was very significant with 91.0% and among them awareness of HIV was 83.2%. But correct knowledge was only 9.9% and accepting attitudes was just 12.0%. Among respondents, married were dominant (71.0%) compared to both never married and Widow/divorced/separated combined. But awareness among Never married was significant with 86.5%. But among them correct knowledge and accepting attitudes were just 11.9% and 14.2% respectively. Among respondents, Sexual partner being Spouse was very predominant (97.4%).

Among Health seeking behaviour indicators, only 28.0% had undergone HIV testing. However, awareness of HIV was 100% among them. But correct knowledge and accepting attitudes were only 5.0% and 16.6% respectively. Only 7.4% had received blood transfusion. And among them awareness was good with 87.1%. But correct knowledge and accepting attitudes were only 7.4% and 8.5% respectively. With regard to taking injections, majority were in the groups of not taken at all or maximum of 4 injections in last 12 months (85.8% combined). In their case also, though awareness was 82%, correct knowledge and accepting attitudes were only between 9 and 13.7%.

Further, for accepting attitudes towards HIV positive persons outcome, the regression analysis has confirmed significant positive association with regard to correct knowledge about HIV/AIDS compared to those who did not have correct knowledge; also, persons who had Secondary education as against 'No education'; compared to 'Poorest' persons those belonging to 'Middle' and 'Richest'; Rural respondents compared to Urban respondents; and who had undergone HIV testing compared to those did not take HIV testing. Whereas, there was negative association for Muslims compared to Hindus; married persons with reference to never married persons; and persons who had taken five to ten injections compared to those who had taken not any injections.

3.3.7 Sample Description of the Variables used in the Analysis for Men in Karnataka, the NFHS 4: 2015-16

From the Table 3.6 below, it is found that the sample description of 5,592 interviewed among men, consisted 31.5% in age group of 39 years and above, followed by 20-29 years (28.4%), 30-39 (25.8%) and 15-19 (14.3%). The Secondary Education was in majority at 57.8% more than all levels namely., Higher (17.5%), No Education (12.4%), and Primary (12.3%). In case of Household Wealth, the composition categories ranged from 19.2% to 29.4%, except 'Poorest' only 4.7%. Rural respondents were 54.6% and rest were from Urban area. The Hindus were 82.2%, Muslims 14.8% and 3.0% Christians / others. 93.1% had Media exposure. Married were 60.6%, whereas Never Married were 38.0% and Widow/Divorced/Separated

were only 1.4%. Among all respondents only 8.8% did have HIV testing. And 10.8% did not have blood transfusion. Majority of them (79.1%) did not have any injection or maximum of 4 injections. 89.9% had heard of HIV/AIDS. But Correct knowledge was only to extent of 25.6%. Similarly, was very low percentage of only 12.3%, who had accepting attitude toward HIV positive people.

Table 3.6: Sample Description of the Variables used in the Analysis for Men in Karnataka, NFHS 4: 2015-16

Background Characteristics	N	%
Socio-Demographic and Economic		
Age in Years[@]		
15-19	799	14.3
20-29	1590	28.4
30-39	1440	25.8
39 and Above	1763	31.5
Total	5592	100.0
Education		
No Education	694	12.4
Primary	688	12.3
Secondary	3234	57.8
Higher	977	17.5
Total	5592	100.0
Wealth of the Household		
Poorest	265	4.7
Poorer	1075	19.2
Middle	1441	25.8
Richer	1642	29.4
Richest	1170	20.9
Total	5592	100.0
Place of Residence		
Urban	2539	45.4
Rural	3053	54.6
Total	5592	100.0

Religion		
Hindu	4599	82.2
Muslim	826	14.8
Christian/Others	168	3.0
Total	5592	100.0
Media Exposure[#]		
Without Media Exposure	389	7.0
With Media Exposure	5204	93.1
Total	5592	100.0
Marital Status		
Never Married	2124	38.0
Married	3389	60.6
Widow/Divorced/Separated	79	1.4
Total	5592	100.0
Health Seeking Behaviour		
Ever been tested for HIV		
No	5099	91.2
Yes	494	8.8
Total	5592	100.0
Ever had a Blood Transfusion		
No	4990	89.2
Yes	602	10.8
Total	5592	100.0
Number of Injections taken in last 12 Months		
None	1926	34.4
1-4	2500	44.7
5-10	863	15.4
More than 10	304	5.4
Total	5592	100.0
Others		
Ever Heard about HIV/AIDS		
No	563	10.1

Yes	5029	89.9
Total	5592	100.0
Correct Knowledge about HIV/AIDS[&]		
No	4159	74.4
Yes	1433	25.6
Total	5592	100.0
Percentage of Accepting Attitudes towards HIV/AIDS[$$]		
No	4904	87.7
Yes	689	12.3
Total	5592	100.0

Note: [@] age is from 15 to 54 years

#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

[&]Correct (Comprehensive) Knowledge about HIV/AIDS - respondent knowing that consistent use of condoms every time they have sex and having just one uninfected faithful sex partner can reduce the chance of getting HIV/AIDS, knowing that a healthy-looking person can have HIV/AIDS, and rejecting two common misconceptions about transmission of HIV/AIDS that is HIV cannot be transmitted by mosquito bites, and by sharing food.

[$$]Accepting Attitudes – expressing accepting attitudes on all four indicators namely, who are willing to care for a relative with HIV/AIDS in own home, would buy vegetables from a shopkeeper or vendor with HIV/AIDS, agree a female teacher infected with HIV/AIDS, but is not sick, should be allowed to continue teaching; and would not want to keep secret if a family member got infected with HIV/AIDS.

Source: the NFHS 4: 2015-16 data, 2020

Figure 3.2: Sample Description of the Variables used in the Analysis for Men in Karnataka, NFHS 4: 2015-16

3.3.8 Distribution of Awareness/Heard of HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour Characteristics among Men in Karnataka, the NFHS 4: 2015-16

The Distribution of Respondents for Awareness of HIV/AIDS on Socio-Demographic, Economic and Health Seeking Behaviour characteristics, it was almost evenly distributed among all age groups ranging from 87.1% to 92.4% who had heard & who had not heard ranged from 7.6% to 12.9%. In case of Education, who had heard 'Higher' level of education was highest with 97.8%, whereas others were 'Secondary' 92.7%, 'Primary' 81.5% and even 'No education' with 74.2% was appreciable. The distribution for Household wealth characteristic, it was 'Richest' 95.6%, 'Richer' 93.9%, 'Middle' 86.9%, 'Poorer' 84.5%, and 'Poorest' 78.9%. 93.9% among Urban respondents had heard of HIV, whereas it was very close 86.6% among Rural interviewees. In case of religious background, among Christians/others 95.4% had heard of HIV and same among Hindus and Muslims (89.8%). 78.1% among who had no Media exposure also had heard of HIV, and it was better at 90.8% among those who had media exposure. The distribution based on marital status who had heard of HIV was 92.3% among Never married, Married 88.5% and Widow/divorced/separated 86.5%. Among those who had undertaken HIV testing 100% had heard of HIV. Even 89.0% of who had taken test were aware of HIV. Among those who had taken blood transfusion 92.3% and 89.7% who had not taken were aware. As far as injections taken, all categories from none to more than 10 injections awareness of HIV ranged from 783.0% to 91.1%.

Table 3.7: Distribution of Awareness/Heard of HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour Characteristics among Men in Karnataka, NFHS 4: 2015-16

Background Characteristics	No		Yes	
	N	%	N	%
Socio-Demographic and Economic				
Age in Years@				
15-19	60	7.6	738	92.4
20-29	133	8.4	1457	91.6

30-39	143	9.9	1298	90.1
39 and Above	227	12.9	1536	87.1
Education				
No Education	179	25.8	515	74.2
Primary	127	18.5	560	81.5
Secondary	236	7.3	2999	92.7
Higher	21	2.2	956	97.8
Wealth of the Household				
Poorest	56	21.1	209	78.9
Poorer	167	15.5	909	84.5
Middle	189	13.1	1252	86.9
Richer	100	6.1	1542	93.9
Richest	52	4.4	1118	95.6
Place of Residence				
Urban	155	6.1	2385	93.9
Rural	408	13.4	2645	86.6
Religion				
Hindu	471	10.2	4128	89.8
Muslim	85	10.2	741	89.8
Christian/others	8	4.6	160	95.4
Media Exposure[#]				
Without Media Exposure	85	21.9	304	78.1
With Media Exposure	478	9.2	4726	90.8
Marital Status				
Never married	163	7.7	1961	92.3
Married	390	11.5	3000	88.5
Widow/Divorced/Separated	11	13.5	68	86.5
Health Seeking Behaviour				
Ever been tested for HIV				
No	563	11.0	4536	89.0
Yes	0	0.0	494	100.0
Ever had a blood transfusion				
No	516	10.3	4473	89.7

Yes	47	7.7	556	92.3
Number of injections taken in last 12 Months				
None	171	8.9	1755	91.1
1-4	245	9.8	2255	90.2
5-10	96	11.1	767	88.9
More than 10	52	17.0	252	83.0
Total	563	10.1	5029	89.9

Note: @ age is from 15 to 54 years

#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

Source: the NFHS 4: 2015-16 data, 2020

3.3.9 Distribution of Correct Knowledge about HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among Men in Karnataka, the NFHS 4: 2015-16

The distribution of respondents for correct knowledge about HIV/AIDS on Socio-Demographic, Economic and Health Seeking Behaviour characteristics, it was almost evenly distributed among all age groups ranging from 21.0% to 29.5% who had correct knowledge & who had not ranged from 70.5% to 79.0%. In case of Education, who had correct knowledge 'Higher' level of education was highest with 38.8%, whereas others were 'Secondary' 25.1%, 'Primary' 22.0% and 13.2% of even 'No education' had correct knowledge. The distribution for Household wealth characteristic, it was 'Richest' 35.3%, and others in descending order 'Richer' (26.5%), 'Poorer' (21.5%), 'Middle' (21.3%) and 'Poorest' (17.9%). For residence it was almost same with 26.8% among Urban respondents and 24.7% among Rural interviewees. In case of religious background, among Hindus was highest with 26.1%, followed by Muslims with 24.6% and Christians/others 18.4% had correct knowledge about HIV. 27.0% who had media exposure and only 7.7% who had no Media exposure had correct knowledge about HIV. The distribution based on marital status was Never married 27.8%, Married 24.6% and Widow/divorced/separated 13.4% only

had correct knowledge about HIV. Among those who had undertaken HIV testing only 35.1% and who had not taken test only 24.7% had correct knowledge. Among those who had taken blood transfusion 36.5% and 24.3% who had not taken had correct knowledge. As far as injections taken, all categories from none to more than 10 injections ranged from 18.9% to 29.3% only.

Table 3.8: Distribution of Correct Knowledge about HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among Men in Karnataka, NFHS 4: 2015-16

Background Characteristics	No correct Knowledge		Having Correct Knowledge	
	N	%	N	%
Socio-Demographic and Economic				
Age in Years@				
15-19	631	79.0	168	21.0
20-29	1121	70.5	469	29.5
30-39	1077	74.8	363	25.2
39 and Above	1330	75.5	433	24.5
Education				
No Education	602	86.8	92	13.2
Primary	537	78.0	151	22.0
Secondary	2422	74.9	812	25.1
Higher	598	61.2	379	38.8
Wealth of the Household				
Poorest	217	82.1	47	17.9
Poorer	845	78.5	231	21.5
Middle	1134	78.7	307	21.3
Richer	1206	73.5	435	26.5
Richest	757	64.7	413	35.3
Place of Residence				
Urban	1859	73.2	680	26.8

Rural	2300	75.3	753	24.7
Religion				
Hindu	3400	73.9	1199	26.1
Muslim	622	75.4	203	24.6
Christian/others	137	81.6	31	18.4
Media Exposure[#]				
Without Media Exposure	359	92.3	30	7.7
With Media Exposure	3800	73.0	1403	27.0
Marital Status				
Never Married	1534	72.2	591	27.8
Married	2557	75.4	832	24.6
Widow/Divorced/Separated	68	86.6	11	13.4
Health Seeking Behaviour				
Ever been tested for HIV				
No	3839	75.3	1260	24.7
Yes	321	64.9	173	35.1
Ever had a blood transfusion				
No	3776	75.7	1213	24.3
Yes	383	63.5	220	36.5
Number of injections taken in last 12 months				
None	1519	78.9	406	21.1
1-4	1767	70.7	734	29.3
5-10	627	72.6	236	27.4
More than 10	246	81.1	57	18.9
Total	4159	74.4	1433	25.6

Note: [@] age is from 15 to 54 years

#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

[&]Correct (Comprehensive) Knowledge about HIV/AIDS - respondent knowing that consistent use of condoms every time they have sex and having just one uninfected faithful sex partner can reduce the chance of getting HIV/AIDS, knowing that a healthy-looking person can have HIV/AIDS, and rejecting two common misconceptions about transmission of HIV/AIDS that is HIV cannot

be transmitted by mosquito bites, and by sharing food.

Source: the NFHS 4: 2015-16 data, 2020

3.3.10 The distribution of respondents for accepting attitudes towards those living with HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics, it was almost evenly distributed among all age groups ranging from 9.6% to 14.0%. In case of Education, 'Higher' level of education was highest (16.6%), followed by 'Primary' (12.8%), 'Secondary' (12.1%), and 'No education' (7.0%). In the distribution for Household wealth characteristic, it was 'Richest' (17.1%), 'Richer' (13.3%), 'Poorer' (12.2%), 'Middle' (8.4%), and 'Poorest' (6.7%). For residence it was 12.2% among Urban respondents and slightly better with 12.4% among Rural interviewees. In case of religious background, among Hindus acceptance level was highest (12.9%) and lesser was among Muslims (10.0%) and Christians/others (6.0%). 12.3% of who had media exposure and 13.1% who had no Media exposure expressed acceptance attitude. The distribution based on marital status, it was Widow/divorced/separated (43.6%) and much lesser were Married (11.9%) and Never married (11.7%). Among those who had undertaken HIV testing only 18.4% expressed willingness to accept and among those who had not taken test 11.7%. Among those who had taken blood transfusion 7.2% and 12.9% who had not taken were positively inclined. As far as injections taken, 11.1% who had not taken, 10.8% up to 4 injections, 5 to 10 injections 18.8% and more than 10 injections 13.9% had positive attitude towards HIV positive people.

Table 3.9: Distribution of Accepting Attitudes towards those living with HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among men in Karnataka, NFHS 4: 2015-16

Background Characteristics	Not Accepting Attitudes		Accepting Attitudes	
	N	%	N	%
Socio-Demographic and Economic				

Age in Years[@]				
15-19	722	90.4	77	9.6
20-29	1395	87.7	195	12.3
30-39	1270	88.2	170	11.8
39 and Above	1517	86.0	246	14.0
Education				
No Education	645	93.0	48	7.0
Primary	600	87.2	88	12.8
Secondary	2844	87.9	390	12.1
Higher	815	83.4	162	16.6
Wealth of the Household				
Poorest	247	93.3	18	6.7
Poorer	945	87.8	131	12.2
Middle	1320	91.6	121	8.4
Richer	1423	86.7	219	13.3
Richest	970	82.9	200	17.1
Place of Residence				
Urban	2228	87.8	311	12.2
Rural	2675	87.6	378	12.4
Religion				
Hindu	4003	87.1	596	12.9
Muslim	743	90.0	83	10.0
Christian/Others	158	94.0	10	6.0
Media Exposure[#]				
Without Media Exposure	338	86.9	51	13.1
With Media Exposure	4566	87.7	638	12.3
Marital Status				
Never Married	1875	88.3	249	11.7
Married	2984	88.1	405	11.9
Widow/Divorced/Separated	45	56.4	35	43.6
Health Seeking Behaviour				
Ever been tested for HIV				
No	4501	88.3	598	11.7

Yes	403	81.6	91	18.4
Ever had a blood transfusion				
No	4344	87.1	645	12.9
Yes	559	92.8	43	7.2
Number of injections taken in last 12 Months				
None	1711	88.9	215	11.1
1-4	2231	89.2	270	10.8
5-10	701	81.2	162	18.8
More than 10	262	86.1	42	13.9
Total	4904	87.7	689	12.3

Note: @ age is from 15 to 54 years.

#Media exposure - the respondent exposure to radio, television, or newspapers or magazines at least once a week or cinema at least once a month.

$$Accepting Attitudes – expressing accepting attitudes on all four indicators namely, who are willing to care for a relative with HIV/AIDS in own home, would buy vegetables from a shopkeeper or vendor with HIV/AIDS, agree a female teacher infected with HIV/AIDS, but is not sick, should be allowed to continue teaching; and would not want to keep secret if a family member got infected with HIV/AIDS.

Source: The NFHS 4: 2015-16 data, 2020

3.3.11 In order to demonstrate the correct understanding of the accepting attitude the logistic regression analysis was employed to find out the behaviour of accepting attitudes group and those living with the disease; had listed different independent variables responsible for the spread of disease, namely, correct knowledge about HIV/AIDS, age, education, wealth of the household, place of residence, religion, media exposure, marital status, tested for HIV, blood transfusion, injections taken among women in Karnataka. Number of observations in this analysis is 4,106. Statistical significance was set at $P < 0.05$ for the study. Dependent variable is 1= men who have accepting attitude; 0= men who do not have accepting attitude.

From the analysis, significant association is found for some of these characteristics only. There are persons with correct knowledge about HIV/AIDS having 2.49 times more possibility of favourable accepting attitudes compared to those who did not have correct knowledge. Therefore, it could be stated that correct knowledge about the disease shapes the understanding of accepting attitudes; this could bring negative results as well if the knowledge is parochial. Also, there is positive association for who had Higher education with odds of 1.7 as against 'No education'. It is a significant correlation as far as HIV/AIDS is concerned in which the education factor decides the result, thereby, no education is subject to more vulnerable to the disease; compared to 'Poorest' persons those belonging to 'Richer (OR:1.89) and 'Richest' (OR: 2.06) categories; who had undergone HIV testing with odds of 2.05 compared to those did not take HIV testing; and persons who had taken five to ten injections (OR:1.63) compared to those who had taken not any injections. Whereas, there was negative association for Muslims with odds of 0.61 compared to Hindus; and who had taken blood transfusion with OR: 0.69 compared to those who had not taken.

Table 3.10: Logistic Regression results for the Accepting Attitudes towards those living with HIV/AIDS by Socio-Demographic, Economic and Health Seeking Behaviour characteristics among Men in Karnataka, NFHS 4: 2015-16

Background Characteristics	Odds Ratio (95% CI)
Correct Knowledge about HIV/AIDS	
No Correct Knowledge (ref)	
Having Correct Knowledge	2.49***(1.99 - 3.11)
Age in Years	
15-19 (ref)	
20-29	1.05(0.73 - 1.51)
30-39	1.09(0.68 - 1.72)
39 and Above	1.24(0.76 - 2.02)
Education	
No Education (ref)	
Primary	1.07(0.66 - 1.74)

Secondary	1.44*(0.97 - 2.14)
Higher	1.70**(1.07 - 2.70)
Wealth of the Household	
Poorest (ref)	
Poorer	1.37(0.75 - 2.51)
Middle	1.20(0.65 - 2.20)
Richer	1.89**(1.02 - 3.52)
Richest	2.06**(1.05 - 4.05)
Place of Residence	
Urban (ref)	
Rural	1.17(0.89 - 1.52)
Religion	
Hindu (ref)	
Muslim	0.61***(0.43 - 0.87)
Christian/others	0.74(0.36 - 1.53)
Media Exposure	
Without Media Exposure (ref)	
With Media Exposure	1.17(0.69 - 1.99)
Marital Status	
Never Married (ref)	
Married	0.86(0.61 - 1.22)
Widow/Divorced/Separated	1.42(0.51 - 3.96)
Ever been tested for HIV	
No (ref)	
Yes	2.05***(1.48 - 2.82)
Ever had a blood transfusion	
No (ref)	
Yes	0.69**(0.47 - 1.00)
Number of injections taken in last 12 months	
None (ref)	
1-4	1.02(0.79 - 1.31)
5-10	1.63***(1.21 - 2.21)

More than 10	1.41(0.91 - 2.18)
Constant	0.03***(0.01 - 0.06)
Observations	4,106
Pseudo R-squared	0.0607
Note: *** p<0.01, ** p<0.05, * p<0.1	

Source: NFHS 4: 2015-16 data, 2020

3.3.12 Discussion for Men:

It is to be underlined that among the age group of 39 Men and above had the highest percentage of respondents (31.5%). But, the level of "awareness of HIV/AIDS" was highest among age group of 15 to 19 years (92.4%). It is a positive result that in the age group of men from 15 to 19 years demonstrated a favourable outcome rather. However, it was also true that the highest percentage of having correct knowledge was only 21.0% among the same group of 15 -19 years. Similar to women, correct knowledge about HIV/AIDS in the group of Men played a substantive role in order to better comprehend the outcomes of result.

On the other hand, the respondents were in majority with Secondary Education (57.8%). But, highest level of awareness was among those who had Higher education (97.8%). It is a lacuna that given the importance of education in the prevention of HIV/AIDS shown respondents in the secondary education responded but less aware of the disease. However, their Correct knowledge was only 38.8% and their accepting attitude was 16.6%. 'Richest' category had better awareness than other categories. Adding to that, more resources were used by the Richest category; had correct knowledge about HIV/AIDS and exhibited a very active participation in the testing of HIV/AIDS compared to others. However, in their case also, though level of awareness was 95.6%, correct knowledge was only 35.3% and accepting attitude was 17.1%.

As far, 'Place of Residence' is concerned not much difference was found. It had though reinforced the understanding of HIV/AIDS as urban persons were very marginally better due to privileges getting in and around and other modern facilities. But, on accepting attitude rural respondents better by a fraction. Understandably, as

far as the religion is concerned Hindus constituted majority respondents followed by Muslims and Christian and others. But it was found that awareness was better among Christian and others (95.4%) followed by Hindus and Muslims with same at 89.8%. it appeared no much difference among major religions as mentioned above because they were aware indiscriminately more about HIV/AIDS. However, it should be underscored that the correct knowledge was better among Hindus 26.1% than Muslims 24.6% and Christian and others 18.4%. it is a significant association that the religions were more aware of the disease but less carry correct knowledge of HIV/AIDS. Similarly accepting attitudes was better among Hindus with 12.9% than Muslims 10.0% and Christian and others 6.0% only. The media exposure was very significant among respondents with 93.1% and among them awareness of HIV was 90.8%. But correct knowledge was only 27.0% and accepting attitudes was just 12.3%. Among respondents, married people were dominant (60.6%) compared to both never married and widow/divorced/separated combined. But, awareness among Never married was significant with 92.3%. On the other hand, among them correct knowledge was just 27.8%. Surprisingly, Widow/divorced/separated had best accepting attitudes with 43.6%. Among respondents, Sexual partner being Spouse was very predominant (94.3%).

Among the health seeking behaviour indicators, only 8.8% had undergone HIV testing. However, awareness of HIV was 100% among them. But correct knowledge and accepting attitudes were only 35.1% and 18.4% respectively. Only 10.8% had received blood transfusion. And among them awareness was good with 92.3%. But correct knowledge and accepting attitudes were only 36.5% and 7.2% respectively. With regard to taking injections, majority were in the groups of not taken at all or maximum of 4 injections in last 12 months (79.1% combined). In their case also, though awareness was around 90%, correct knowledge and accepting attitudes were only 21.1% to 29.3% and around 11% respectively.

Further, for accepting attitudes towards HIV positive persons outcome, the regression analysis has confirmed significant association with regard to correct knowledge about HIV/AIDS compared to those who do not have correct knowledge; also, there is positive association for who had Higher education as against ‘No education’; compared to ‘Poorest’ persons those belonging to ‘Richer’ and ‘Richest’ categories;

Muslims compared to Hindus; who had undergone HIV testing compared to those did not take HIV testing; who had taken blood transfusion is negatively compared to those who had not taken; and persons who had taken five to ten injections compared to those who had taken not any injections.

Chapter IV
Socioeconomic Factors Affecting HIV Status

4.1 Introduction

This chapter covers the social and economic characteristics among the respondents. These factors are found to have influenced on the vulnerability of the people getting infected with HIV. These factors include age, level of education, marital status, living environment and economic factors like employment, income, etc., So, to understand the extent of influence among the respondents and to ascertain possible influence on getting infected, the respondents, who were HIV Positive and HIV Negative were interviewed and data was collected on same set of characteristics. In all 38 questions were formulated to know these social and economic characteristics among the respondents.

4.2 Results

The responses were analysed through the STATA analytical tool. Table 4.1 - Sample description below gives the details about the composition of the respondents. Then Table 4.2 gives the distribution on these socio-economic factors between HIV Positive and HIV Negative persons corresponding to the given characteristics. Table 4.3 and 4.4 provide results of co-relation and regression analysis done.

4.2.1 Sample Description

The findings of sample description for background characteristics of respondents (Table 4.1) are now explained. There were set of 38 questions relevant for this chapter. Out of them totally 19 variables have been identified for analysis. In all 209 Positive persons and 200 Negative status persons were interviewed.

The female respondents were in majority with 59.4% (243). Overall, among respondents age group of 35 to 50 years was the highest with 38.6% (158) followed by 25 to 34 years 28.4% (116), whereas less than 25 years was 23.7% (97) and 50 years and above 9.3% (38). In case of marital status, married respondents were in

majority with 74.8% (306) and Widow / Widower were only 25.2% (103). Among religions, respondents belonging to Hinduism were 85.8% (351), Islam 11% (45) and Christianity 3.2% (13). 80.4% (329) of respondents could read and write, whereas only 19.6% (80) could not read or write. Education distribution was No education 14.2% (58), Primary education 14.2% (58), Secondary education 62.8% (257) and Higher education 8.8% (36). In case of Nature of living, Living alone was 8.1% (33) and Other means 91.9% (376). The Family size was less than 5 members for 71.1% (291) and 5 and more members 28.9% (118). Living with Family was for 89.0% (364) and Not living with Family was 11.0% (45). The Respondents were Living in the City since birth to extent 46.0% (188) and ones who Migrated from outside were 54.0% (221). In terms of economic prosperity, among overall respondents only 30.8% (126) owned property and 26.2% (107) vehicle. But, 96.1% (393) owned mobile / telephone and 80.7% (330) owned television. Among respondents, only 21.3% (87) had at least one HIV/AIDS member in the family and also at least one death among 13.0% (53).

Table 4.1: Sample Description of the Background Characteristics used in the Study

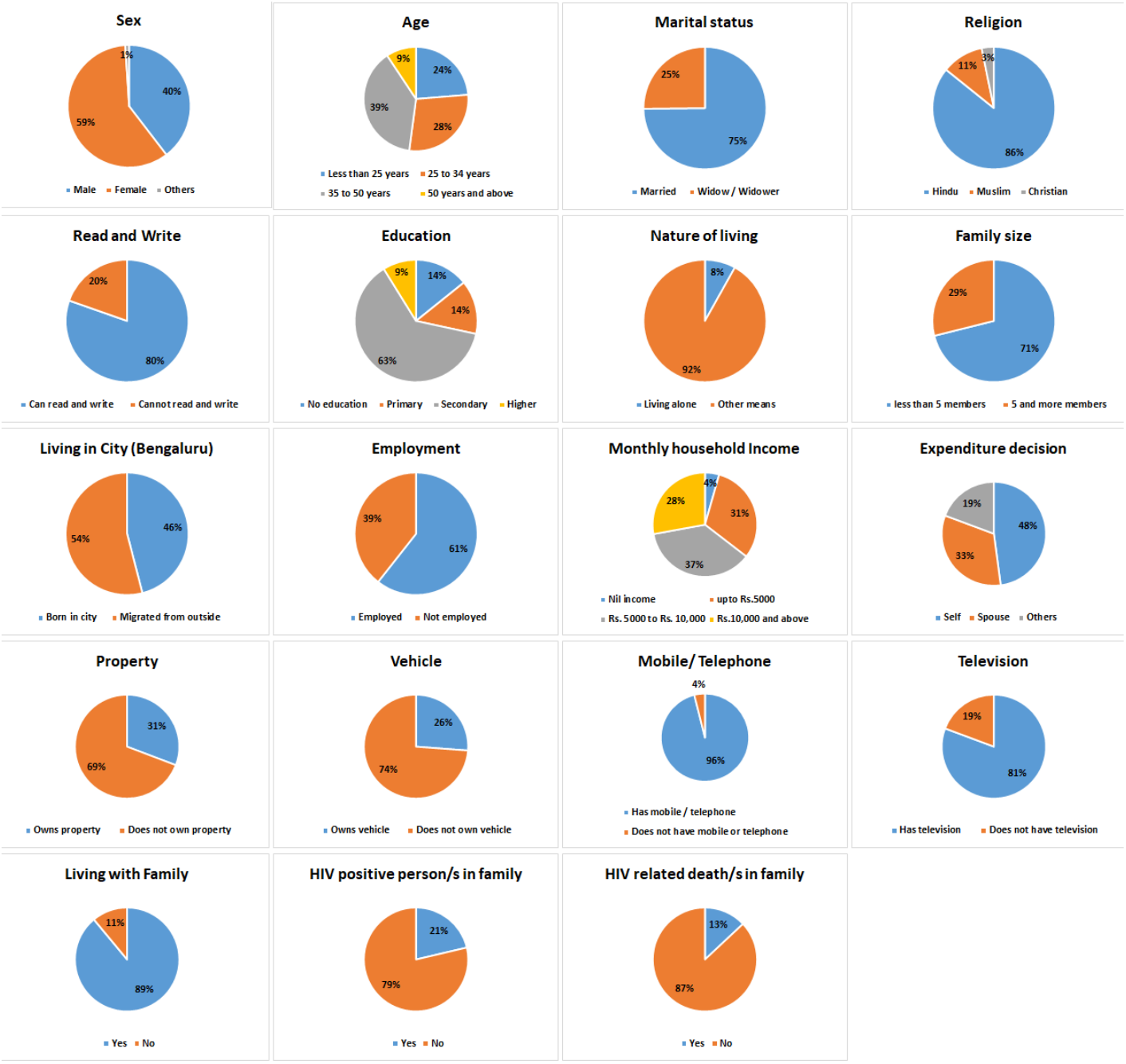
Background Characteristics	Total HIV Positive and Negative Sample	
	N	%
Sex		
Male	162	39.6
Female	243	59.4
Others	4	1.0
Age		
Less than 25 years	97	23.7
25 to 34 years	116	28.4
35 to 50 years	158	38.6
50 years and Above	38	9.3
Marital Status		
Married	306	74.8
Widow / Widower	103	25.2
Religion		

Hindu	351	85.8
Muslim	45	11.0
Christian	13	3.2
Read and Write		
Can read and write	329	80.4
Cannot read and write	80	19.6
Education		
No Education	58	14.2
Primary	58	14.2
Secondary	257	62.8
Higher	36	8.8
Nature of Living		
Living Alone	33	8.1
Other means	376	91.9
Family Size		
Less than 5 members	291	71.1
5 and more members	118	28.9
Living in City (Bengaluru)		
Born in City	188	46.0
Migrated from Outside	221	54.0
Employment		
Employed	248	60.6
Not employed	161	39.4
Monthly Household Income		
Nil Income	18	4.4
Up to Rs.5000	127	31.1
Rs. 5000 up to Rs. 10,000	150	36.7
Rs.10,000 and above	114	27.9
Expenditure decision		
Self	196	47.9
Spouse	134	32.8
Others	79	19.3
Property		

Owns property	126	30.8
Does not own property	283	69.2
Vehicle		
Owns vehicle	107	26.2
Does not own vehicle	302	73.8
Mobile/ Telephone		
Has mobile / telephone	393	96.1
Does not have mobile or telephone	16	3.9
Television		
Has television	330	80.7
Does not have television	79	19.3
Living with Family		
Yes	364	89.0
No	45	11.0
HIV Positive Person/s in Family		
Yes	87	21.3
No	322	78.7
HIV related death/s in Family		
Yes	53	13.0
No	356	87.0
Total	**409**	**100.0**

Source: Author's Primary Data, 2013

Figure 4.1: Sample description of the background characteristics used in the study



4.2.2 Cross Tabulation

In terms of Cross Tabulation between HIV Positive and HIV Negative persons (Table 4.2), males were in majority among positives with 59.3% (96), whereas females were in majority among negatives with 55.1% (134). Overall, among respondents 35 to 50 years group had more positive persons with 75.9% (120) compared to only 24.1% (38) negative persons. However, in case of less than 25 years age, negative persons comprised 85.6% (83) and only 14.4% (14) were positive. Whereas, in case of 25 to 34 years group it was equal with 50.0% (58). But again, negative persons were more in case of 50 years and above with 55.3% negative (21) and 44.7% (17) positive.

In case of marital status, among married 59.2% (181) were negative and only 40.8% (125) positive. Whereas, in case of Widow / Widower the positive persons were more dominant with 81.6% (84) as against only 18.4% (19) of negative status. Among religions, distribution between Negatives and Positives was Hindus had more positive with 54.7% (192) and 45.3% (159) only negative and also Christians 69.2% (9) were positive and 30.8% (4) negative. Whereas, among Muslims negatives were dominant with 82.2% (37) compared to only 17.8% (8) positive.

In terms of literacy, among who could not read and write, negatives were only 28.7% (23), but Positives were 71.3% (57). The distribution with reference to level of Education, it was “No education” Negatives 29.3% (17), Positives 70.7% (41); Primary education both equal at 50.0% (29); Secondary education Negatives 51.4% (132), Positives 48.6% (125); and Higher education Negatives 61.1% (22), Positives 38.9% (14).

Among living alone, positives were very predominant with 90.9% (30) compared to among negatives only 9.1% (3). Family size, less than 5 members category constituted Negatives 45.4% (132) and Positives 54.6% (159); whereas 5 and more members Negatives 57.6% (68) and Positives 42.4% (50). As regard to distribution among who were Living in the City since Birth, it was almost same with “Born in city” Negatives 51.1% (96), Positives 48.9% (92); and ones who migrated from outside the City Negatives 47.1% (104), Positives 52.9% (117). Regarding Employment among respondents, the distribution was “Employed” Negatives 36.7%

(91), Positives 63.3% (157) and "Not employed" Negatives 67.7% (109), Positives 32.3% (52). In terms of Monthly household Income, it was Nil income Negatives 22.2% (4), Positives 77.8% (14); up to Rs. 5,000 Negatives 33.1% (42), Positives 66.9% (85); Rs. 5,000 up to Rs. 10,000 Negatives 51.3% (77), Positives 48.7% (73); and Rs.10,000 and above Negatives 67.5% (77), Positives 32.5% (37).

With regard to taking decision for Expenditure, Self was taking such decisions among Negatives 21.4% (425), Positives 78.6% (154); by Spouse Negatives 78.4% (105), Positives 21.6% (29); and in case of Others Negatives 67.1% (53), Positives 32.9% (26). In terms of economic prosperity, only 42.9% (54) of positives owned property as against 57.1% (72) among negatives and only 34.6% (37) of positives owned Vehicle as against 65.4% (70) among negatives. However, there was almost no difference in ownership of mobile or telephone with 50.4% (198) of positives and 49.6% (195) among negatives and almost equal number owned Television {48.8% (161) of positives and 51.2% (169) among negatives}. In terms of at least one HIV person and one HIV related death in the family, 94.3% (82) and 98.1% (52) respectively was accounted by the Positive respondents.

Table 4.2: Cross-Tabulation of respondents with Background Characteristics by HIV Status

Background Characteristics	HIV Negative		HIV Positive	
	N	%	N	%
Sex				
Male	66	40.7	96	59.3
Female	134	55.1	109	44.9
Others	0	0.0	4	100.0
Age				
Less than 25 years	83	85.6	14	14.4
25 to 34 years	58	50.0	58	50.0
35 to 50 years	38	24.1	120	75.9
50 years and Above	21	55.3	17	44.7
Marital Status				

Married	181	59.2	125	40.8
Widow / Widower	19	18.4	84	81.6
Religion				
Hindu	159	45.3	192	54.7
Muslim	37	82.2	8	17.8
Christian	4	30.8	9	69.2
Read and Write				
Can read and write	177	53.8	152	46.2
Cannot read and write	23	28.7	57	71.3
Education				
No Education	17	29.3	41	70.7
Primary	29	50.0	29	50.0
Secondary	132	51.4	125	48.6
Higher	22	61.1	14	38.9
Nature of Living				
Living Alone	3	9.1	30	90.9
Other means	197	52.4	179	47.6
Family Size				
Less than 5 members	132	45.4	159	54.6
5 and more members	68	57.6	50	42.4
Living in City (Bengaluru)				
Born in City	96	51.1	92	48.9
Migrated from Outside	104	47.1	117	52.9
Employment				
Employed	91	36.7	157	63.3
Not Employed	109	67.7	52	32.3
Monthly Household Income				
Nil income	4	22.2	14	77.8
Up to Rs.5000	42	33.1	85	66.9
Rs. 5000 up to Rs. 10,000	77	51.3	73	48.7
Rs.10,000 and above	77	67.5	37	32.5
Expenditure Decision				
Self	42	21.4	154	78.6

Spouse	105	78.4	29	21.6
Others	53	67.1	26	32.9
Property				
Owns property	72	57.1	54	42.9
Does not own property	128	45.2	155	54.8
Vehicle				
Owns vehicle	70	65.4	37	34.6
Does not own vehicle	130	43.0	172	57.0
Mobile/ Telephone				
Has mobile / telephone	195	49.6	198	50.4
Does not have mobile or telephone	5	31.3	11	68.8
Television				
Has television	169	51.2	161	48.8
Does not have television	31	39.2	48	60.8
Living with Family				
Yes	194	53.3	170	46.7
No	6	13.3	39	86.7
HIV Positive Person/s in Family				
Yes	5	5.7	82	94.3
No	195	60.6	127	39.4
HIV related death/s in Family				
Yes	1	1.9	52	98.1
No	199	55.9	157	44.1
Total	**200**	**48.9**	**209**	**51.1**

Source: Author's Primary data, 2013

4.2.3 Statistical Analysis for P Value

Statistical significance was set at P <0.05 for the study. From the analysis for 19 selected variables given in the Table 4.3, significant positive association was found for sex, age, marital status, religion, read and write, education, nature of living, family size, employment, monthly household income, expenditure decision, owning property, owning vehicle, living with family, HIV positive person/s and HIV related

death/s in the family. No significant association was found for other variables. All the variables were tested with the Pearson chi-square and for p-value for positive and negative to get the statistically significant association to evidence the importance of the study variables.

Table 4.3: Distribution of the Respondents for Socioeconomic and family Background Characteristics by HIV Status

Background Characteristics	HIV Negative		HIV Positive		Pearson	P
	N	%	N	%	Chi2	Value
Sex					11.94	0.003
Male	66	40.7	96	59.3		
Female	134	55.1	109	44.9		
Others	0	0.0	4	100.0		
Age					91.91	0.000
Less than 25 years	83	85.6	14	14.4		
25 to 34 years	58	50.0	58	50.0		
35 to 50 years	38	24.1	120	75.9		
50 years and above	21	55.3	17	44.7		
Marital Status					51.09	0.000
Married	181	59.2	125	40.8		
Widow / Widower	19	18.4	84	81.6		
Religion					23.53	0.000
Hindu	159	45.3	192	54.7		
Muslim	37	82.2	8	17.8		
Christian	4	30.8	9	69.2		
Read and Write					16.16	0.000
Can read and write	177	53.8	152	46.2		
Cannot read and write	23	28.7	57	71.3		
Education					11.71	0.008
No Education	17	29.3	41	70.7		
Primary	29	50.0	29	50.0		
Secondary	132	51.4	125	48.6		

Higher	22	61.1	14	38.9		
Nature of Living					22.77	0.000
Living alone	3	9.1	30	90.9		
Other means	197	52.4	179	47.6		
Family Size					5.06	0.025
Less than 5 members	132	45.4	159	54.6		
5 and more members	68	57.6	50	42.4		
Living in City (Bengaluru)					0.65	0.419
Born in City	96	51.1	92	48.9		
Migrated from Outside	104	47.1	117	52.9		
Employment					37.56	0.000
Employed	91	36.7	157	63.3		
Not employed	109	67.7	52	32.3		
Monthly Household Income					34.07	0.000
Nil Income	4	22.2	14	77.8		
Up to Rs.5000	42	33.1	85	66.9		
Rs. 5000 up to Rs. 10,000	77	51.3	73	48.7		
Rs.10,000 and Above	77	67.5	37	32.5		
Expenditure Decision					116.19	0.000
Self	42	21.4	154	78.6		
Spouse	105	78.4	29	21.6		
Others	53	67.1	26	32.9		
Property					4.95	0.026
Owns property	72	57.1	54	42.9		
Does not own property	128	45.2	155	54.8		
Vehicle					15.83	0.000
Owns vehicle	70	65.4	37	34.6		
Does not own vehicle	130	43.0	172	57.0		
Mobile/ Telephone					2.08	0.150
Has mobile / telephone	195	49.6	198	50.4		
Does not have mobile or telephone	5	31.3	11	68.8		
Television					3.66	0.056

Has television	169	51.2	161	48.8		
Does not have television	31	39.2	48	60.8		
Living with Family					25.60	0.000
Yes	194	53.3	170	46.7		
No	6	13.3	39	86.7		
HIV Positive Person/s in Family					82.35	0.000
Yes	5	5.7	82	94.3		
No	195	60.6	127	39.4		
HIV related death/s in Family					53.86	0.000
Yes	1	1.9	52	98.1		
No	199	55.9	157	44.1		
Total	**200**	**48.9**	**209**	**51.1**		

Source: Author's Primary Data, 2013

4.2.4 Regression Analysis

Logistic regression analysis was applied to investigate association among all variables collectively and three sets of select variables for HIV outcome were picked up. These select models were: (1) Socio-demographic characteristics, (2) Socio-economic characteristics, and (3) Family or household characteristics. They are all related explicitly to the HIV outcome. How do socio-demographic factors affect the result of HIV is indeed important elements to be underlined as it shapes the background picture of finding HIV result. On the other hand, factors such as, income, property, expenditure, and vehicles variables as shown above in the table did play a crucial role in the HIV findings and enquiry. All analysis was at 95% CI. Statistical significance was set at $P < 0.05$ for the study.

Accordingly, in the case of model (1) Socio-demographic characteristics, age group of 25 to 34 years and 35 to 50 years were positively associated with odds of 3.93 and 11.08 respectively with reference to less than 25 years group. However, when all variables were considered, odds ratio was not significantly associated for 25 to 34 years, whereas it was significant for 35 to 50 years with lesser OR 3.97. For marital status, with reference to married persons those who were widow/widower had positive association with odds of 5.44 and also when all variables were considered OR: 3.65.

Regarding religion, Muslims had negative association in relation with Hindus with OR of 0.38, whereas it was not significant when all variables were considered. Among variables in model 2 considering Socio-economic characteristics, employment was had negative association with OR 0.47, but not significantly associated in the composite model. In case of monthly household Income with reference to nil income, the group of Rs. 5000 to Rs. 10,000 and Rs. 10, 000 and above were very significant (OR:0.14) and (OR:0.06) but no significant association for both groups when all variables were considered.

For decision making spouse was very significantly associated with reference to self with odds of 0.10 and also when all variables were considered (OR:0.22). Owning a vehicle with OR of 1.81 was significant compared to not owning a vehicle. But here also, when all variables were considered there was significant association. However, having at least one HIV positive person and one HIV related death in the family had significant association compared to no one with OR for both 0.03 and also when all variables were considered (OR:0.01).

Table 4.4: Regression Results of HIV Outcome by the selected Socio-Demographic, Economic and Family or Household Characteristics

Background Characteristics	**Model 1 Socio-Demographic OR (95% CI)**	**Model 2 Economic OR (95% CI)**	**Model 3 Family or Household OR (95% CI)**	**Model 4 Full Model OR (95% CI)**
Sex				
Male (ref)				
Female	0.75(0.44 - 1.28)			0.51(0.21 - 1.24)
Age				
Less than 25 years (ref)				
25 to 34 years	3.93***(1.89 - 8.21)			1.59(0.54 - 4.68)
35 to 50 years	11.08***(5.17 - 23.78)			3.97**(1.34 - 11.77)

50 years and Above	2.52*(0.91 - 6.98)		2.02(0.53 - 7.61)
Marital Status			
Married (ref)			
Widow/Widower	5.44***(2.90 - 10.20)		3.65***(1.38 - 9.66)
Religion			
Hindu (ref)			
Muslim	0.38**(0.15 - 0.98)		0.68(0.18 - 2.63)
Christian	1.49(0.39 - 5.66)		0.91(0.07 - 11.98)
Read and Write			
Can read and write (ref)			
Cannot read and write	2.46(0.75 - 8.04)		2.80(0.59 - 13.21)
Education			
No Education (ref)			
Primary	0.74(0.23 - 2.44)		0.85(0.19 - 3.75)
Secondary	1.19(0.30 - 4.69)		1.19(0.20 - 7.11)
Higher	0.52(0.11 - 2.48)		0.72(0.10 - 5.38)
Nature of Living			
Living Alone (ref)			
Other means		0.20*(0.03 - 1.18)	0.72(0.07 - 7.05)
Family Size			
Less than 5 members (ref)			
5 and more members		0.74(0.42 - 1.31)	0.91(0.42 - 1.95)

Living in City (Bengaluru)			
Born in City			
Migrated from Outside	0.94(0.57 - 1.53)		1.34(0.66 - 2.73)
Employment			
Employed (ref)			
Not employed		0.47**(0.25 - 0.88)	0.86(0.33 - 2.26)
Monthly Household Income			
Nil income (ref)			
Up to Rs.5000		0.31(0.07 - 1.35)	0.69(0.07 - 6.51)
Rs. 5000 up to Rs. 10,000		0.14***(0.03 - 0.62)	0.32(0.04 - 2.94)
Rs.10,000 and Above		0.06***(0.01 - 0.28)	0.14*(0.02 - 1.33)
Expenditure Decision			
Self (ref)			
Spouse		0.10***(0.05 - 0.19)	0.22***(0.08 - 0.63)
Others		0.22***(0.12 - 0.43)	0.30**(0.12 - 0.80)
Property			
Owns property (ref)			
Does not own property		1.38(0.79 - 2.42)	1.23(0.55 - 2.77)
Vehicle			
Owns vehicle (ref)			
Does not own vehicle		1.81**(1.00 - 3.26)	1.30(0.56 - 2.99)
Mobile/ Telephone			

Has mobile / telephone (ref)				
Does not have mobile or telephone		2.92(0.74 - 11.55)		2.03(0.32 - 13.11)
Television				
Has television (ref)				
Does not have television		0.75(0.38 - 1.46)		1.04(0.40 - 2.71)
Living with Family				
Yes (ref)				
No			3.18(0.78 - 12.92)	1.66(0.23 - 12.04)
HIV Positive Person/s in Family				
HIV positive persons in family (ref)				
No HIV positive persons in family			0.03***(0.01 - 0.07)	0.01***(0.00 - 0.05)
HIV Related death/s in Family				
Deaths in the family (ref)				
No deaths in family			0.01***(0.00 - 0.10)	0.03***(0.00 - 0.34)
Constant	0.19**	14.01***	5,282.37***	1,956.16***
Observations	409	409	409	409
Pseudo R-squared	0.266	0.293	0.357	0.564

Note: *** p<0.01, ** p<0.05, * p<0.1

Source: Author's Primary Data, 2013

4.2.5 Discussion

In the study, it has been found that though female respondents were in majority with 59.4%, in case of sex distribution males were in majority among positives with 59.3%, whereas females were in majority among negatives with 55.1%. Overall, among respondents age group of 35 to 50 years was the highest with 38.6% (158) followed by 25 to 34 years 28.4% (116), whereas less than 25 years was 23.7% (97) and 50 years and above 9.3% (38). Significantly, 35 to 50 years group had more positive persons with 75.9% (120) compared to only 24.1% (38) negative persons. However, in case of less than 25 years age, negative persons comprised 85.6% (83) and only 14.4% (14) were positive. Whereas, in case of 25 to 34 years group it was equal with of 58 persons. But again, negative persons were more in case of 50 years and above with 55.3% negative (21) and 44.7% (17) positive.

In case of marital status, married respondents were in majority with 74.8% (306) and Widow / Widower were only 25.2% (103). But, among married, 59.2% (181) were negative and only 40.8% (125) positive. Whereas in case of Widow / Widower the positive persons were more dominant with 81.6% (84) as against only 18.4% (19) of negative. Among religions, respondents belonging to Hinduism were 85.8% (351), Islam 11% (45) and Christianity 3.2% (13). As regards distribution between Negatives and Positives, Hindus had more positives with 54.7% (192) and 45.3% (159) only negative and also Christians 69.2% (9) were positive and 30.8% (4) negative. Whereas, among Muslims negatives were dominant with 82.2% (37) compared to only 17.8% (8) positive. 80.4% (329) of respondents could read and write. Negative respondents were more in number with 53.8% (177) compared to 46.2% (152) positives, who could read and write. Inversely, negatives with 28.7% (23) and Positives with 71.3% (57) were not able to read and write. In case of level of Education, majority had Secondary education 62.8% (257). However, 70.7% (41) among Positives compared to 29.3% (17) had “No education”. However, there was not much difference among others namely., Primary, Secondary and Higher levels of education.

In case of Nature of living, Living alone was 8.1% (33) and Other means 91.9% (376). However, among living alone, positives were very predominant with 90.9 %

(30) compared to among negatives only 9.1% (3). The Family size was less than 5 members for 71.1% (291). However, in this category Positives 54.6% (159) compared to 45.4% (132). But, in case of 5 and more, Negatives were in majority with 57.6% (68) as against 42.4% (50) among Positives. Living with Family was for 89.0% (364) and Not living with Family was 11.0% (45). But the distribution was with Family more among Negatives 53.3% (194) and Positives 46.7% (170) and among Not living with Family Positives accounted for 86.7% (39) and Negatives only 13.3% (6). The Respondents were Living in the City since birth to the extent of 46.0% (188). Almost it was same among Positives 48.9% (92) and Negatives 51.1% (96).

Overall Employment at least during last one year was 60.6% (248). However, 63.3% (157) was dominant share among Positive persons, whereas it was only 36.7% (91) among negatives. In case of Monthly household Income, up to Rs.5,000 consisted 31.1% (127) and Rs. 5,000 up to Rs. 10,000 was 36.7% (150) among the respondents. But it was skewed between Negatives and Positives respectively for up to Rs. 5,00033.1% (42) and 66.9% (85); for Rs.10,000 and above 67.5% (77) and 32.5% (37). For taking decision regarding Expenditure overall, by Self was 47.9% (196) and by Spouse 32.8% (134). However, in case of Self it was 78.6% (154) for Positives and on the other hand for Spouse 78.4% (105) for Negatives.

In terms of economic prosperity, among overall respondents only 30.8% (126) owned property and 26.2% (107) vehicle. But, 96.1% (393) owned mobile / telephone and 80.7% (330) owned television. But, only 42.9% (54) of positives owned property as against 57.1% (72) among negatives and only 34.6% (37) of positives owned Vehicle as against 65.4% (70) among negatives. However, there was almost no difference in ownership of mobile or telephone with 50.4% (198) of positives and 49.6% (195) among negatives and almost equal number owned Television {48.8% (161) of positives and 51.2% (169) among negatives}.

Among respondents, only 21.3% (87) had at least one HIV/AIDS member in the family and also at least one death among 13.0% (53). However, predominantly Positive respondents accounted for 94.3% (82) of HIV persons in the family and 98.1% (52) of HIV related deaths in family.

The logistic regression analysis also for HIV outcome has confirmed that association of different background characteristics have different association when they are analysed separately for select characteristics and while it is analysed collectively. Age group of 35 to 50 years was positively associated among selected Socio-demographic characteristics, and also when all variables were considered. But, the age group of 25 to 34 years was significantly associated among select characteristics and not when analysed for combined characteristics.

For marital status, with reference to married persons those who were widow/widower had positive association under both scenarios. Regarding religion, Muslims had negative association in relation to Hindus, but was not significant when all variables were considered.

In case of monthly household income, income groups of Rs. 5,000 and above were very significant but not when all variables were considered. For decision making spouse was very significantly associated in both scenarios. Owning a vehicle was significantly associated among socio-economic characteristics and not for composite analysis. Having at least one HIV positive person and one HIV related death in the family had significant association under both scenarios.

CHAPTER V

Awareness, Health Seeking and Sexual Behaviour among the Respondents in Primary Survey

5.1 Introduction

This chapter covers awareness regarding HIV/AIDS and also health seeking and sexual behaviour among the respondents. These factors are found to determine/add significant vulnerability to the people getting infected with the HIV. The awareness includes general knowledge about HIV infection, modes of transmission, steps for prevention, etc. The health seeking behaviour always helps one to get proper treatment and prevention / minimisation of ill-health. In addition, in the context of HIV/AIDS, sexual transmission is one of the four major modes of transmission. Accordingly, sexual behaviour adds vulnerability to infection exposure. Therefore, in this chapter some of the possible behavioural aspects have been tried to be investigated among the respondents. To find out co-relation, both HIV Positive and HIV Negative persons were interviewed and data was collected on same set of questions. In all 62 questions were formulated to know these characteristics among the respondents.

5.2 Results

The responses were analysed through STATA analytical tool. Following Tables explain Sample description about the composition of the respondents, namely Table 5.1: Sample description of the HIV/AIDS awareness related factors used in the study, Table 5.2: Sample description of the Health seeking behaviour related factors used in the study, and Table 5.3: Sample description of the sexual behaviour related factors used in the study. Then Cross-distribution for these studies is given in Table 5.4: Distribution of the selected HIV/AIDS awareness related factors by HIV status, Table 5.5: Distribution of the selected Health seeking behaviour related factors by HIV status, and Table 5.6: Distribution of the selected sexual behaviour related factors by HIV status. Tables with Pearson Chi2 and P value are - 5.7 Distribution of the selected HIV/AIDS awareness related factors by HIV status; 5.8 Distribution of the selected Health seeking behaviour related factors by HIV status and 5.9 Distribution of the

selected sexual behaviour related factors by HIV status. The Regression analysis for Association of HIV outcome is given in Table 5.10 for selected awareness, health seeking behaviour and sexual behavioural related factors.

5.2.1 Sample Description

The findings of Sample description for awareness regarding HIV/AIDS and also health seeking and sexual behaviour are now explained. There were set of 62 questions relevant for this Chapter. Out of them totally 31 characteristics have been identified for analysis. In all 209 Positive persons and 200 Negative status persons were interviewed.

Table 5.1: Sample Description of the HIV/AIDS Awareness Related Factors used in the Study

Background Characteristics	Total HIV Positive and Negative Sample	
	N	**%**
Awareness of Incurable Diseases		
Aware	250	61.1
Not aware	159	38.9
Awareness of HIV		
Aware	379	92.7
Not aware	30	7.3
Awareness of Modes of HIV Transmission		
Aware	302	73.8
Not aware	107	26.2
Possible Transmission through Mosquito		
Correct knowledge	393	96.1
Incorrect or No knowledge	16	3.9
One Faithful Partner Prevents HIV		

Transmission		
Correct knowledge	272	66.5
Incorrect or No knowledge	137	33.5
Abstinence from Sex helps Prevention of HIV Transmission		
Correct knowledge	275	67.2
Incorrect or No knowledge	134	32.8
Possible Transmission through Sharing Meal		
No correct knowledge	316	77.3
Incorrect or No knowledge	93	22.7
Possible Transmission through Sharing Needle		
Correct knowledge	350	85.6
Incorrect or No knowledge	59	14.4
Possible Good-Looking Person may be HIV positive		
Correct knowledge	357	87.3
Incorrect or No knowledge	52	12.7
Possibility of Transmission from HIV Infected Mother to Child		
Correct knowledge	350	85.6
Incorrect or No knowledge	59	14.4
Aware of Govt. Policies Related to HIV/ AIDS		
Aware	121	29.6
Not aware	288	70.4
Received HIV Related Education from Government Agencies (last 12 months)		
Received	85	20.8
Did not receive	324	79.2
Use Condoms to Prevents HIV		

Transmission		
Correct knowledge	297	72.6
Incorrect or No knowledge	112	27.4
Total	**409**	**100.0**

Source: Author's Primary Data, 2013

Awareness of HIV/AIDS and related infectious diseases is key to prevent HIV infection. Among the respondents overall 61.1% (250) were aware of Incurable diseases, in specific 92.7% (379) HIV as an incurable disease and also modes of HIV transmission to extent of 73.8% (302).

In case of HIV/AIDS, we often notice misconceptions or incorrect knowledge. These misconceptions are captured through standard questions used in HIV related programmes. Among the respondents in this study, correct knowledge was noticed to an extent: Possible transmission through Mosquito 96.1% (393), One faithful partner prevents HIV transmission 66.5% (272); Abstinence from sex helps prevention of HIV transmission 67.2% (275); Possible transmission through sharing meal 77.3% (316), Possible transmission through sharing needle Correct knowledge 85.6% (350), Possible good-looking person may be HIV positive 87.3% (357); Possibility of transmission from HIV infected mother to child 350 (85.6%); Use of condoms prevents HIV transmission 72.6% (297) and Belief Commercial worker possibly not infected 74.33% (304).

As regards to awareness about Govt. Policies related to HIV/ AIDS 70.4% (288) of respondents were not aware and so also 79.2% (324) did not receive HIV related education from Government agencies.

Table 5.2: Sample Description of the Health Seeking Behaviour Related Factors used in the Study

Background Characteristics	**Total HIV Positive and Negative Sample**	
	N	**%**

Sought Medical Help		
Sometimes or never	29	7.1
Always	380	92.9
When family member ill, took treatment from		
Govt setup	161	39.4
Private setup	237	57.9
Others	11	2.7
Awareness of Disease/Infection with Sex Organs		
Aware	74	18.1
Not aware	335	81.9
Treatment taken when ill related to sex organ (last time) from		
Went to hospital	60	14.7
No treatment	5	1.2
Self-medication	9	2.2
Not applicable	335	81.9
Testing Centre Distance		
Less than 2 kms	102	24.9
2 to 10 kms	136	33.3
Above 10 kms	61	14.9
Not known	110	26.9
Treatment Centre Distance		
Less than 5 kms.	80	19.6
5 to 10 kms.	99	24.2
Above 10 kms	152	37.2
Not known	78	19.1
Paid for HIV Testing		
Nil	265	64.8
Less than Rs. 100	45	11.0
Rs 100 to Rs. 1,000	49	12.0
More than Rs. 1,000	38	9.3

Do not know	12	2.9
Total	**409**	**100.0**

Source: Author's Primary Data, 2013

Among respondents, when last time ill 92.9% (380) always sought medical help, but only 14.7% (6) went to hospital and took Professional treatment. It is found that, when family members ill, took treatment from Govt setup 39.4% (161) and Private setup 57.9% (237). The awareness of disease/infection with sex organs was limited to 18.1% (74) and in that case took treatment from hospital 14.7% (60), No treatment at all 1.2% (5) and Self-medication 2.2% (9). However, it was not applicable for 81.9% (335) as they did not experience any such disease/infection.

With regard to accessibility of health facility, distance for Testing centre was above 10 kms for 14.9% (61) of respondents, 2 to 10 kms for 33.3% (136), and whereas it was less than 2 kms only for 24.9% (102), in spite of being state capital, besides Not known for 26.9% (110). Equally true was distance for Treatment centres – less than 5 kms 19.6% (80), 5 to 10 kms. 24.2% (99), and above 100 kms for 37.2% (152), besides not known for 19.1% (78).

Among respondents, majority that is64.8% (265) did not pay anything, less than Rs. 100 – 11.0% (45), between Rs 100 and Rs. 1,000 – 12.0% (49) and more than Rs. 1,000 only 9.3% (38).

Table 5.3: Sample Description of the Sexual Behaviour Related factors used in the Study

Background Characteristics	**Total HIV Positive and Negative Sample**	
	N	**%**
Age at First Sex		
Less than 18 years	81	19.8
18-25 years	236	57.7
More than 25 years	92	22.5

First Sex Partner		
Spouse	279	68.2
Others	130	31.8
Pre-Marital Sex		
Had pre-marital sex	59	14.4
No pre-marital sex or not applicable	350	85.6
Extra Marital Sex		
Had extra marital sex	25	6.1
No extra marital sex	384	93.9
Sex with Commercial Worker		
Had sex with commercial worker	34	8.3
No commercial sex or not applicable	375	91.7
Sex other than Spouse/Regular partner		
Had sex other than spouse	39	9.5
No sex other than spouse	370	90.5
Belief Commercial Worker Not Infected		
Correct knowledge	305	74.6
Incorrect or No knowledge	104	25.4
Sexual Abuse		
Subjected to abuse	19	4.6
No abuse or not applicable	390	95.4
Blood Transfusion		
Received transfusion	64	15.6
Not received transfusion	345	84.4
Use of Alcohol		
Use alcohol	83	20.3
Never or not now or not respond	326	79.7
Drink Before Sex		
Drink before sex	48	11.7
Not drink before sex or not respond	361	88.3
Total	**409**	**100.0**

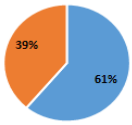
Source: Author's Primary Data, 2013

Among respondents, some of the sexual behaviour indicators were: Age at first sex above 25 years was more at 22.5% (92), 18 to 25 years 57.7% (236) and 19.8% (81) in case of less than 18 years. First sex partner being spouse was 68.2% (279) and others being 31.8% (130). Only 14.4 % (59) had Pre-marital sex. Extra marital sex was noted among 6.11% (25) only. But 9.5% (39) had sex other than spouse. 8.3% (34) had sex with commercial worker.

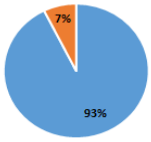
Other findings were 4.6% (19) respondents were subjected to Sexual abuse, 15.6% (64) received blood transfusion, 20.3% (83) were taking alcohol and 11.7% (48) had the habit of taking drinks before sex.

Figure 5.1: Sample description of the Awareness, Health and Sexual Behaviour related factors used in the study

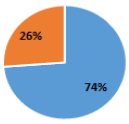
Awareness of Incurable diseases



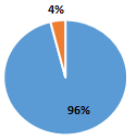
Awareness of HIV



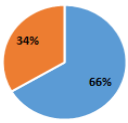
Awareness of modes of HIV transmission



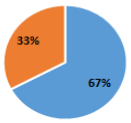
Possible transmission through Mosquito



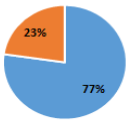
One faithful partner prevents HIV transmission



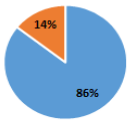
Abstinence from sex helps prevention of HIV transmission



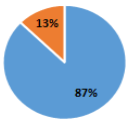
Possible transmission through sharing meal



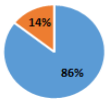
Possible transmission through sharing needle



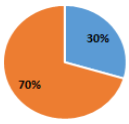
Possible good looking person may be HIV positive



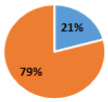
Possibility of transmission from HIV infected mother to child



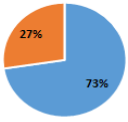
Aware of Govt. policies related to HIV/ AIDS



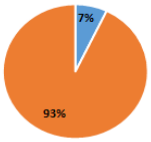
Received HIV related education from Government agencies (last 12 months)



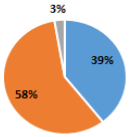
Use condoms to prevent HIV transmission



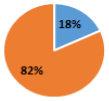
Sought medical help



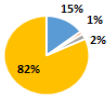
When family member ill, took treatment from



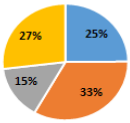
Awareness of disease/infection with sex organs



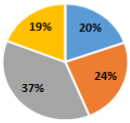
Treatment taken when ill related to sex organ (last time) from



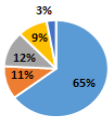
Testing centre distance



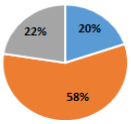
Treatment centre distance



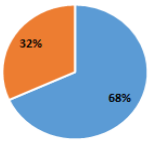
Paid for HIV testing



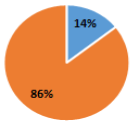
Age at first sex



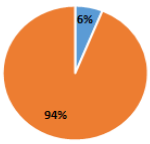
First sex partner



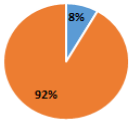
Pre marital sex



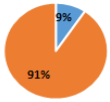
Extra marital sex



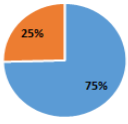
Sex with commercial worker



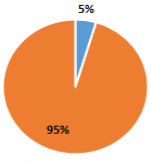
Sex other than spouse/regular partner



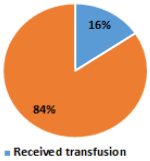
Belief Commercial worker not infected



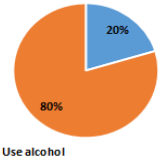
Sexual abuse



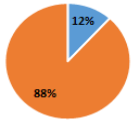
Blood transfusion



Use of alcohol



Drink before sex



5.2.2 Cross Tabulation

With regard to awareness of HIV/AIDS and related infectious diseases, Positive persons had better knowledge that is awareness of incurable diseases - Positives 58.8% (147), Negatives 41.2% (103); HIV as Incurable disease – Positives 54.1% (205), Negatives 45.9% (174); Modes of HIV transmission - Positives 58.9% (178), Negatives 41.1% (124). But interestingly correct knowledge was predominant among Negatives about prevention of HIV transmission in case of having only one faithful partner 51.5% (140) and possible transmission through sharing meal 77.4% (72). Whereas, it was almost same among both Positives and Negatives for possible transmission of HIV through Mosquito with among Positive persons 52.4% (206) as against 47.6% (187) among Negative persons. In case of awareness of Govt. policies relating to HIV/ AIDS programme, it was higher among Positive persons with 70.2% (85) against 29.8% (36) only among negative persons. 81.2% (69) of positive persons as against only 18.8% (16) of negative persons received HIV related education from Government agencies.

Table 5.4: Distribution of the Selected HIV/AIDS Awareness Related Factors by HIV Status

Background Characteristics	HIV Negative		HIV Positive	
	N	%	N	%
Awareness of Incurable Diseases				
Aware	103	41.2	147	58.8
Not aware	97	61.0	62	39.0
Awareness of HIV				
Aware	174	45.9	205	54.1
Not aware	26	86.7	4	13.3
Awareness of Modes of HIV Transmission				
Aware	124	41.1	178	58.9
Not aware	76	71.0	31	29.0
Possible Transmission through Mosquito				

Correct knowledge	187	47.6	206	52.4
Incorrect or No knowledge	13	81.3	3	18.8
One faithful Partner Prevents HIV Transmission				
Correct knowledge	140	51.5	132	48.5
Incorrect or No knowledge	60	43.8	77	56.2
Abstinence from sex helps prevention of HIV Transmission				
Correct knowledge	128	46.5	147	53.5
Incorrect or No knowledge	72	53.7	62	46.3
Possible Transmission through Sharing Meal				
No correct knowledge	128	40.5	188	59.5
Incorrect or No knowledge	72	77.4	21	22.6
Possible Transmission through Sharing Needle				
Correct knowledge	156	44.6	194	55.4
Incorrect or No knowledge	44	74.6	15	25.4
Possible Good-Looking Person may be HIV Positive				
Correct knowledge	162	45.4	195	54.6
Incorrect or No knowledge	38	73.1	14	26.9
Possibility of Transmission from HIV Infected Mother to Child				
Correct knowledge	165	47.1	185	52.9
Incorrect or No knowledge	35	59.3	24	40.7
Aware of Govt. Policies related to HIV/ AIDS				
Aware	36	29.8	85	70.2
Not aware	164	56.9	124	43.1
Received HIV related Education from Government Agencies (last 12 months)				

Received	16	18.8	69	81.2
Did not receive	184	56.8	140	43.2
Use Condoms to Prevents HIV Transmission				
Correct knowledge	114	38.4	183	61.6
Incorrect or No knowledge	86	76.8	26	23.2
Total	**200**	**48.9**	**209**	**51.1**

Source: Author's Primary Data, 2013

Among Health seeking behaviour related factors between Positive and negative persons, it was almost same with regard to seeking medical help with 48.2% (183) and 51.8% (197) respectively. However, when last time ill in taking professional treatment category, it was higher among positive persons with 80.0% (48) and only 20.0% (20) among negative persons.

Cross tabulation findings for Testing centre distance; less than 2 kms. - Negative persons 71.6% (73), Positive Persons 28.4% (29); 2 to 10 kms. - Negative persons 64.7% (88), Positive Persons 35.3% (48); above 10 kms. - Negative persons 54.1% (33), Positive Persons 45.9% (28); and Not known - Negative persons 5.5% (6), Positive Persons 94.5% (104). Similarly, division between Positive and Negative persons for Treatment centre distance was: less than 5 kms. - Negative persons 76.3% (61), Positive Persons 23.8% (19); 5 to 10 kms. - Negative persons 45.5% (45), Positive Persons 54.5% (54); above 10 kms. - Negative persons 13.2% (20), Positive Persons 86.8% (132); and Not known. - Negative persons 94.9% (74), Positive Persons 5.1% (4).

In case of payment for testing, it was nil payment 39.2% (104) by Positive persons and 60.8% (161) by negative persons; less than Rs. 100 - Positive persons 17.8% (8) and Negative persons 82.2% (37), between Rs 100 and Rs. 1,000 - Positive persons 97.4% (37) and 2.6% (1) negative persons; and in case of more than Rs. 1,000 – all 12 respondents were Positive.

Table 5.5: Distribution of the Selected Health Seeking Behaviour Related Factors by HIV Status

Background Characteristics	HIV Negative		HIV Positive	
	N	%	N	%
Sought Medical Help				
Sometimes or never	3	10.3	26	89.7
Always	197	51.8	183	48.2
When family member ill, took treatment from				
Govt setup	62	38.5	99	61.5
Private setup	133	56.1	104	43.9
Others	5	45.5	6	54.5
Awareness of Disease/Infection with Sex Organs				
Aware	14	18.9	60	81.1
Not aware	186	55.5	149	44.5
Treatment taken when ill related to sex organ (last time) from				
Went to hospital	12	20.0	48	80.0
No treatment	1	20.0	4	80.0
Self-medication	1	11.1	8	88.9
Not applicable	186	55.5	149	44.5
Testing Centre Distance				
Less than 2 kms	73	71.6	29	28.4
2 to 10 kms	88	64.7	48	35.3
Above 10 kms	33	54.1	28	45.9
Not known	6	5.5	104	94.5
Treatment Centre Distance				
Less than 5 kms.	61	76.3	19	23.8
5 to 10 kms.	45	45.5	54	54.5
Above 10 kms	20	13.2	132	86.8

Not known	74	94.9	4	5.1
Paid for HIV Testing				
Nil	161	60.8	104	39.2
Less than Rs. 100	37	82.2	8	17.8
Rs 100 to Rs. 1,000	1	2.0	48	98.0
More than Rs. 1,000	1	2.6	37	97.4
Do not know	0	0.0	12	100.0
Total	200	48.9	209	51.1

Source: Author's Primary Data, 2013

Cross tabulation of Sexual behaviour indicators was: Age at first sex of less than 18 years group was 56.8% (46) by Positive persons and 43.2% (35) by negative persons, whereas in the 18 to 25 years age group - Positive persons constituted 47.5% (112) and 52.5% (124) negative persons; and for above 25 years – Positive persons 55.4% (51), Negative persons 44.6% (41).

In case of First sex partner being Spouse was Positive persons 36.6% (102) and negative persons 63.4% (177). However, in case of others, Positive persons were predominant with 82.3% (107) and negative persons only 17.7% (23). Similarly, among respondents who had Pre-marital sex 88.1% (52) were Positive persons compared to only 11.9% (7) negative persons. Having extra marital sex was 92% (23) by Positive persons, but it was only 8% (2) by negative persons. Having sex with commercial worker was 88.2% (30) by Positive persons compared to only 11.8% (4) by negative persons. Sex with other than spouse was 94.9% (37) by Positive persons and only 5.1% (2) by negative persons.

In terms of marginalization/vulnerability, all 19 persons subjected to sexual abuse were Positive persons. Among those who received blood transfusion, Positive persons were 85.9% (55) and Negative persons 14.1% (9). Among reported use of alcohol, it was Positive persons 63.9% (53) and negative persons 36.1% (30). Those taking drinks before sex, Positive persons were 81.3% (39) and 18.8% (9) negative persons.

Table 5.6: Distribution of the Selected Sexual Behaviour Related Factors by HIV Status

Background Characteristics	HIV Negative		HIV Positive	
	N	%	N	%
Age at First Sex				
Less than 18 years	35	43.2	46	56.8
18-25 years	124	52.5	112	47.5
More than 25 years	41	44.6	51	55.4
First Sex Partner				
Spouse	177	63.4	102	36.6
Others	23	17.7	107	82.3
Pre-Marital Sex				
Had pre-marital sex	7	11.9	52	88.1
No pre-marital sex or not applicable	193	55.1	157	44.9
Extra Marital Sex				
Had extra marital sex	2	8.0	23	92.0
No extra marital sex	198	51.6	186	48.4
Sex with Commercial Worker				
Had sex with commercial worker	4	11.8	30	88.2
No commercial sex or not applicable	196	52.3	179	47.7
Sex other than Spouse/Regular Partner				
Had sex other than spouse	2	5.1	37	94.9
No sex other than spouse	198	53.5	172	46.5
Belief Commercial Worker Not Infected				
Correct knowledge	145	47.5	160	52.5
Incorrect or No knowledge	55	52.9	49	47.1
Sexual Abuse				
Subjected to abuse	0	0.0	19	100.0
No abuse or not applicable	200	51.3	190	48.7
Blood Transfusion				
Received transfusion	9	14.1	55	85.9

Not received transfusion	191	55.4	154	44.6
Use of Alcohol				
Use alcohol	30	36.1	53	63.9
Never or not now or not respond	170	52.1	156	47.9
Drink Before Sex				
Drink before sex	9	18.8	39	81.3
Not drink before sex or not respond	191	52.9	170	47.1
Total	**200**	**48.9**	**209**	**51.1**

Source: Author's Primary Data, 2013

5.2.3 All the variables are tested with the Pearson Chi-Squared Test and presented P-value for positive and negative to get the statistically significant association. This will give evidence of the importance of the study variables.

Table 5.7: Distribution of the Selected HIV/AIDS Awareness related Factors by HIV Status

Background Characteristics	HIV Negative		HIV Positive		Pearson Chi2	P value
	N	%	N	%		
Awareness of Incurable Diseases					15.26	0.000
Aware	103	41.2	147	58.8		
Not aware	97	61.0	62	39.0		
Awareness of HIV					18.48	0.000
Aware	174	45.9	205	54.1		
Not aware	26	86.7	4	13.3		
Awareness of Modes of HIV Transmission					28.40	0.000
Aware	124	41.1	178	58.9		
Not aware	76	71.0	31	29.0		
Possible Transmission through Mosquito					6.97	0.008
Correct knowledge	187	47.6	206	52.4		

Incorrect or No knowledge	13	81.3	3	18.8		
One Faithful Partner prevents HIV Transmission					2.15	0.143
Correct knowledge	140	51.5	132	48.5		
Incorrect or No knowledge	60	43.8	77	56.2		
Abstinence from Sex Helps Prevention of HIV Transmission					1.86	0.172
Correct knowledge	128	46.5	147	53.5		
Incorrect or No knowledge	72	53.7	62	46.3		
Possible Transmission through Sharing Meal					39.18	0.000
Correct knowledge	128	40.5	188	59.5		
Incorrect or No knowledge	72	77.4	21	22.6		
Possible Transmission through Sharing Needle					18.19	0.000
Correct knowledge	156	44.6	194	55.4		
Incorrect or No knowledge	44	74.6	15	25.4		
Possible Good-Looking Person may be HIV Positive					13.94	0.000
Correct knowledge	162	45.4	195	54.6		
Incorrect or No knowledge	38	73.1	14	26.9		
Possibility of Transmission from HIV Infected Mother to Child					3.00	0.083
Correct knowledge	165	47.1	185	52.9		
Incorrect or No knowledge	35	59.3	24	40.7		
Aware of Govt. Policies related to HIV/ AIDS					25.21	0.000
Aware	36	29.8	85	70.2		
Not aware	164	56.9	124	43.1		

Received HIV related Education from Government Agencies (last 12 months)					38.84	0.000
Received	16	18.8	69	81.2		
Did not receive	184	56.8	140	43.2		
Use Condoms to prevents HIV Transmission					48.00	0.000
Correct knowledge	114	38.4	183	61.6		
Incorrect or No knowledge	86	76.8	26	23.2		
Total	**200**	**48.9**	**209**	**51.1**		

Source: Author's Primary Data, 2013

Statistical significance was set at P <0.05 for the study. Accordingly, from the above Table, co-relation for HIV outcome among these selected awareness background characteristics was found to be significant for some of them only namely aawareness of incurable diseases, awareness of HIV, awareness of modes of HIV transmission, possibility of transmission through mosquito, possibility of transmission through sharing a meal, possible transmission through sharing of a needle, possible good-looking person may be HIV positive, aware of Govt. policies related to HIV/ AIDS, having received HIV related education from Government agencies during previous 12 months, use of condoms to prevent HIV transmission.

Table 5.8: Distribution of the Selected Health Seeking Behaviour related factors by HIV status

Background Characteristics	**HIV Negative**		**HIV Positive**		**Pearson Chi2**	**P value**
	N	**%**	**N**	**%**		
Sought Medical Help					18.57	0.000
Sometimes or never	3	10.3	26	89.7		
Always	197	51.8	183	48.2		
When family member ill,					11.95	0.003

took treatment from						
Govt setup	62	38.5	99	61.5		
Private setup	133	56.1	104	43.9		
Others	5	45.5	6	54.5		
Awareness of Disease/Infection with Sex Organs					32.50	0.000
Aware	14	18.9	60	81.1		
Not aware	186	55.5	149	44.5		
Treatment taken when ill related to sex organ (last time) from					32.75	0.000
Went to hospital	12	20.0	48	80.0		
No treatment	1	20.0	4	80.0		
Self-medication	1	11.1	8	88.9		
Not applicable	186	55.5	149	44.5		
Testing Centre Distance					118.32	0.000
Less than 2 kms	73	71.6	29	28.4		
2 to 10 kms	88	64.7	48	35.3		
Above 10 kms	33	54.1	28	45.9		
Not known	6	5.5	104	94.5		
Treatment Centre Distance					168.10	0.000
Less than 5 kms.	61	76.3	19	23.8		
5 to 10 kms.	45	45.5	54	54.5		
Above 10 kms	20	13.2	132	86.8		
Not known	74	94.9	4	5.1		
Paid Cost for HIV Testing					122.00	0.000
Nil	161	60.8	104	39.2		
Less than Rs. 100	37	82.2	8	17.8		
Rs 100 to Rs. 1,000	1	2.0	48	98.0		
More than Rs. 1,000	1	2.6	37	97.4		
Do not know	0	0.0	12	100.0		
Total	**200**	**48.9**	**209**	**51.1**		

Source: Author's primary data, 2013

Statistical significance was set at P <0.05 for the study. Accordingly, from the above Table, co-relation for HIV outcome among all the selected health seeking behaviour related factors was found to be significant.

Table 5.9: Distribution of the Selected Sexual Behaviour related factors by HIV Status

Background Characteristics	HIV Negative		HIV Positive		Pearson Chi2	P value
	N	%	N	%		
Age at First Sex					2.99	0.224
Less than 18 years	35	43.2	46	56.8		
18-25 years	124	52.5	112	47.5		
More than 25 years	41	44.6	51	55.4		
First Sex Partner					74.28	0.000
Spouse	177	63.4	102	36.6		
Others	23	17.7	107	82.3		
Pre-Marital Sex					37.85	0.000
Had pre-marital sex	7	11.9	52	88.1		
No pre-marital sex or not applicable	193	55.1	157	44.9		
Extra Marital Sex					17.83	0.000
Had extra marital sex	2	8.0	23	92.0		
No extra marital sex	198	51.6	186	48.4		
Sex with Commercial Worker					20.46	0.000
Had sex with commercial worker	4	11.8	30	88.2		
No commercial sex or not applicable	196	52.3	179	47.7		
Sex other than Spouse/Regular Partner					33.06	0.000

Had sex other than spouse	2	5.1	37	94.9		
No sex other than spouse	198	53.5	172	46.5		
Belief Commercial Worker Not Infected					0.89	0.346
Correct knowledge	145	47.5	160	52.5		
Incorrect or No knowledge	55	52.9	49	47.1		
Sexual Abuse					19.07	0.000
Subjected to abuse	0	0.0	19	100.0		
No abuse or not applicable	200	51.3	190	48.7		
Blood Transfusion					36.85	0.000
Received transfusion	9	14.1	55	85.9		
Not received transfusion	191	55.4	154	44.6		
Use of Alcohol					6.78	0.009
Use alcohol	30	36.1	53	63.9		
Never or not now or not respond	170	52.1	156	47.9		
Drink before Sex					19.78	0.000
Drink before sex	9	18.8	39	81.3		
Not drink before sex or not respond	191	52.9	170	47.1		
Total	**200**	**48.9**	**209**	**51.1**		

Source: Author's Primary Data, 2013

Statistical significance was set at P <0.05 for the study. Accordingly, from the above Table, co-relation for HIV outcome among all the selected sexual behaviour related factors was found to be significant except for belief that commercial worker was not infected and for factor age at first sex.

5.2.4 Regression Analysis

The findings have utilized the method of logistic regression analysis to investigate associations among all variables collectively and three sets of select variables for HIV outcome were found. These select models were: (1) awareness factors, (2) health seeking behaviour related factors, and (3) sexual behavioural related factors. As far as

the proliferation of the disease is concerned the awareness element seen a preventive measure to halt it, likewise it depends on the case of how he/she got informed. Therefore, age variable becomes critical in awareness. Health seeking and sexual behavioural related elements also were observed major models in HIV outcome. Moreover, all analysis was at 95% CI. Statistical significance was set at P <0.05 for the study. The total observations were 409.

Accordingly, the analysis found significant positive association both for select factors and also combined one of all factors for some factors. They were correct knowledge that one faithful partner prevents HIV transmission had odds of 8.95 among awareness factors and odds of 18.2 among combined factors compared to no correct knowledge. Similar positive association was found for both scenarios in case of other factors namely testing centre distance of less than 2 kms compared to more than 2 km (OR: 3.11, combined OR: 4.48), cost paid for HIV testing to no payment (OR: 3.91, combined OR: 5.93), one who had extra/pre-marital sex with reference to one who did not have (OR; 4.15, combined OR: 5.16), and someone who had with sex with commercial worker or other than regular partner compared to who did not have (OR: 9.62, combined OR: 9.44). On the other hand, there was negative association with regard to knowledge about usage of condoms for prevention of HIV transmission with reference to no knowledge (OR: 0.17, combined OR: 0.19), and also one who had received blood transfusion with reference to one who had received lesser odds of only 0.13 (combined OR: 0.04).

Whereas, some factors had negative association of significance for select factors, but no such significant association for combined scenario. They were correct knowledge about possibility of transmission through mosquito compared to incorrect knowledge (OR: 0.15), possible transmission through sharing meal (OR: 0.31), one who had received HIV related education from government agencies during previous one year (OR: 0.24), for taking treatment from government with reference to non-governmental setups (OR: 0.42), being aware of disease/infection with sex organs compared to not being aware (OR; 0.01), taking drinks before sex compared with not taking drinks (OR:0.25).

Table 5.10: Association of HIV Outcome with the Selected Awareness, Health Seeking Behaviour and Sexual Behavioural related Factors

Characteristics	Reference/Compare Category	Awareness of HIV/AIDS related Factors	Health Seeking Behaviour Related Factors	Sexual behaviour related Factors	All factors
		OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Awareness of Incurable Diseases	Aware/not Aware	0.88(0.50 - 1.56)			0.50(0.19 - 1.32)
Awareness of HIV	Aware/not Aware	0.37(0.10 - 1.44)			0.41(0.05 - 3.61)
Awareness of Modes of HIV Transmission	Aware/not Aware	0.55*(0.27 - 1.12)			0.35*(0.11 - 1.16)
Possible Transmission through Mosquito	Correct knowledge/no knowledge	0.15***(0.04 - 0.63)			0.07*(0.00 - 1.09)
One faithful partner prevents HIV Transmission	Correct knowledge/no knowledge	8.95***(3.92 - 20.45)			18.20***(4.47 - 74.13)
Abstinence from Sex helps	Correct knowledge/no	0.75(0.36 - 1.58)			0.45(0.12 - 1.69)

Prevention of HIV transmission	knowledge		
Possible Transmission through sharing meal	Correct knowledge/no knowledge	0.31***(0.14 - 0.66)	0.54(0.17 - 1.70)
Possible Transmission through Sharing Needle	Correct knowledge/no knowledge	0.72(0.26 - 1.97)	0.28(0.04 - 2.06)
Possible Good-Looking Person may be HIV Positive	Correct knowledge/no knowledge	0.80(0.28 - 2.28)	0.54(0.09 - 3.13)
Possibility of Transmission from HIV Infected Mother to Child	Correct knowledge/no knowledge	3.56**(1.29 - 9.85)	6.81**(1.02 - 45.54)
Aware of Govt. Policies Related to HIV/ AIDS	Aware/not aware	0.71(0.39 - 1.30)	2.84*(0.94 - 8.54)
Received HIV related	Received/not Received	0.24***(0.11 - 0.50)	0.38(0.11 - 1.32)

Education from Government Agencies (last 12 months)				
Use Condoms to prevent HIV Transmission	Correct knowledge/no knowledge	0.17***(0.08 - 0.37)		0.19**(0.05 - 0.69)
Sought Medical Help	Sometime/Always		0.25*(0.06 - 1.16)	0.54(0.06 - 5.24)
When family member ill, took treatment from	Govt/Others		0.42***(0.25 - 0.71)	0.48*(0.22 - 1.05)
Awareness of Disease /Infection with Sex Organs	Aware/not Aware		0.05*(0.00 - 1.09)	0.01**(0.00 - 0.42)
Treatment taken when ill related to Sex Organ (last time)	Hospital/no Treatment		1.39(0.46 - 4.23)	3.09(0.75 - 12.62)

Testing Centre Distance	Less than 2 kms/more than 2 km	3.11***(2.28 - 4.23)		4.48***(2.68 - 7.47)
Treatment Centre Distance	Less than 5 kms/more than 5 km	0.82(0.61 - 1.09)		0.66*(0.43 - 1.04)
Paid for HIV Testing	Nil/Paid	3.91***(2.64 - 5.80)		5.93***(3.05 - 11.51)
Age at First Sex	Less than 18 years/ More than 18 years		0.97(0.68 - 1.40)	1.05(0.56 - 1.95)
Had Extra/Pre-Marital Sex	No/Yes		4.15***(1.75 - 9.81)	5.16**(1.30 - 20.50)
Had sex with commercial /other than regular partners	No/Yes		9.62***(3.86 - 23.98)	9.44***(2.35 - 37.83)
Belief Commercial Worker not infected	Correct knowledge/no knowledge		0.99(0.59 - 1.66)	1.70(0.54 - 5.38)
Blood Transfusion	Received/not Received		0.13***(0.06 - 0.29)	0.04***(0.01 - 0.14)
Use of Alcohol	Yes/No		1.06(0.51 - 2.22)	1.59(0.46 - 5.52)
			0.25***(0.09	0.45(0.09 -

Drink before Sex	Yes/No		- 0.70)	2.38)
Constant		84.10***	73.66**	383.73***	27,018.92***
Observations		409	409	409	409
Pseudo R-squared		0.265	0.423	0.232	0.677

Note: *** p<0.01, ** p<0.05, * p<0.1

Source: Author's Primary Data, 2013

5.2.5 Discussion

Awareness of HIV/AIDS and related infectious diseases is key to prevent HIV infection. Among the respondents overall 61.1% (250) were aware of Incurable diseases, in specific 92.7% (379) HIV as an incurable disease and also modes of HIV transmission to extent 73.8% (302). However, there was difference between Positive and Negative persons. In all cases, Positive persons had better knowledge that is awareness of incurable diseases - positives 58.8% (147), negatives 41.2% (103); HIV as Incurable disease – Positives 54.1% (205), Negatives 45.9% (174); Modes of HIV transmission - Positives 58.9% (178), Negatives 41.1% (124). In case of HIV/AIDS, often we notice misconceptions or incorrect knowledge. These misconceptions are captured through standard questions used in HIV related programmes.

Among the respondents in this study, correct knowledge was noticed to an extent: Possible transmission through Mosquito 96.1% (393), One faithful partner prevents HIV transmission 66.5% (272); Abstinence from sex helps prevention of HIV transmission 67.2% (275); Possible transmission through sharing meal 77.3% (316), Possible transmission through sharing needle Correct knowledge 85.6% (350), Possible good-looking person may be HIV positive 87.3% (357); Possibility of transmission from HIV infected mother to child 85.6% (350); Use of condoms prevents HIV transmission 72.6% (297) and Belief Commercial worker possibly not infected 74.6% (305).

However, there is difference about correct knowledge on misconceptions between Positive and Negative Persons. Positive persons had better knowledge in case of Abstinence from sex helping prevention of HIV transmission with 53.5% (147), possible transmission through sharing needle 55.4% (194), possibility of good-looking person being HIV positive 54.6% (195), possibility of transmission from HIV infected mother to child 52.9% (185), belief Commercial worker not infected 52.5% (160), and use of condoms could prevent HIV transmission 61.6% (183). But interestingly correct knowledge was predominant among Negatives about prevention of HIV transmission in case of having only one faithful partner 51.5% (140) and possible transmission through sharing meal 77.4% (72). Whereas, it was almost same among both Positives and Negatives for possible transmission of HIV through Mosquito with among Positive persons 52.4% (206) as against 47.6% (187) among Negative persons. As regards to awareness about Govt. policies related to HIV/ AIDS 70.4% (288) of respondents were not aware and so also 79.2% (324) did not receive HIV related education from Government agencies. But between Positives and Negatives, in case of awareness of Govt. policies relating to HIV/ AIDS programme it was higher among Positive persons with 70.2% (85) against 29.8% (36) only among negative persons. 81.2% (69) of positive persons as against only 18.8% (16) of negative persons received HIV related education from Government agencies. Interestingly, among Positive persons themselves (n=209) more respondents {124 (59.3 %)} were not aware of government policies and 140 (66.9%) did not receive HIV related education from Government agencies.

Among respondents, when last time ill 92.9% (380) always sought medical help, but only 14.7% (60) went to hospital and took Professional treatment. Between Positive and negative persons, it was almost same with regard to seeking medical help with 48.2% (183) and 51.8% (197) respectively. However, when last time ill in taking professional treatment category, it was higher among positive persons with 80.0% (48) and only 20.0% (20) among negative persons.

With regard to accessibility of health facility, distance for a Testing centre was less than 2 kms for 24.9% (102), 2 to 10 kms 33.3% (136), above 10 kms 14.9% (61) and it was not known to 26.9% (110), in spite of being the State capital. Equally true was distance for a Treatment centre – less than 5 kms. 19.6% (80), 5 to 10 kms. 24.2%

(99), above 10 kms. 37.2% (152) and was known to 19.1% (78). Cross tabulation findings for Testing centre distance; less than 2 kms. - Negative persons 71.6% (73), Positive Persons 28.4% (29); 2 to 10 kms. - Negative persons 64.7% (88), Positive Persons 35.3% (48); above 10 kms. - Negative persons 54.1% (33), Positive Persons 45.9% (28); and Not known - Negative persons 5.5% (6), Positive Persons 94.5% (104). Treatment centre distance of less than 5 kms. - Negative persons 76.3% (61), Positive Persons 23.8% (19); 5 to 10 kms. - Negative persons 45.5% (45), Positive Persons 54.5% (54); above 10 kms. - Negative persons 13.2% (20), Positive Persons 86.8% (132); and Not known. - Negative persons 94.9% (74), Positive Persons 5.1% (4).

Among respondents, majority that is 64.8% (265) did not pay anything, less than Rs. 100 – 11.0% (45), between Rs 100 and Rs. 1,000 – 12.0% (49) and more than Rs. 1,000 – 9.3% (38). But, on cross tabulation, nil payment was 39.2% (104) by Positive persons and 60.8% (161) by negative persons; in case of less than Rs. 100 - Positive persons 17.8% (8) and Negative persons 82.2% (37), between Rs 100 and Rs. 1,000 - Positive persons 97.4% (37) and 2.6% (1) negative persons; in case of more than Rs. 1,000 – all 12 respondents were Positive.

Among respondents, some of the sexual behaviour indicators were: Age at first sex - less than 18 years 19.8% (81), 18-25 years 57.7% (236), and more than 25 years 22.5% (92); First sex partner being spouse was 68.2% (279) and others being 31.8% (130). Only 14.4 % (59) had Pre-marital sex. Extra marital sex was noted among 6.1% (25) only. But 9.5% (39) had sex other than with spouse. 8.3% (34) had sex with commercial worker.

On cross tabulation, Age at first sex of less than 18 years group was 56.8% (46) by Positive persons and 43.2% (35) by negative persons, whereas in the 18 to 25 years age group - Positive persons constituted 47.5% (112) and 52.5% (124) negative persons; and for above 25 years – Positive persons 55.4% (51), Negative persons 44.6% (41). In case of First sex partner being Spouse was Positive persons 36.6% (102) and negative persons 63.4% (177). However, in case of others, Positive persons were predominant with 82.3% (107) and negative persons only 17.7% (23). Similarly, among respondents who had Pre-marital sex 88.1% (52) were Positive

persons compared to only 11.9% (7) negative persons. Having extra marital sex was 92% (23) by Positive persons, but it was only 8% (2) by negative persons. Having sex with commercial worker was 88.2% (30) by Positive persons compared to only 11.8% (4) by negative persons. Sex with other than spouse was 94.9% (37) by Positive persons and only 5.1% (2) by negative persons.

15.6% (64) of respondents had received blood transfusion. Use of alcohol was 20.3% (83) among respondents, whereas others had not taken drinks or had left or didn't respond. Only 11.7% (48) of respondents had reported drinks before sex. In terms of marginalization/vulnerability, all 19 persons subjected to sexual abuse were Positive persons. Among those who received blood transfusion, Positive persons were 85.9% (55) and Negative persons 14.1% (9). Among reported use of alcohol, it was Positive persons 63.9% (53) and negative persons 36.1% (30). Those taking drinks before sex, Positive persons were 81.3% (39) and 18.8% (9) negative persons.

Statistical significance was set at $P < 0.05$ for the study. Accordingly, co-relation for HIV outcome among the selected awareness background characteristics was found to be significant for some of them only namely awareness of incurable diseases, awareness of HIV, awareness of modes of HIV transmission, possibility of transmission through mosquito, possibility of transmission through sharing a meal, possible transmission through sharing of a needle, possible good-looking person may be HIV positive, aware of Govt. policies related to HIV/ AIDS, having received HIV related education from Government agencies during previous 12 months, use of condoms to prevent HIV transmission. Among the selected health seeking behaviour related factors, all factors co-relation was found to be significant. In case of the selected sexual behaviour related factors significant co-relation was found except for belief that commercial worker was not infected and for age at first sex.

As per the regression analysis, significant positive association both for select factors and also combined one of all factors for some factors was found for correct knowledge that one faithful partner prevents HIV transmission, testing centre distance of less than 2 kms, cost paid for HIV testing, one who had extra/pre-marital sex, and someone who had with sex with commercial worker or other than regular partner. On the other hand, there was negative association with regard to knowledge about usage

of condoms for prevention of HIV transmission, and also one who had received blood transfusion. Whereas, factors had negative association of significance for select factors, but no such significant association for combined scenario. They were correct knowledge about possibility of transmission through mosquito, possible transmission through sharing meal, one who had received HIV related education from government agencies during previous one year, for taking treatment from government setups, being aware of disease/infection with sex organs, and taking drinks before sex.

CHAPTER VI

Detection, Reaction and Coping Mechanism Among HIV Positive Respondents in Primary Survey

6.1 Introduction

This chapter covers the personal experience of HIV positive persons. They include under what circumstance and where they got tested for HIV status. What was their reaction when they come to know the positive status? Whether they had disclosed to others. If so, what was their reaction/response, both within the family and outside? Similarly, what type of treatment/reaction their spouse and children received. In all there were 209 respondents, who had HIV Positive status. In all 63 questions were formulated to know their experience.

Based on appropriate select variables, the responses have been classified into (1) Detection covering place of detection, self-reaction after detection and counselling received; (2) Reaction / discrimination analysing issue of disclosure, reaction to respondent from family and others, reaction from others to spouse and children, reason if not disclosed, and family acceptance; (3) Precaution taken to protect from infection with regard to spouse / partner and children; and finally (4) Coping mechanism based on support from different sources, how family managed including finances, how managed self, care received, and loss of income.

6.2 Results

The responses were analysed through STATA analytical tool. Distribution of respondents are given in Table 6.1 for Detection (reason for detection, place of detection, self-reaction after detection and counselling received), Table 6.2 for Reaction / discrimination (issue of disclosure, reaction to respondent from family and others, reaction from others to spouse and children, reason if not disclosed, and family acceptance) and for Precautions (taken to protect from infection with regard to spouse / partner and children); finally Table 6.3 for Coping mechanism (based on support from different sources, how family managed including finances, how managed self,

care received, and loss of income). Table 6.4 provides results of Co-relation and Regression analysis done for characteristics covered in this chapter.

6.2.1 Sample Description

Detection:

Distribution of respondents in Table 6.1 given below covers selected characteristics for reason for HIV testing, place of testing, self-reaction after detection of HIV status and counselling received.

Table 6.1: Distribution of characteristics for reason and place of testing, self-reaction after detection, and counselling received among HIV positive outcome people

Background Characteristics	N	%
Reason for HIV testing/detection		
ANC Test/Post Wife's ANC Test/Others	57	27.3
Voluntary/Self and others	152	72.7
Place of Detection		
Other than Govt. setup	88	42.1
Govt. setup	121	57.9
Self - Reaction after Detection		
Personal/Private	115	55
Self-Infliction/ Regret	45	21.5
Blame others/Public/Concern for Others/no Reaction	49	23.4
Counselling Received		
No	76	36.4
Yes	84	40.2
Only post test	49	23.4

Source: Author's Primary Data, 2013

Among HIV positive respondents (N=209), it has been observed that 72.7% (152) had opted for HIV voluntary testing including other similar reasons as given during interview namely after prolonged illness, when spouse was detected HIV positive, HIV awareness camp, after long illness of first husband, child was unwell & tested positive, death of spouse, long illness of late husband, death of child, and volunteer took to test centre. 57.9% (121) of respondents had undertaken HIV testing in a government setup. In case of own reaction of respondents after knowing their HIV status, it was personal/private 55.0% (115), which included shocked, ashamed, disappointed and embarrassed; in addition, 21.5% (45) felt harming self like committing suicide or suffered like depression, repenting past, fear of death, etc. It was also observed that 36.4% (76) did not receive counselling at all and 23.4% (49) received only post-testing counselling.

Disclosure, Discrimination and Precaution:

Following table 6.2 covers select variables for reaction from others / discrimination including issue of disclosure, reaction to respondent from family and others, reaction from others to spouse and children, reasons for non-disclosure and family acceptance; and also, Precautions taken to protect from infection with regard to spouse / partner and children.

Table 6.2: Distribution of responses for Reaction / discrimination and for Precautions taken among HIV Positive Outcome People

Background Characteristics	N	%
Reaction to Respondent from Family		
Deprivation/Abuse	22	10.5
No Reaction / Unknown / Not Applicable	90	43.1
Members' Self-Blame / felt sympathy	30	14.4
Support given	67	32.1
Reaction to Respondent from Others		
No Discrimination	171	81.8
Discrimination	38	18.2
Reaction from others to spouse		

Not applicable/do not know/not known to others	101	48.3
Discrimination	17	8.1
No-discrimination / support given	91	43.5
Reaction from others to Children		
Not applicable/do not know/not known to others	82	39.2
Discrimination	22	10.5
No-Discrimination / Support given	105	50.2
Reason for Non-Disclosure		
Either Stigma or Discrimination	40	19.1
Both Stigma/rejection and discrimination	169	80.9
Family Acceptance		
Yes	80	38.3
No /not immediately/not known to family/not applicable	129	61.7
Precaution taken for family - Spouse / Partner		
No	92	44
Yes	117	56
Precautionary steps taken for Spouse/Partner		
Abstain from Sex	20	9.6
Safe Sex	97	46.4
Not applicable	92	44
Precaution taken for Children		
No/not yet decided/Not applicable	65	31.1
Yes	144	68.9
Precautionary steps taken for Children		
Decided not to have a Child	82	39.2
ARV Drugs	62	29.7
Others (also Not Applicable)	65	31.1

Source: Author's Primary Data, 2013

Among HIV positive respondents (N=209), it has been observed that 67.9% (142) had disclosed their HIV status within family. Just one third 32.1% (67) only had disclosed to others. The reaction of family members about their HIV status was in the form of Deprivation/Abuse 10.5% (22). On the other hand, got support to extent of 32.1% (67). In case of 81.8% (171) did not experience discrimination. Towards spouse, 43.5% (91) respondents confirmed there was no discrimination and in fact received support. Whereas, similar reaction towards children, it was still better with 50.2% (105) getting support or facing no discrimination. 80.9% (169) of respondents replied that reason for not-disclosing as both stigma and discrimination and rest due to stigma or discrimination. For 38.3% (80) of respondents there was family acceptance. Majority of them that is56.0% (117) had taken precaution to protect spouse or partner, which included resorting to safe sex 46.4% (97) and abstinence of sex 9.6% (20). In case of precaution towards children, 68.9% (144) had confirmed suitable steps being taken, which included 39.2% (82) not to have a child and 29.7% (62) provided ARV drugs.

Coping Mechanism:

Following Table 6.3 covers select variables for Coping mechanism based on support from different sources, how family managed including finances, how managed self, care received and loss of income.

Table 6.3: Distribution of variables for Coping mechanism among HIV Positive Outcome People

Background Characteristics	N	%
Coping/Support from		
Others (NIL included)	26	12.4
Govt	183	87.6
Support Received from Others		
Nil/NA	130	62.2
For Patient Care	67	32.1
Other types of Support	12	5.7
Household management by Family		

Reduced food consumption/cheaper food/help from others	50	23.9
Nothing/not living with family	159	76.1
Management of Household Finances by family		
Additional Income/Loan/Begging	49	23.4
Asset Sale/Mortgage/Used Savings	76	36.4
Extended Family Support/Support from others (including NIL, Not Applicable/missing)	84	40.2
Self-Care Management		
Asset Sale/Mortgage/Used Savings	81	38.8
Took loan/Job and help from others	72	34.4
Others including Nil and Not applicable	56	26.8
Care received from		
Spouse/Partner	64	30.6
Family	59	28.2
Others/No one	86	41.1
Loss of Income during Sickness		
Partial/Nil	143	68.4
All Wages	66	31.6

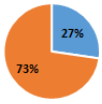
Source: Author's Primary Data, 2013

Among HIV positive respondents (N=209), it has been observed that most of them that is87.6% (183) depended upon government to cope the situation and rest on others means. 32.1% (67) of support was towards patient care. The family managed household through reduced food consumption/cheaper food/help from others, whereas three fourths {73.7% (154)} did nothing, in other words accepted helplessness. As regards managing the household finances, they were by means of through Family support/Support from others 40.2% (84), Asset sale/mortgage/used savings 36.4% (76), and Additional income/loan/begging 23.4% (49). As far as own finances, it was through Asset sale/mortgage/used savings 38.8% (81), Took loan/job and help from others 34.4% (72) and other means 26.8% (56). Care was taken from Spouse/partner 30.6% (64) and other family members 28.2% (59), whereas for rest 41.1% (86) either

it was others or no one. Loss of income during sickness was all wages for 31.6% (66) and for rest 68.4% (143) it was partial or nil.

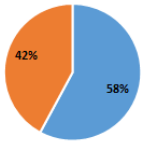
Figure 6.1: Distribution of Responses for Detection, Reactions and Coping mechanism among HIV Positive Outcome People

Reason for HIV testing /detection



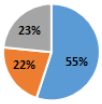
- ANC test/post wife's ANC test/others
- Voluntary/self and others

Place of detection



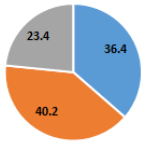
- Govt. setup
- Other than Govt. setup

Self - reaction after detection



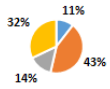
- Personal/private
- Self infliction/ regret
- Blame others/public/concern for others/no reaction

Counselling received



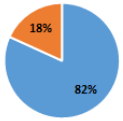
- No
- Yes
- Only post test

Reaction to respondent from family



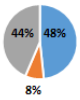
- Deprivation/Abuse
- No reaction / unknown / not applicable
- Members' self blame / felt sympathy
- Support given

Reaction to respondent from others



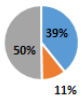
- No discrimination
- Discrimination

Reaction from others to spouse



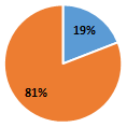
- Not applicable/do not know/not known to others
- Discrimination
- No-discrimination / support given

Reaction from others to children



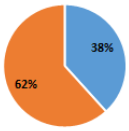
- Not applicable/do not know/not known to others
- Discrimination
- No-discrimination / support given

Reason for non-disclosure



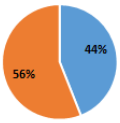
- Either stigma or discrimination
- Both Stigma/rejection and discrimination

Family acceptance



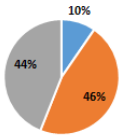
- Yes
- No /not immediately/not known to family/not applicable

Precaution taken for family - spouse / partner



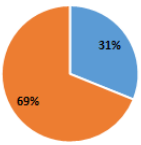
- No
- Yes

Precautionary steps taken for spouse/partner



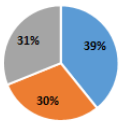
- Abstain from sex
- Safe sex
- Not applicable

Precaution taken for children



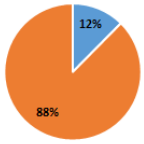
- No/not yet decided
- Yes

Precautionary steps taken for children



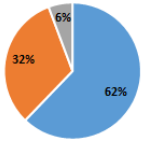
- Decided not to have a child
- ARV drugs
- Others

Coping/support from



- Others
- Govt.

Support received from others



- Nil/NA
- For patient care
- Other types of support

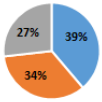
Household management by family

- Reduced food consumption/cheaper food/help from others
- Nothing/not living with family

Management of household finances by family

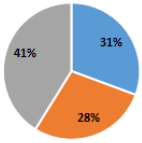
- Additional income/loan/begging
- Asset sale/mortgage/used savings
- Extended family support/support from others

Self care management



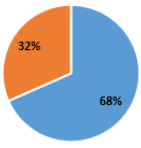
- Asset sale/mortgage/used savings
- Took loan/job and help from others
- Other means

Care received from



- Spouse/partner
- Family
- Others/No one

Loss of income during sickness



- Partial/no
- All wages

6.2.2 Regression Analysis

Following Table 6.4 provides results of logistic regression analysis applied to investigate association among all variables collectively and three sets of select variables for discrimination from family (family acceptance) with different characteristics among the HIV positive outcome people. These select models were: (1) Personal experience related variables, (2) Coping mechanism related variables, and (3) Impact/consequences related variables. All analysis was at 95% CI. Statistical significance was set at P <0.05 for the study. Total observations were 209.

Table 6.4: Regression Results of Discrimination from Family (Family Acceptance yes=0, no=1) with Personal experience, Coping Mechanism and Impact / Consequences characteristics among the HIV Positive Outcome People

Variables	Personal Experience related variables	Coping Mechanism related variables	Impact/Consequences related variables	All variables
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Reason for HIV testing/detection				
ANC Test/Post Wife's ANC Test/Others (Ref)				
Voluntary/Self and Others	0.42*(0.16 - 1.12)			0.39*(0.14 - 1.12)
Place of Detection				
Other than Govt. setup (Ref)				
Govt. setup	0.91(0.39 - 2.08)			0.86(0.35 - 2.09)

Self - Reaction after Detection		
Personal/Private (Ref)		
Self-Infliction/ Regret	0.80(0.28 - 2.30)	0.81(0.26 - 2.52)
Blame Others / Public / Concern for Others / No Reaction	0.23***(0.09 - 0.58)	0.27***(0.10 - 0.73)
Counselling Received		
No (Ref)		
Yes	0.98(0.40 - 2.43)	0.99(0.37 - 2.67)
Only Post Test	1.36(0.46 - 4.03)	1.63(0.49 - 5.47)
Disclosure of HIV Test Result		
No (Ref)		
Yes	1.07(0.44 - 2.62)	1.14(0.44 - 2.98)
Disclosed Test Result		
With Others (Ref)		
Within family	1.02(0.41 - 2.55)	1.20(0.44 - 3.26)
Reaction to Respondent from Family		
Deprivation/Abuse (Ref)		
No reaction / unknown	0.79(0.18 -	0.85(0.18 -

/ not applicable	3.52)	3.97)
Members' Self-Blame / felt sympathy	1.47(0.23 - 9.55)	1.46(0.20 - 10.55)
Support given	0.03***(0.01 - 0.13)	0.02***(0.00 - 0.11)
Reaction to Respondent from others		
No Discrimination (Ref)		
Community/Employer / Colleagues Discrimination	5.95**(1.31 - 27.13)	4.31*(0.79 - 23.36)
Reaction from Others to Spouse		
Not applicable/do not know/not known to others (Ref)		
Discrimination	0.22(0.02 - 2.09)	0.22(0.02 - 2.70)
No-discrimination / Support	0.62(0.21 - 1.85)	0.89(0.27 - 2.98)
Reaction from Others to Children		
Not Applicable/Do not Know/Not known to others (Ref)		
Discrimination	3.50(0.59 - 20.79)	5.86*(0.83 - 41.39)
No-Discrimination / support given	1.10(0.41 - 2.93)	1.17(0.40 - 3.41)

Reason for Non-Disclosure		
Either stigma or Discrimination (Ref)		
Both Stigma/Rejection and Discrimination	2.16(0.73 - 6.39)	2.39(0.71 - 8.06)
Precaution Taken for Family - Spouse / Partner		
No (Ref)		
Yes	2.83(0.52 - 15.43)	3.73(0.48 - 29.13)
Precautionary steps taken for Spouse/Partner		
Abstain from Sex (Ref)		
Safe Sex	0.63(0.16 - 2.44)	0.56(0.13 - 2.50)
Precaution for Children		
No/not yet decided (Ref)		
Yes	0.54(0.14 - 2.04)	0.46(0.11 - 1.87)
Precautionary steps taken for Children		
Decided not to have a child (Ref)		

ARV Drugs	1.43(0.46 - 4.41)		1.40(0.43 - 4.57)
Coping/Support from			
Others (Ref)			
Govt		0.81(0.32 - 2.06)	1.64(0.36 - 7.52)
Support Received from Others			
Nil/NA/Others (Ref)			
Nature of support for patient care		1.18(0.62 - 2.24)	3.11*(0.97 - 9.97)
Other types of support		1.31(0.37 - 4.68)	1.10(0.18 - 6.59)
Household management by family			
Reduced Food Consumption / Cheaper Food/Help from Others (Ref)			
Nothing/not living with family		0.69(0.33 - 1.45)	0.79(0.24 - 2.57)
Management of household finances by family			
Additional Income / Loan/Begging (Ref)			
Asset Sale / Mortgage / Used Savings		1.30(0.62 - 2.72)	1.86(0.55 - 6.26)

Extended family support / Support from others		1.62(0.78 - 3.36)		2.00(0.64 - 6.23)
Self-Care Management				
Asset Sale / Mortgage / Used Savings (Ref)				
Took Loan / Job and help from others			1.19(0.60 - 2.36)	1.32(0.44 - 4.00)
Others			1.01(0.48 - 2.09)	1.66(0.47 - 5.90)
Care received from				
Spouse/partner (Ref)				
Family			0.31***(0.14 - 0.69)	0.48(0.15 - 1.52)
Others/No one			0.78(0.38 - 1.59)	1.09(0.27 - 4.44)
Loss of income during Sickness				
Partial/no (Ref)				
All Wages			1.18(0.63 - 2.21)	1.29(0.52 - 3.22)
Constant	7.93*(0.97 - 64.49)	1.82(0.63 - 5.28)	2.27**(1.16 - 4.43)	1.64(0.07 - 40.22)
Observations	209	209	209	209
Pseudo R-squared	0.361	0.0153	0.0425	0.390

Note: *** p<0.01, ** p<0.05, * p<0.1, OR-Odds ratio

Source: Author's Primary Data, 2013

The analysis found significant positive association of 5.95 times only for reaction to respondent from others (community or employer or colleagues' discrimination) among personal experience related variables with reference to no discrimination. Whereas for same factor association was not significant, when all variables were factored in. Likewise, impact or consequences related variables has shown significant association (OR: 0.31) for care given by the family members with reference to spouse or partner, and no significant association when all variables were considered.

Further, it was found that for self - reaction after detection, blaming others or concern for others or no reaction at all had odds of 0.23 among personal experience related variables and 0.27 odds for all variables combined with reference to personal or private variable. Similar negative association was found for reaction to respondent from family in the form of support for both selected variables of personal experience related variables at odds 0.03 and all variables combined at odds 0.02 with reference to deprivation or abuse.

6.3 Discussion

The analysis of responses have been segregated separately into Detection (variables including reason for detection, place of detection, self-reaction after detection and counselling received), Reaction / discrimination (including issue of disclosure, reaction to respondent from family and others, reaction from others to spouse and children, reason/s for non-disclosure and family acceptance) along with Precautions (taken to protect from infection with regard to spouse / partner and children), and Coping mechanism (based on support from different sources, how family managed including finances, how managed self, care received, and loss of income).

Among HIV positive respondents (N=209), it has been observed that nearly three-fourths {72.7% (152)} had undertaken voluntary testing. And majority of them {57.9% (121)} had availed the services of a government setup. In case of own reaction after knowing their HIV status, they felt shocked, ashamed, disappointed and embarrassed {55.0% (115)} and additionally {21.5% (45)}, felt harming self like committing suicide or felt depressed, repented own past and feared death. Further, in spite of very elaborate infrastructure and SOPs (Standard Operating Procedures), both

pre-and-post testing counselling was received only by 40.2% (84) and no counselling was received at all by around one third {36.4% (76)} of respondents.

Almost two thirds {67.9% (142)} had disclosed their HIV status only to family members, which included spouse/partner only. Whereas, the support they got from them was to extent of 32.1% (67), did not experience discrimination {81.8% (171)}, spouse also received support {43.5% (91)}, for children it was still better with 50.2% (105) getting support or facing no discrimination. In case of non-disclosure, it was fear of stigma or discrimination {80.9% (169)}. For 38.3% (80) of respondents there was family acceptance. Majority of them that is56.0% (117) had taken precaution to protect spouse or partner including safe sex {46.4% (97)} and abstinence of sex {9.6% (20)}. In case of precaution towards children, 39.2% (82) decided not to have a child and 29.7% (62) provided ARV drugs.

To a great extent {87.6% (183)} dependency was upon government to cope the situation, of this 32.1% (67) of support was towards patient care. The family had to resort to reduced food consumption/cheaper food/help from others in case of {23.9% (50)} of respondents, whereas three fourths {76.1% (159)} did nothing or were not living with family. They managed the household finances through different means, Family support/Support from others {40.2% (84)}, Asset sale/mortgage/used savings {36.4% (76)}, and Additional income/loan/begging {23.4% (49)}. Likewise, for own finances, it was primarily through Asset sale/mortgage/used savings {38.8% (81)} or taking loan/taking up job and help from others {34.4% (72)}. They depended for Care mainly on Spouse/partner {30.6% (64)} or other family members {28.2% (59). One thirds of respondents {31.6% (66)} had suffered total loss of income during sickness.

The regression analysis found significant major positive association for reaction to respondent from others (community or employer or colleagues' discrimination) and among personal experience related variables with reference to no discrimination and among impact or consequences related variables for care given by the family members with reference to spouse or partner. Whereas, there was negative association for self - reaction after detection, blaming others or concern for others or no reaction at all among personal experience related variables and also among all variables combined with reference to personal or private variable. Similar negative association

was found for reaction to respondent from family in the form of support for both selected variables of personal experience related variables and all variables combined.

Chapter VII
Conclusion

HIV/AIDS, in spite of the preventive efforts made over decades, continues to be a major health issue even after nearly four decades of its discovery. As of now, almost every country has got this epidemic. Still the cure has eluded the mankind. The only way is to treat and prolong the life of those infected is to avoid it. Globally, people living with HIV/AIDS was nearly 38 million as of end of 2019 and 2.14 million in India at the end of 2017 are enough evidence of serious state of the epidemic.

The objectives of this cross-sectional study were to examine the level and trends in HIV in Karnataka, to investigate the socioeconomic factors that make an individual more vulnerable to HIV infection, to examine the level of awareness and health-seeking / sexual behaviour among HIV positive and HIV negative people, and finally to examine the detection, reaction and coping mechanism among HIV positive people. Furthermore, this study was aimed to answer what are the socioeconomic factors, namely, age, sex, religion, income, housing, marital status, migration that make an individual more vulnerable to HIV infection, whether lack of awareness, specific health seeking and sexual behaviors, lack of health facilities, specific environment of an individual adds to risk of attracting HIV infection, what reactions an infected individual face and how they cope in the context of health facilities that are available, their accessibility and their affordability, and finally what are the consequences, impact, response by the families of HIV/AIDS persons including costs and their sustainability.

The study included both the primary and the secondary data collections. The primary data was collected through structured questionnaire administered to 209 positive and 200 negative persons across NACO approved care and testing centres. The secondary data was obtained from the National Family Health Survey (NFHS) 4 report of 2015-16.

The chapter three dealt with the NFHS 4, as secondary data for this study, level of awareness, correct knowledge and accepting attitude among men (15-54) and women (15-49) were analysed. Among women, main findings are that in spite of very high

level of awareness of HIV/AIDS, correct knowledge and accepting attitudes were very low across all characteristics. Only 28% had undergone HIV testing. The regression analysis also has confirmed very significant odds ratio for correct knowledge about HIV/AIDS, marital status (married persons), HIV testing done and more than 5 injections taken.

Among men also in spite of very high level of awareness of HIV/AIDS, correct knowledge and accepting attitudes were very low across all characteristics, except accepting attitudes among widow/divorced/separated (43.6%). Only 8.8% had undergone HIV testing. The regression analysis also has confirmed very significant odds ratio for correct knowledge HIV testing done and taking 5 to 10 injections.

The chapter four underscored the socio-economic-demographic factors which have revealed that the females were in majority among negative respondents with 55.1% compared to men. This indicated men were more vulnerable for HIV status. This is contrary to general perception and other studies indicating females as more vulnerable. In case of age, the age group of 35 to 50 years was more vulnerable for positive status compared to younger age group or older ones. Widows / Widowers formed very dominant category, thereby demonstrating that the married people were less vulnerable to HIV infection. This is further strengthened by the fact Living alone was a dominant factor among positives, so also, 'Not living with Family'.

As far as religious background is concerned, Hindus and Christians had more positives than Negatives unlike among Muslims. In case of Inability to read and write proves to be increasing factor for infection. More positives were employed during previous one year confirming their need to earn for living. Whereas, in the Monthly household Income of the lowest strata of up to Rs. 5,000 they constituted two thirds, in contrast only one third in the highest strata of Rs.10,000 and above. This is further amplified by the fact that Self-taking the decision regarding Expenditure was dominant factor. Positives were marginalized in terms of economic prosperity, with their component being in minority for both in case of owning property and Vehicle. However, there was almost no/little difference in ownership of mobile or telephone and Television. The family history of Positives demonstrated very close proximity to having at least one HIV member and HIV related deaths in the family. These findings

are further confirmed with significant association through logistic regression analysis in case of age group of 25 to 50 years, marital status of widow or widower, household income of Rs. 5000 and above, expenditure decision by spouse, no HIV positive person or HIV related death in family. However, there was no distinguishable difference in this study between positives and negatives to substantiate migration as a factor.

The chapter five covered awareness, health seeking behaviour and sexual behaviour among both HIV positive and HIV negative persons. In all cases, positive persons had better awareness of incurable diseases, HIV as incurable disease and modes of HIV transmission. This highlights the fact that it is necessary that who are negatives should have better awareness for avoiding getting infected in future and also to educate others. In case of HIV/AIDS, often we notice misconceptions. Here also, positive persons had better knowledge on all such misconceptions. More than two thirds of overall respondents and nearly two thirds of positives were not aware of government policies related to HIV/ AIDS. Even among positive persons more than two thirds did not receive HIV related education from government agencies. So, this suggests more concerted efforts from government agencies are required to reach out to HIV positive population.

In addition, to draw inferences based on 'overall' samples may be misleading. Instead, there is need for HIV status wise studies. Among respondents, 92.9% (380) had always sought medical help, but only 14.7% (60) went to hospital for taking professional treatment. The accessibility to health facility, as an indicator only one fourth of over all respondents could access a HIV testing centre within a distance of 2 kms. And less than one tenth of HIV positive persons could get a treatment centre (ART centre) in the range of less than 5 kms. This was the ground reality in spite of Bangalore in spite being the state capital. However, HIV testing was available free of cost for nearly two thirds of respondents. Sexual behaviour indicators among HIV positive persons have confirmed the association between risky sexual behaviour and HIV infection namely, around nine out of ten had pre-marital sex, extra-marital sex, sex with commercial worker, sex with other than spouse and taking drinks before sex. In terms of marginalization / vulnerability, all persons in the study subjected to sexual abuse were positive persons. Among those who received blood transfusion, positive

persons were more than eight out of ten. The regression analysis for HIV outcome has also found significant association with awareness, health seeking behaviour, availability and accessibility to health facility, sexual behavioural related factors.

The chapter six examined a study among HIV positive persons only. The study tried to find out how people living with HIV/AIDS (PLWHA) and their families face the challenge in terms of availability, accessibility, and affordability; and how they are actually managing the situation were covered in research questions 3 and 4. They are how they dealt with reactions, coping in the context of health facilities' availability, accessibility and affordability; consequences, impact, response by the families.

Among HIV positive respondents, nearly three-fourths had undertaken voluntary HIV testing with majority of them availing the services of a government setup. In case of own reaction after knowing their HIV status, majority felt shocked / ashamed / disappointed / embarrassed, and additionally two out of ten felt harming own self like committing suicide or felt depressed, repented own past and feared death. Further, in spite of very elaborate infrastructure and sops (standard operating procedures), both pre-and-post test counselling was received only by four out of ten no counselling was received at all by around one third among them.

Almost two thirds had disclosed their HIV status only to family members, which included spouse/partner only. Whereas, the support they got from them was only to extent of one third. Though, they did not experience much of discrimination for self, spouse and children, for more than three fourths stigma and discrimination were the reason for non-disclosure or limited disclosure. Family acceptance was only little more than one third.

Majority of respondents had taken steps to protect spouse or partner and more than two thirds precaution towards children. With regard to coping mechanism by HIV positive persons in this study, dependency to a great extent (87.6%) was upon government facilities/services. As regard to family response, they had to resort to reduced food consumption/cheaper food/help from others in case of (23.9%) of respondents, whereas three fourths (73.7%) did nothing, in other words accepted helplessness. Managed the household finances through different means, including

family support/support from others (40.2%), asset sale/mortgage/used savings (36.4%), and additional income/loan/begging (23.4%). Likewise, for own finances, it was primarily through asset sale / mortgage / used savings (38.8%) or taking loan/taking up job and help from others (34.4%). Spouse or partner (30.6%) or other family members (28.2%) were primary care givers. One thirds of respondents (31.6%) had suffered total loss of income during sickness. From regression analysis for discrimination outcome, factors 'self - reaction after detection' and 'reaction to respondent from family' are found to be very significant.

Moreover, an important finding is that there is distinct difference between positive and negative persons on identical characteristics. This suggests for more such HIV status-based studies, which are not common in our country.

Additionally, analysis of NFH surveys and more particularly the data for Karnataka, also supports the view that there is need for collecting data along with status especially for HIV/AIDS. It would be more useful to plan appropriate strategy for epidemic prevention, possibly focussed at state level.

To be precise, marital status, family history (HIV person & death in family), awareness, health seeking behaviour, sexual behaviour, health facilities (testing facility and free testing) and environment (commercial sex and blood transfusion) are influencing factors. For HIV positive people, discrimination and family support are very predominantly experienced.

The strength is analysis is based on both primary and secondary data. But limitation is that primary data is slightly old now. Nonetheless, it is expected that the pattern of various variables has not changed much. Limitations of the study could have been available sample size and non-responsiveness from the respondents. However, due to co-operation of HIV positive persons non-responsiveness was almost nil even in terms of individual questions.

Likewise, regarding policy changes, it may be suggested that it is necessary to have easy access to data collected during the NFHS on HIV/AIDS instead of getting after approval from depositary namely www.DHSprogram.com. It is also necessary to

conduct HIV status-based studies. At least in NFH Surveys such data should be collected for better understanding and plan betterment of positive persons. There are still issues concerning PLWHA that need to be addressed like insisting parents to physically attest in schools/colleges for availing government benefit to their children. It is submitted that there is need for (a) HIV status-based studies – noticeable difference between two groups especially awareness and attitudes; and (b) behavioural change instead of focus only on awareness. The option of adoption by positive persons after due considerations should be allowed, instead of total ban.

REFERENCES

Azadeh, (2017), https://thepoint.gm/africa/gambia/article/women-hiv-and-aids-as-this-epidemic-unfortunately-remains-an-epidemic-of-women

Amuyunzu-Nyamongo Mary, et al, (1999), Barriers to behaviour change as a response to STD including HIV/AIDS: The East African experience in *The African AIDS Epidemic,* Ed. John C. Caldwell, Canberra, The Australian National University.

Anarfi John K and Antwi Phyllis, (1995), Street youth in Accra city: sexual networking in a high-risk environment and its implications for the spread of HIV/AIDS, in *Health Transition Review*, Supplement to Volume 5.

Anarfi John, (1999), Initiating behavioural change among street-involved youth: findings from a youth clinic in Accra in *The African AIDS Epidemic*, Ed. John C. Caldwell, Canberra, The Australian National University.

Andeokun Lawrence A, et al, (1995), Social context of HIV infection in Uganda in *Health Transition Review*, Supplement to Volume 5.

Archavinitkul Kritaya and Guest Philip, (1994), Migration and the commercial sex sector in Thailand in *Health Transition Review*, Supplement to Volume 4.

Arvind Pandey, et al, (2017), *Indian J Med Res* 146, pp 83-96 DOI: 10.4103/ijmr.IJMR_1658_16

Ayiga Natal, et al, (1999), Deaths, HIV testing and sexual behaviour change and its determinants in Northern Uganda in *The African AIDS Epidemic,* Ed. John C. Caldwell, Canberra, The Australian National University.

Banandur et al. (2011), BMC Public Health, 11(Suppl 6):S13 http://www.biomedcentral.com/1471-2458/11/S6/S1

Barnett Tony and Whiteside Alan, (2000), Guidelines for studies of the Social and Economic impact HIV/AIDS, Geneva, UNAIDS.

Boroffice O B, (1995), Women's attitude men's sexual behaviour in *Health Transition Review,* Supplement to Volume 5

Bose Asish, (1996), Demographic transition and demographic imbalance in India in *Health Transition Review,* Supplement to Volume 6.

Caldwell John C, (1997), The impact of the African AIDS epidemic, in *Health Transition Review,* Supplement 2 to Volume 7.

Caldwell John C, (1999), Reasons for limited sexual behavioural change in the sub-Saharan African AIDS epidemic, and possible future intervention strategies in *The African AIDS Epidemic,* Ed. John C. Caldwell, Canberra, The Australian National University.

Caldwell Johan C, (2000), Rethinking the African AIDS epidemic, in *Towards the containment of the AIDS epidemic: social and behavioural research,* Ed. John C. Caldwell, Canberra, The Australian National University.

CDC, (1981), *MMWR,* Vol. 30, No. 21; June, 1981 (KFF) the Cases That Shaped and Define Medical Ethics. New York, NY: McGraw-Hill. p. 330

Centre for Enquiry into Health and Allied Themes, (2000), Ethical Guidelines For Social Science Research in Health, CEHAT, Mumbai / Thane accessed through http://www.cehat.org/

Cleland John and Way Peter, (1994), Social and demographic dimensions of AIDS: an introduction, in *Health Transition Review,* Supplement to Volume 4.

Cruess et al., (2002), Published Online:1 Oct 2002 https://doi.org/10.1176/appi.ajp.159.10.1752

Carol Bellamy, (2002), The State of the World's Children 2002: Leadership, New York, United Nations Children's Fund (UNICEF)

Dowsett W. Gary, (1999), Understanding cultures of sexuality: lessons learned from HIV/AIDS education and behaviour change among gay men in Australia, *in The African AIDS Epidemic,* Ed. John C. Caldwell, Canberra, The Australian National University.

Fontanet Arnaud and Piot Peter, (1994), State of our knowledge the epidimeology of HIV/AIDS, in *Health Transition Review,* Supplement to Volume 4.

Foster Geoff, et. al, (1997), Factors leading to the establishment of child-headed households: the case of Zimbabwe, in *Health Transition Review*, Supplement 2 to Volume 7.

Guerriero, et al, (2002), Masculinity and vulnerability to HIV among heterosexual men in São Paulo, Brazil, Rev Saude Publica, 2002 Aug;36(4 Suppl):50-60.

Pal P et al, (2008), A study of awareness about HIV/AIDS among senior secondary …, www.ijcm.org.in/article.asp?issn=0970-0218;year=…,

Marli Teresinha Cassamassimo Duarte, Cristina Maria Garcia de Lima Parada, and Lenice do Rosário de Souza, (2014), Rev. Latino-Am. Enfermagem 2014 Jan.-Feb.;22(1):68-75 DOI: 10.1590/0104-1169.2837.2377 www.eerp.usp.br/rlae

Martin Brockerhoff and Ann E. Biddlecom (1999), The International Migration Review, Vol. 33, No. 4 (Winter, 1999), pp. 833-856, Sage Publications, https://doi.org/10.2307/2547354, https://www.jstor.org/stable/2547354

National AIDS Control Organization & ICMR, National Institute of Medical Statistics (2020), India HIV Estimates 2019: Report. NACO, Ministry of Health and Family Welfare, Government of India, New Delhi

http://naco.gov.in/

http://rchiips.org/nfhs accessed on 25.11.2020

http://www.biomedcentral.com/1471-2458/11/S6/S13

https://ksaps.karnataka.gov.in/english accessed on 19.10.2020

https://main.mohfw.gov.in/

https://www.avert.org/global-hiv-and-aids-statistics

https://www.unaids.org/en accessed on 6.11.2020

https://www.who.int/health-topics/hiv-aids/

https://www.who.int/whr/1995/en/

Indian Council of Medical Research (ICMR), (2000), Ethical Guidelines for Biomedical Research on Human Subjects, ICMR, New Delhi

International Labour Organisation, (2003), Socio-economic impact of HIV / AIDS on people living with HIV/AIDS and their families, International Labour Organisation, New Delhi,

Kalunde Wendy Kabwe, (1997), HIV/AIDS and sexual behaviour among youth in Zambia, *Health Transition Review,* Supplement 3 to Volume 7.

Kofi Awusabo-Asare, (1995), Living with AIDS: perceptions, attitudes, and post-diagnosis behavior of HIV/AIDS patients in Ghana, in *Health Transition Review,* Supplement to Volume 5.

Leserman et al., (2000), published online: 1 Aug 2000 https://doi.org/10.1176/appi.ajp.157.8.1221

Malungo R. S. Jacob, (2000), Health seeking behaviour among STD patients and institutional responses to HIV/AIDS care in Zambia, *Towards the containment of the AIDS epidemic: social and behavioural research,* Ed. John C. Caldwell, Canberra, The Australian National University.

Mark Hereward, et al, (2002), Limiting the future impact of HIV/AIDS on children in Yunnan (China) in *AIDS, Public Policy and Child well-being,* Ed. Cornia Giovanni Andrea, Geneva, UNICEF.

National AIDS Control Organization and ICMR-National Institute of Medical Statistics (2020), India HIV Estimates 2019: Report. New Delhi: NACO, Ministry of Health and Family Welfare, Government of India.

Nalugoda Fred, et al, (1997), HIV infection in rural households, Rakai district, Uganda, in *Health Transition Review,* Supplement 2 to Volume 7.

National AIDS Control Organisation, (2001), Combating HIV/AIDS in India 2000-

2001, New Delhi, National AIDS Control Organisation (NACO), Ministry of Health & Family Welfare, Government of India.

National AIDS Control Organisation, (2002), HIV/AIDS in India – Fact sheet on baseline behavioural surveillance survey India, New Delhi, National AIDS Control Organisation (NACO), Ministry of Health & Family Welfare, Government of India.

National AIDS Control Organisation, (2002), National AIDS prevention and control policy, New Delhi, National AIDS Control Organisation (NACO), Ministry of Health & Family Welfare, Government of India.

National AIDS Control Organisation, (2017), Paving way National Strategic Plan for HIV/AIDS and STI 2017 – 2024, *New* Delhi, Ministry of Health & Family Welfare, Government of India.

Nnko Soori and Pool Robert, (1997), Sexual discourse in the context of AIDS: dominant themes on adolescent sexuality among primary school pupils in Magu district, Tanzania, *Health Transition Review*, Supplement 3 to Volume 7.

Oppong Christine, (1995), A high price to pay: for education, subsistence or a place in the job market, *Health Transition Review,* Supplement to Volume 5.

Owuamanam Donatus O, (1995), Sexual networking among youth in south western Nigeria, *Health Transition Review*, Supplement to Volume 5.

Panda S, et al, (2000), Transmission of HIV from injecting drug users to their wives in India, *International Journal of STD and AIDS.*

Park K, Ed., (1995), *Park's Textbook of Preventative and Social Medicine,* Jabalpur, Banarsidas Bhanot.

Pence GE (2008). Preventing the Global Spread of AIDS. *Medical Ethics Accounts of* the Cases That Shaped and Define Medical Ethics. New York, NY: McGraw-Hill. p. 330

Podhisita Chai, et al, (1994), Socio-cultural context of commercial sex workers in Thailand: an analysis of their family, employer, and client relations, *Health Transition Review*, Supplement to Volume 4.

Prasada Rao J.V.R, (2020), Celebrating small victories My Journey through two decades of AIDS response, Chennai, Notion Press

Robert H Remien and Judith G Rabkin, (2001), West J Med. 2001 Nov; 175(5): 332–335, doi: 10.1136/ewjm.175.5.332Serwadda David, (2003), Beyond Abstinence, *The Washington Post*, Washington.

Seal, et al (2003), HIV and STD Risk Behavior Among 18- to 25-Year-Old Men Released from U.S. Prisons: Provider Perspectives, AIDS and Behavior, volume 7, pages131–141

Sohail Agha Mwaba Chulu Nchima PSI Research Division Working Paper No. 38 2001, PSI 1120 19th Street, NW, Suite 600 Washington, D.C. 20036 U.S.A.

Srinivas V et al. (2019), International Journal of Community Medicine and Public Health, 2019 Feb;6(2):668-674 http://www.ijcmph.com

Stata Corporation, (2019), STATA Manual, StataCorp., Stata: Release 16. Statistical Software. College Station, TX: StataCorp LLC

The World Bank, (2001), HIV/AIDS in South Asia: A Human and Development Challenge – An update, New Delhi, The World Bank,

The World Bank, (2001), The World Bank Report - India HIV/AIDS update 2001, Washington DC, The World Bank.

UNAIDS and WHO, (2002), AIDS epidemic update – Dec. 2002, Geneva, UNAIDS and WHO.

UNAIDS, (1996), Children and AIDS in Thailand: one country's response, Geneva, UNAIDS.

UNAIDS, (1999), A review of household and community responses to the HIV/AIDS epidemic in the rural areas of sub-Saharan Africa, Geneva, UNAIDS.

UNAIDS, (1999), Sex and youth: contextual factors affecting risk for HIV/AIDS – A comparative analysis of multi-site studies in developing countries, Geneva,

UNAIDS.

UNAIDS, (1999), Sexual behavioural change for HIV: Where have theories taken us? Geneva, UNAIDS.

UNAIDS, (2000), Voluntary Counselling and Testing, Geneva, UNAIDS.

UNAIDS, (2001), India HIV and AIDS-related discrimination, stigmatisation and denial, Geneva, UNAIDS.

UNAIDS, (2002), Co-ordinated response to HIV/AIDS in India 2001-2002, UNAIDS, New Delhi.

UNAIDS (2020), Global HIV & AIDS statistics - 2020 fact sheet, accessed through https://www.unaids.org/en/resources/fact-sheet

UNDP, (2003), Regional Human Development Report on HIV/AIDS and Development in South Asia 2003, New Delhi, United Nations Development Programme.

UNDP, (2006), Socio-Economic IMPACT of HIV and AIDS in KARNATAKA, India, 2006, New Delhi, UNDP

Urassa Mark, et al, (1997), Orphanhood, Child fostering and the AIDS epidemic in rural Tanzania, *Health Transition Review*, Supplement 2 to Volume 7.

Varga A. Christine, (1999), South African young people's sexual dynamics: implications for behavioural responses to HIV/AIDS, *The African AIDS Epidemic*, Ed. John C. Caldwell, Canberra, The Australian National University.

Wolffers, et al (2002), Sexual Behaviour and Vulnerability of Migrant Workers for HIV Infection, Culture, Health & Sexuality, Vol. 4, No. 4 (Oct. - Dec., 2002), pp. 459-473, Taylor & Francis, Ltd., https://www.jstor.org/stable/4005257

World Health Organisation, (1995), The world health report 1995 - bridging the gaps, Geneva, World Health Organisation

World Health Organisation, (2011), Standards and Operational Guidance for Ethics Review of Health-Related Research with Human Participant, Geneva, World Health Organisationm

List of Tables

Outcome People

Table 6.4: Regression Results of Discrimination from Family (Family Acceptance yes=0, no=1) with Personal experience, Coping Mechanism and Impact / Consequences characteristics among the HIV Positive Outcome People

List of Figures

Appendix

Research Instruments

(i) Introduction Letter

1st Sept. 2012

Dear participant,

The questionnaire enclosed is part of the study for proposed Ph. D. thesis on "SOCIO-ECONOMIC FACTORS INFLUENCING HIV/AIDS IN BANGALORE" by the undersigned of the Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, New Delhi – 110 067. The supervisor is Prof. P. M. Kulkarni.

The aim of this study is to address the following questions:

1. What are the risk factors that actively contribute to spread of HIV/AIDS on one hand and on other hand what are the factors that may help prevention of infection?
2. How people living with HIV/AIDS and their families face the challenge in terms of availability, accessibility, and affordability; and how they are actually managing the situation?

Your participation in this study will be most valuable. If you agree to participate, I would like you to know that you have certain rights. Firstly, your participation in the study is voluntary. You are free to refuse any question/s, and also at liberty to withdraw from the study at any time even after giving your consent. You also have right to seek clarification and information about any aspect of the research topic.

Also, I request you to indicate your willingness to interview your family members. If so, who all may be contacted and where? The details may be given at the end of this consent form.

I assure you that all responses will be treated as confidential, and kept in safe custody. It will be used only as study material for the project. No identifying information like your name, etc. will appear in any part of the report of this study. The

consent form giving identifying details will be detached and kept separately with the University in safe custody.

Address for Communication:

C. Nagendra
Flat 201, RV 25, Narayana Krupa, 11th Cross, 4th Main, Malleshwaram, Bengaluru–560 003.
Mobile: 779 555 3455 E-mail: iyer.nagendra@gmail.com

In case you have grievance or apprehend the breach of confidentiality, you may directly contact:

The Chairperson
The Centre for the Study of Regional Development,
School of Social Sciences,
Jawaharlal Nehru University,
New Delhi – 110 067

It may take about 30 minutes to answer the questionnaire. The risk involved for you would be the disclosure of status and confidently. But this is adequately addressed to as explained above.

It may be noted that no compensation is proposed to you for the participation either in cash or in kind.

I would appreciate if you give your name (optional) and sign (or affix a thumb impression), which will indicate that you have read (or it has been read to you in your language / mother tongue), that you have understood the contents and that you are willing to participate in this study.

In anticipation of your kind co-operation, I sincerely thank you for your valuable time, efforts and useful information you would be providing.

With kind regards,
(C. Nagendra)

(ii) **Consent Letter (Participant)**

Participant No. ……..

Consent Form

Dear Mr. Nagendra,

The contents of your introduction letter dated 1st Sept. 2012 with regard to the study for proposed Ph. D. thesis on "SOCIO-ECONOMIC FACTORS INFLUENCING HIV/AIDS IN BANGALORE" under the Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, New Delhi – 110 067 have been read and understood / read and made to understand by the reader.

The rights of the participant have been understood / explained. Now after having understood the rights, knowing there is no compensation and your assurance about maintaining the confidentiality I voluntarily agree to respond to the enclosed questionnaire. I do not permit you to interview my family members / I permit you to interview following members of my family:

Names Relationship Where they can be contacted / interviewed.

1.

2.

3.

4.

5.

(Signature of the respondent / thumb impression*)

(Signature of the reader)

(Name of the respondent) (Name of the reader)

Witness:

1.

2.

Place:

Date:

(* If the respondent cannot sign, the interviewer should certify that the matter has been clearly explained to the respondent and the respondent has given his/her consent)

(iii) Personal Information

SOCIO-ECONOMIC FACTORS INFLUENCING HIV/AIDS IN BANGALORE" – Questionnaire for Ph. D. work by C. Nagendra, CSRD, SSS, JNU, New Delhi.

Personal information

1	**Name:**	
2	**Participant No.:**	
3	**ICTC no. :**	
4	**Date of interview :**	
5	**Interviewer ID :**	
6	**Contact address, telephone, e-mail:**	

(iv) Register

"SOCIO-ECONOMIC FACTORS INFLUENCING HIV/AIDS IN BANGALORE" – Questionnaire for Ph. D. work by C. Nagendra, CSRD, SSS, JNU, New Delhi.

Register Details

Institution / Organisation Name:

Sl. No.	**Date of interview**	**Participant No**	**Name:**	**Contact address, telephone, e-mail, etc.**

(v) Questionnaire

"SOCIO-ECONOMIC FACTORS INFLUENCING HIV/AIDS IN BANGALORE" – Questionnaire for Ph. D. work by C. Nagendra, CSRD, SSS, JNU, New Delhi

Respondent No.

……..……..

(for individual – Positive persons)

(If any question is not relevant or not applicable, please write 'NA'.)

1.0	**SOCIAL FACTORS**	
1.1	Sex:	Male / third gender
1.2	Age / date of birth	……years; …..(day)…..(month), ……(yr)
1.3	Current Marital status	Currently married / married but gauna not performed / separated / deserted / divorced / widowed / never married
1.4	Your religion	Hindu / Muslim / Christian / Buddhist or Neo-Buddhist / Sikh / Jain / Jewish / Parsi / no religion / others (please specify)
1.5	Level of Education:	No formal school / last class attended…..
1.6	Can you read and write	Yes / No
1.7	Family type	Living alone / with spouse / children / parents / extended family
1.8	No. of persons in household	
1.9	Are you living in this city since birth?	Yes / No
1.10	If no, since when you are living in this city	
1.11	Before moved in, where did you live	(place)

<table>
<tr><td></td><td></td><td>(dist.)
(state)</td></tr>
<tr><td>1.12</td><td>What are the reasons for coming to present place</td><td>In search of job / job transfer / business / marriage / moved after birth / moved with household/ others (please specify)</td></tr>
<tr><td>2.0</td><td colspan="2">ECONOMIC FACTORS</td></tr>
<tr><td>2.1</td><td>Whether employed during last 12 months</td><td>Yes / no</td></tr>
<tr><td>2.2</td><td>If employed, what was/is the nature of employment</td><td>non- agricultural / casual labour / domestic servant / agriculture labour / industry / cottage industry / self employed / professional / got or pvt. Service / others (Please specify)</td></tr>
<tr><td>2.3</td><td>What is nature of employment of your spouse</td><td>maid servant / house wife / in office / petty business / factory worker / others (pl. specify)</td></tr>
<tr><td>2.4</td><td>What is the occupation of other family members living with you</td><td>
<table>
<tr><th>Name</th><th>Age</th><th>Sex</th><th>Relationship</th><th>Occupation</th><th>Monthly income</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>2.5</td><td>Your approximate monthly income</td><td>Rs.</td></tr>
<tr><td>2.6</td><td>Who decides home expenditure</td><td>Spouse / parents / siblings</td></tr>
<tr><td>2.7</td><td>Do you own landed property?</td><td>Yes / no</td></tr>
<tr><td>2.8</td><td>Do you own vehicle?</td><td>Yes / no</td></tr>
<tr><td>2.9</td><td>Do you own telephone?</td><td>Yes / no</td></tr>
<tr><td>2.10</td><td>Do you own television?</td><td>Yes / no</td></tr>
<tr><td>3.0</td><td colspan="2">HOUSING</td></tr>
<tr><td>3.1</td><td>Are you living with family?</td><td>Yes / no</td></tr>
<tr><td>3.2</td><td>If not, where do you stay</td><td>Alone / with employer / with relatives / co-worker / hostel or mess / labour camp / night</td></tr>
</table>

<table>
<tr><td></td><td></td><td>shelter / others (please specify)</td></tr>
<tr><td>3.3</td><td>Locality of your house</td><td>street living / Slum / resettlement / tent</td></tr>
<tr><td>3.4</td><td>Type of house</td><td>Pucca / semi-pucca / kachha</td></tr>
<tr><td>3.5</td><td>Facilities in house
(a) toilet -
(b) no. of rooms -
(c) electricity available -</td><td>
no facility / open / pit / flush
……..
Yes / no</td></tr>
<tr><td>3.6</td><td>Is there separate place for kitchen</td><td>Yes / no</td></tr>
<tr><td>3.7</td><td>Type of fuel used for cooking in household</td><td>Wood / coal / coke / kerosene / electricity / LPG / others (please specify)</td></tr>
<tr><td>3.8</td><td>Source of water</td><td>Piped water / ground water / well water (in house / public) / surface water / rain water / tanker truck</td></tr>
<tr><td>4.0</td><td colspan="2">FAMILY INFORMATION</td></tr>
<tr><td>4.1</td><td>Is any one in your family HIV positive</td><td>Yes / No</td></tr>
<tr><td>4.2</td><td>If yes, their details</td><td><table><tr><td>Name</td><td>Age</td><td>Relationship</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td>4.3</td><td>Has any death occurred in the family due to HIV/AIDS</td><td>Yes / No</td></tr>
<tr><td>4.4</td><td>If yes, their details</td><td><table><tr><td>Name</td><td>Age</td><td>Relationship</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td>4.5</td><td>Are there any orphans in your family</td><td>Yes / No</td></tr>
<tr><td>4.6</td><td>If yes, their details</td><td><table><tr><td>Name</td><td>Age</td><td>Relationship</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td>4.7</td><td>Are there elders in your family</td><td>Yes / No</td></tr>
</table>

4.8	If yes, their details	Name	Age	Relationship
	Now I wish to ask a few questions to know how much you are aware of how HIV spreads?			
5.0	**AWARENESS ON HIV / AIDS**			
5.1	Are you aware of any incurable disease	Yes / No		
5.2	If yes, can you name a few?			
5.3	Have you ever heard of HIV/AIDS	Yes / No		
5.4	If you have heard of HIV/AIDS, where from you have heard?	Radio / TV / cinema / newspapers / posters / exhibitions / health worker / adult education / religious leaders / political leaders / schools / community meetings / friends / relatives / work place / others (please specify)		
5.5	Are you aware of modes of HIV transmission	Yes / No		
5.6	If yes, what are they ?			
5.7	What can a person do to avoid from infecting of HIV / AIDS			
5.8	Anything else can one do ?			
5.9	Can a person get HIV from mosquito bite	Yes / No		
5.10	Can people protect from HIV by having one uninfected faithful sex partner	Yes / No		
5.11	Can people protect themselves form HIV by abstaining from sexual intercourse	Yes / No		
5.12	Can a person get HIV by sharing meal with infected person	Yes / No		

5.13	Can a person get HIV by sharing a needle or using the needle already used by an infected person	Yes / No
5.14	Do you think a healthy-looking person could be an HIV positive?	Yes / No
5.15	Do you think a positive pregnant woman can transmit HIV to her new-born child?	Yes / No
5.16	Are you aware of any government's policies and programmes on HIV/AIDS?	Yes / No
5.17	Did anyone in the past 12 months approach you to educate you on HIV?	Yes / No
5.18	Can a person protect himself / herself against HIV by using condoms regularly and correctly	Yes / No
6.0	**GENERAL HEALTH SERVICES / HEALTH SEEKING BEHAVIOUR**	
6.1	How often you seek medical help whenever you are sick?	Never / some times / always
6.2	When members of your family get sick where do they generally go for treatment?	Government set up / private set up / charitable set up / unqualified medical people / chemist shop / no where
6.3	Are you aware of any disease / infection with sex organs?	Yes / no
6.4	What are they?	
6.5	What did you do last time when you had any problem with sex organ?	No treatment / took home based remedy / borrowed prescription from friend / took medicine I had at home / purchased medicine from chemist shop / went to a traditional healer / went to hospital
6.6	What are the nature and extent of the general health facilities in your	a. public b. private

	community?	c. NGO facilities : clinic / hospital / dispensaries / others
6.7	When you sought health care - a) did staff respond well? b) Did staff spend enough time with you? c) Who gave major care – doctors, nurses, staff? d) Did you get privacy? e) Was facility clean?	 a) Yes / No b) Yes / No c) doctors, nurses, staff d) Yes / No e) Yes / No
6.8	How far is the nearest place for HIV testing either from home or work place (distance)	…..kms.
6.9	How far is the nearest place for HIV care & treatment either from home or work place (distance)	…..kms.
6.10	What was the cost of HIV test?	Rs. / Free / not known
7.0	**SEXUAL BEHAVIOUR**	
7.1	At what age did you have first sexual intercourse	….years
7.2	Who was your first sexual partner	Female / commercial worker / male / hijra / commercial male worker
7.3	You had any pre-marital sex	Yes / no / not applicable
7.4	Do you have /had extra-martial sex	Yes / no / not applicable
7.5	Did you ever had sex with male partner / hijra	Yes / no / not applicable
7.6	Did you ever have sex with a commercial sex worker	Yes / No
7.7	If yes, what was your age when you went for first time?	
7.8	And, did you have sex with commercial sex worker in last one	Yes / No

	year?	
7.9	Do you have sex regularly other than your spouse / regular partner?	Yes / No
7.10	Do you believe commercial sex worker is uninfected	Yes / No / not sure
7.11	Do/Did you use condom, when you had sex with non-regular partner	Yes / No
7.12	If you do not / use irregularly a condom, is it because	Not available / too expensive / felt not necessary / believe partner is uninfected / believe partner is faithful / I am already infected so do not care / others (please specify)
7.13	If not living with spouse, for how long you are not living together	…..years / months
7.14	In your working environment which sex is predominant	Male / Female
7.15	Is there any commercial sex activity in the neighbourhood	Yes / No
7.16	Does your work involve out station travel	Yes / No
7.17	In last 12 months how often you have been away from home	Every week / fortnightly / monthly / once in a while
7.18	How long you normally stay when you are away from home?	…. Days/ …..weeks
7.19	Where do you stay when you travel outside?	With friend / hotel / hostel / guest house / relations / others
7.20	Were you anytime subjected to sexual abuse	Yes / No
7.21	If yes, when was it for the first time?	
7.22	If yes, is it	Regularly / occasionally
7.23	Have you ever sold intoxicating drugs	Yes / No

7.24	If yes, is it	Regularly / occasionally
7.25	Have you ever used intoxicating drugs?	Yes / No
7.26	If yes, when was it for the first time?	
7.27	If yes, is it	Regularly / occasionally
7.28	If yes, do you use syringe while taking drug	Yes / No
7.29	Have you ever donated blood?	Yes / No
7.30	If yes, was it	Voluntary / for money / both
7.31	Were you ever given blood transfusion?	Yes / No
7.32	Do you drink alcohol	Often / once in a while
7.33	If yes, when was it for the first time?	
7.34	Do you take drink before having sex	Regularly / often / rarely / never
	If you are HIV positive, then you may kindly answer following sections:	
8.0	**PERSONAL EXPERIENCE OF HIV POSITIVE PERSONS**	
8.1	How did you discover your HIV status	Voluntary testing / while donating blood / after prolonged illness / while seeking employment / while seeking employment for abroad / others (please specify)
8.2	Was it part of routine testing	Yes / No
8.3	Where was it detected	Private / govt. / NGO / hospital / clinic / laboratory
8.4	How did you react to the result?	Shocked / ashamed / no adverse reaction at all / disappointed / embarrassed / others (please specify)
8.5	Anything else?	
8.6	Did you have pre- and post-test counselling?	Yes / No
8.7	Have you disclosed your HIV status to others?	Yes / No
8.8	If yes, who are they?	Spouse / parents / siblings / close friends / co-workers / neighbours / others (please

		specify)
8.9	If not, why?	stigma & rejection / discrimination / others (please specify)
8.10	Did your family accept you?	Yes / No / some members only / all, but after some time
8.11	If yes, how long did they take to accept?	……years / …..months
8.12	What was the initial reaction of family members?	Neglected / isolated / avoided / verbal abuse / physical abuse / no basic amenities / took property / thrown out of home / no adverse reaction at all / shocked / denied / disappointed / empathised / embarrassed / unknown to family / never discriminated
8.13	Anything else?	
8.14	Did you take any precaution to protect your spouse / partner from getting infected?	Yes / No
8.15	If yes, what efforts did you take?	Abstain from sex / started using condom / stopped sharing needles / stopped donating blood / others (please specify)
8.16	Anything else?	
8.17	Did you take any precaution to protect your children from getting infected ?	Yes / No
8.18	If yes, what efforts did you take?	Decided not to have a child / provided ARV drugs / others (please specify)
8.19	Anything else?	
8.20	Whether care was/is decided by	Doctors / staff / hospital policy
8.21	How your children are treated at home ?	Withdrawn form school / had to take up job / denied basic amenities / others (please specify)
8.22	Anything else?	
8.23	What was/is the reaction of	Treatment denied /referred to other hospitals

	community towards you	/ social boycott
8.24	Anything else?	
8.25	What was/is the reaction of community to your spouse?	verbal abuse, teased, physical abuse, no adverse reaction at all
8.26	Anything else?	
8.27	What was/is the reaction of community to your children?	verbal abuse / teased / physical abuse / discrimination at school / like in games, sitting, etc. / thrown out of school / no adverse reaction at all
8.28	Anything else?	
8.29	Does / did your employer know your HIV positive status	Yes / No
8.30	If yes, what was the reaction of your employer towards you	Promotion denied / compulsory retirement / termination / no retirement benefit
8.31	Anything else?	
8.32	Did you change job in last six months?	Yes / No
8.33	If yes, what was the reason for change	Terminated / stigma / discrimination / others (please specify)
8.34	What was/is the reaction of your colleagues towards you	Neglected / isolated / avoided / verbal abuse / physical abuse / teased / no adverse reaction at all
8.35	Anything else?	
8.36	Who takes care of you when you are sick	Spouse /children / parents / siblings / others (please specify)
9.0	**COPING MECHANISM**	
9.1	Did you receive support from: a. Family b. Employer c. Community d. NGO e. Government f. Others	 a. Yes / No b. Yes / No c. Yes / No d. Yes / No e. Yes / No f. Yes / No

9.2	What type of support you received from others	a. Patient care b. Psychological and spiritual support, c. Child care d. others (please specify)
9.3	How your family has managed the household?	cheaper food or reduced food consumption / Sent children to live with relatives / Migrate to other place / Taking obligations from extended family, community / Doing nothing (verge of calamity)
9.4	How your family has managed the household finances?	Begging / Income diversification / Took loan / Sold assets / Used savings / Additional job / work extra hours / Family & marriage remittance / Borrowing at high interest
9.5	Anything else?	
9.6	What other avenues your family resorted for raising and supplementing family income	
9.7	Anything else?	
9.8	What type of support your employer has provided to you / your family	Medical service / financial support / medical insurance / special leave / paid leave / support to family / alternate job for family members / others (please specify)
9.9	Anything else?	
9.10	What was/is the nature of support from	NGO – Government – Missionary – Others -
9.11	In case there are orphans in your family, from whom and what support they get	Family – NGO – Government – Missionary – Others -
9.12	Are any medical services or aid	Yes / No

	provided by government in your community for HIV positive people?	
9.13	If yes, what type of service / aid provided	
9.14	For how long you have received the support from government services	…….years / months
10.0	**IMPACT – CONSEQUENCES**	
10.1	How you have managed to take care of yourself?	Use past savings / mortgage assets / sale assets & durables / stopped taking medicines / doing nothing
10.2	What is your current monthly expenses for medical treatment	Rs. …….. / Nil
10.3	What is your current monthly expenses for medical treatment for HIV/AIDS	Rs. …….. / Nil
10.4	Did your care giver lose income while attending on you	Yes / No
10.5	Have you needed anyone to take care of you while you are/were sick?	Yes / No
10.6	If yes, who takes/took care?	Spouse / children / parents / siblings / others (please specify)
10.7	What additional responsibilities were taken by spouse to support the family	Quit job / took up job / took additional job / others (please specify)
10.8	Anything else?	
10.9	What additional responsibilities were taken by children to support the family	Gave up education / Quit job / took up job / took additional job / others (please specify)
10.10	Anything else?	
10.11	Have you have lost income during sickness?	Yes / No
10.12	If yes, extent of loss	All wages / partly / none
10.13	How much you have lost during last	Rs. …….(approximately)

	12 months?	

11.0 **Anything else you wish to say?**

DECLARATION

I have given above responses voluntarily.

Signature:

(optional)

(vi) Questionnaire For Negative Persons

"SOCIO-ECONOMIC FACTORS INFLUENCING HIV/AIDS IN BANGALORE" – Questionnaire for Ph. D. work by C. Nagendra, CSRD, SSS, JNU, New Delhi

Respondent No.

……..……..

(for individual – Negative persons)

(If any question is not relevant or not applicable, please write 'NA'.)

1.0	**SOCIAL FACTORS**	
1.1	Sex:	Male / third gender
1.2	Age / date of birth	……years; …..(day)…..(month), ……(yr)
1.3	Current Marital status	Currently married / married but gauna not performed / separated / deserted / divorced / widowed / never married
1.4	Your religion -	Hindu / Muslim / Christian / Buddhist or Neo-buddhist / Sikh / Jain / Jewish / Parsi / no religion / others (please specify)
1.5	Level of Education:	No formal school / last class attended…..
1.6	Can you read and write	Yes / No
1.7	Family type	Living alone / with spouse / children / parents / extended family
1.8	No. of persons in household	
1.9	Are you living in this city since birth ?	Yes / No
1.10	If no, since when you are living in this city	
1.11	Before moved in, where did you live	(place) (dist.) (state)

<table>
<tr><td>1.12</td><td>What are the reasons for coming to present place</td><td>In search of job / job transfer / business / marriage / moved after birth / moved with household/ others (please specify)</td></tr>
<tr><td>2.0</td><td colspan="2">ECONOMIC FACTORS</td></tr>
<tr><td>2.1</td><td>Whether employed during last 12 months</td><td>Yes / no</td></tr>
<tr><td>2.2</td><td>If employed, what was/is the nature of employment</td><td>non- agricultural / casual labour / domestic servant / agriculture labour / industry / cottage industry / self employed / professional / got or pvt. Service / others (Please specify)</td></tr>
<tr><td>2.3</td><td>What is nature of employment of your spouse</td><td>maid servant / house wife / in office / petty business / factory worker / others (pl. specify)</td></tr>
<tr><td>2.4</td><td>What is the occupation of other family members living with you</td><td>
<table>
<tr><th>Name</th><th>Age</th><th>Sex</th><th>Relationship</th><th>Occupation</th><th>Monthly income</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>2.5</td><td>Your approximate monthly income</td><td>Rs.</td></tr>
<tr><td>2.6</td><td>Who decides home expenditure</td><td>Spouse / parents / siblings</td></tr>
<tr><td>2.7</td><td>Do you own landed property?</td><td>Yes / no</td></tr>
<tr><td>2.8</td><td>Do you own vehicle?</td><td>Yes / no</td></tr>
<tr><td>2.9</td><td>Do you own telephone?</td><td>Yes / no</td></tr>
<tr><td>2.10</td><td>Do you own television?</td><td>Yes / no</td></tr>
<tr><td>3.0</td><td colspan="2">HOUSING</td></tr>
<tr><td>3.1</td><td>Are you living with family?</td><td>Yes / no</td></tr>
<tr><td>3.2</td><td>If not, where do you stay</td><td>Alone / with employer / with relatives / co-worker / hostel or mess / labour camp / night shelter / others (please specify)</td></tr>
<tr><td>3.3</td><td>Locality of your house</td><td>street living / Slum / resettlement / tent</td></tr>
</table>

<table>
<tr><td>3.4</td><td>Type of house</td><td>Pucca / semi-pucca / kachha</td></tr>
<tr><td>3.5</td><td>Facilities in house
(a) toilet -
(b) no. of rooms -
(c) electricity available -</td><td>
no facility / open / pit / flush
……..
Yes / no</td></tr>
<tr><td>3.6</td><td>Is there separate place for kitchen</td><td>Yes / no</td></tr>
<tr><td>3.7</td><td>Type of fuel used for cooking in household</td><td>Wood / coal / coke / kerosene / electricity / LPG / others (please specify)</td></tr>
<tr><td>3.8</td><td>Source of water</td><td>Piped water / ground water / well water (in house / public) / surface water / rain water / tanker truck</td></tr>
<tr><td>4.0</td><td colspan="2">FAMILY INFORMATION</td></tr>
<tr><td>4.1</td><td>Is any one in your family HIV positive</td><td>Yes / No</td></tr>
<tr><td>4.2</td><td>If yes, their details</td><td><table><tr><td>Name</td><td>Age</td><td>Relationship</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td>4.3</td><td>Has any death occurred in the family due to HIV/AIDS</td><td>Yes / No</td></tr>
<tr><td>4.4</td><td>If yes, their details</td><td><table><tr><td>Name</td><td>Age</td><td>Relationship</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td>4.5</td><td>Are there any orphans in your family</td><td>Yes / No</td></tr>
<tr><td>4.6</td><td>If yes, their details</td><td><table><tr><td>Name</td><td>Age</td><td>Relationship</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td>4.7</td><td>Are there elders in your family</td><td>Yes / No</td></tr>
<tr><td>4.8</td><td>If yes, their details</td><td><table><tr><td>Name</td><td>Age</td><td>Relationship</td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
</table>

	Now I wish to ask a few questions to know how much you are aware of how HIV spreads?				
5.0	**AWARENESS ON HIV / AIDS**				
5.1	Are you aware of any incurable disease	Yes / No			
5.2	If yes, can you name a few?				
5.3	Have you ever heard of HIV/AIDS	Yes / No			
5.4	If you have heard of HIV/AIDS, where from you have heard?	Radio / TV / cinema / newspapers / posters / exhibitions / health worker / adult education / religious leaders / political leaders / schools / community meetings / friends / relatives / work place / others (please specify)			
5.5	Are you aware of modes of HIV transmission	Yes / No			
5.6	If yes, what are they ?				
5.7	What can a person do to avoid from infecting of HIV / AIDS				
5.8	Anything else can one do ?				
5.9	Can a person get HIV from mosquito bite	Yes / No			
5.10	Can people protect from HIV by having one uninfected faithful sex partner	Yes / No			
5.11	Can people protect themselves form HIV by abstaining from sexual intercourse	Yes / No			
5.12	Can a person get HIV by sharing meal with infected person	Yes / No			
5.13	Can a person get HIV by sharing a needle or using the needle already used by an infected person	Yes / No			

5.14	Do you think a healthy-looking person could be an HIV positive?	Yes / No
5.15	Do you think a positive pregnant woman can transmit HIV to her new-born child?	Yes / No
5.16	Are you aware of any government's policies and programmes on HIV/AIDS?	Yes / No
5.17	Did anyone in the past 12 months approach you to educate you on HIV?	Yes / No
5.18	Can a person protect himself / herself against HIV by using condoms regularly and correctly	Yes / No
6.0	**GENERAL HEALTH SERVICES / HEALTH SEEKING BEHAVIOUR**	
6.1	How often you seek medical help whenever you are sick?	Never / some times / always
6.2	When members of your family get sick where do they generally go for treatment?	Government set up / private set up / charitable set up / unqualified medical people / chemist shop / no where
6.3	Are you aware of any disease / infection with sex organs?	Yes / no
6.4	What are they?	
6.5	What did you do last time when you had any problem with sex organ?	No treatment / took home based remedy / borrowed prescription from friend / took medicine I had at home / purchased medicine from chemist shop / went to a traditional healer / went to hospital
6.6	What are the nature and extent of the general health facilities in your community?	a. public b. private c. NGO facilities : clinic / hospital / dispensaries / others

6.7	When you sought health care - f) did staff respond well? g) Did staff spend enough time with you? h) Who gave major care – doctors, nurses, staff? i) Did you get privacy? j) Was facility clean?	 f) Yes / No g) Yes / No h) doctors, nurses, staff i) Yes / No j) Yes / No
6.8	How far is the nearest place for HIV testing either from home or work place (distance)	…..kms.
6.9	How far is the nearest place for HIV care & treatment either from home or work place (distance)	…..kms.
6.10	What was the cost of HIV test?	Rs. / Free / not known
7.0	**SEXUAL BEHAVIOUR**	
7.1	At what age did you have first sexual intercourse	….years
7.2	Who was your first sexual partner	Female / commercial worker / male / hijra / commercial male worker
7.3	You had any pre-marital sex	Yes / no / not applicable
7.4	Do you have /had extra-martial sex	Yes / no / not applicable
7.5	Did you ever had sex with male partner / hijra	Yes / no / not applicable
7.6	Did you ever have sex with a commercial sex worker	Yes / No
7.7	If yes, what was your age when you went for first time?	
7.8	And, did you have sex with commercial sex worker in last one year?	Yes / No
7.9	Do you have sex regularly other than your spouse / regular partner?	Yes / No

7.10	Do you believe commercial sex worker is uninfected	Yes / No / not sure
7.11	Do/Did you use condom, when you had sex with non-regular partner	Yes / No
7.12	If you do not / use irregularly a condom, is it because	Not available / too expensive / felt not necessary / believe partner is uninfected / believe partner is faithful / I am already infected so do not care / others (please specify)
7.13	If not living with spouse, for how long you are not living together	…..years / months
7.14	In your working environment which sex is predominant	Male / Female
7.15	Is there any commercial sex activity in the neighbourhood	Yes / No
7.16	Does your work involve out station travel	Yes / No
7.17	In last 12 months how often you have been away from home	Every week / fortnightly / monthly / once in a while
7.18	How long you normally stay when you are away from home?	…. Days/ …..weeks
7.19	Where do you stay when you travel outside?	With friend / hotel / hostel / guest house / relations / others
7.20	Were you anytime subjected to sexual abuse	Yes / No
7.21	If yes, when was it for the first time?	
7.22	If yes, is it	Regularly / occasionally
7.23	Have you ever sold intoxicating drugs	Yes / No
7.24	If yes, is it	Regularly / occasionally
7.25	Have you ever used intoxicating drugs?	Yes / No
7.26	If yes, when was it for the first time?	

7.27	If yes, is it	Regularly / occasionally
7.28	If yes, do you use syringe while taking drug	Yes / No
7.29	Have you ever donated blood?	Yes / No
7.30	If yes, was it	Voluntary / for money / both
7.31	Were you ever given blood transfusion?	Yes / No
7.32	Do you drink alcohol	Often / once in a while
7.33	If yes, when was it for the first time?	
7.34	Do you take drink before having sex	Regularly / often / rarely / never

8.0 Anything else you wish to say?

DECLARATION

I have given above responses voluntarily.

Signature:

(optional)

(vii) Master Code for Analysis

Question No.	Questions	Response Code
		Common for all 9898= Not Known.
General Information		
	Sl. No.	Unique number
	Status	Positive; Negative
	Interview Centre	1=Arunodaya; 2=Banashankari ICTC; 3=KNP+; 4=Hoshalli ICTC; 5=Victoria ART; 6=Homeopathy college ICTC; 7=Vanivilas ICTC; 8=Jagjivanram RH ICTC; 9=ESI Rajajinagar
	Centre Category	1=care centres; 2=ANC ICTC; 3=General ICTC
	Participant ID	Unique number
Social Factors		
1.1	Sex:	1= Male 2= Female 3= TG
1.2	Age	years completed
1.3	Marital status	1= married 2= married but gauna not performed 3= widow 4= widower 5= deserted 6= separated 7= unmarried 8=NA
1.4	Religion	1=Hindu 2=Muslim 3=Christian 4=Buddhist 5=Neo-Buddhist 6=Sikh 7=Jain 8=Jewish 9= Parsi 10=no religion 11=others
1.5	Level of Education:	0=No formal school; 1 to 12= std. 1 to 12; 13= degree; 14=PG 15=diploma 16=under graduate 17=ITI

1.6	Can you read and write	1=yes 2=no 3=semi-literate
1.7	Family type	1=Living alone 2= with spouse 3= children 4= parents 5=individual family 6= joint family 7= friend
1.8	No. of persons in household	Actual number of persons
1.9	Are you living in this city since birth?	1=Yes 2= No
1.10	If not, since when you are living in this city	years completed
1.11	Before moved in, where did you live	1=Bangalore dist. 2=Neighbouring dists. 3= other dists. in Karnataka 4=Tamil Nadu 5=Andhra Pradesh (including Telengana) 6= North India 7= other regions 8=Nepal
1.12	What are the reasons for coming to present place	1= Job; 2= Transfer; 3= Business; 4= Marriage; 5= Moved after birth; 6= Moved with household; 7= Others 8= For treatment / check up; 9= Studies; 10= Sex change
Economic Factors		
2.1	Whether employed during last 12 months	1=Yes 2= no 3 = left within 1 year
2.2	If employed, what was/is the nature of employment	1= Agriculturist; 2= Casual labour; 3= Domestic servant; 4= Agriculture labour; 5= Industry; 6= Cottage industry; 7= Self employed; 8= Professional; 9= Govt orPvt. Service; 10= Community based organisation; 11= Others; 12= NGO; 13= Not working at present; 14= Coolie; 15= Begging; 16= In police custody; 17= Student
2.3	What is nature of employment of your spouse	1=maid servant 2= house wife 3= in office 4= petty business 5= factory worker 6= others 7=not employed

		8=coolie 9=govt job 10=pvt. Job 11=self employed 12=casual labour 13=NA 14=agriculturist 15= no idea
2.4	What is the occupation of other family members living with you (FM=Family member)	
	FM 1 age	years completed
	FM 1 sex	1= Male 2= Female 3= TG
	FM 1 relationship	1= aunt; 2= children & their spouse ; 3= brother; 4= partner; 5= daughter in law; 6= extended family; 7= father; 8= father in law; 9= family; 10= husband; 11=in law family; 12=mother ; 13=mother in law; 14=others; 15=parents; 16= partner; 17=sister ; 18= son 19= son-in-law; 20= uncle; 21= wife
	FM 1 occupation	1=agriculturist & allied 2= casual labour 3= domestic servant 4= agriculture labour 5= industry 6= cottage industry 7= self employed 8= professional / skilled job 9= govt job 10=pvt. job 11=others 12= NGO; 13= Not working at present 14=coolie
	FM 1 income	Monthly income in Rupees; 8888= helping self; 6666= with husband
	FM 2 age	years completed
	FM 2 sex	1= Male 2= Female 3= TG
	FM 2 relationship	1= aunt; 2= children & their spouse ; 3= brother; 4= partner; 5= daughter in law; 6= extended family; 7= father; 8= father in law; 9= family; 10= husband; 11=in law family; 12=mother ; 13=mother in law; 14=others; 15=parents; 16= partner; 17=sister ; 18= son 19= son-in-law; 20= uncle; 21= wife

	FM 2 occupation	1=agriculturist & allied 2= casual labour 3= domestic servant 4= agriculture labour 5= industry 6= cottage industry 7= self employed 8= professional / skilled job 9= govt job 10=pvt. job 11=others 12= NGO; 13= Not working at present 14=coolie
	FM 2 income	Monthly income in Rupees;
2.5	Your approximate monthly income	Monthly income in Rupees; 8888= included in family;
2.6	Who decides home expenditure	1= spouse 2= parents 3= siblings 4=self 5=parents in law 6=aunt 7=children 8=both 9=b in law
2.7	Do you own landed property?	1=Yes 2= no
2.8	Do you own vehicle?	1=Yes 2= no
2.9	Do you own telephone?	1=Yes 2= no
2.10	Do you own television?	1=Yes 2= no
Housing		
3.1	Are you living with family?	1=Yes 2= no
3.2	If not, where do you stay	1=Alone 2= with employer 3= with relatives 4= co-worker 5= hostel 6= labour camp 7= night shelter 8= slum 9= resettlement 10 = others 11=police custody
3.3	Locality of your house	1=Residential area 2=street living 3= Slum 4= resettlement 5= tent 6=village
3.4	Type of house	1=RCC 2= tiled roof 3= sheet roof 4= hut 5=stone roof
3.5	Facilities in house	
	(a) toilet -	1=no facility 2= open 3= pit 4= flush
	(b) no. of rooms -	Actual

	(c) electricity available -	1=Yes 2= no
3.6	Is there separate place for kitchen	1=Yes 2= no 3= NA
3.7	Type of fuel used for cooking in household	1=Wood 2= coal 3= coke 4= kerosene 5= electricity 6= LPG 7= others 8=NA
3.8	Source of water	1=Piped water 2= bore well 3= well 4=public well 5= rain water 6= tanker 7=public tap 8=no facility
Family Information		
4.1	Is anyone in your family HIV positive	1=Yes 2= no
4.2	If yes, their details (FM=Family member)	
	FM 1 HIV age	years completed
	FM 1 HIV sex	1= Male 2= Female 3= TG
	FM 1 HIV relationship	1=husband; 2=wife; 3=son 4=daughter 5=daughter in law 6=grand son 7=brother
	FM 2 HIV age	years completed
	FM 2 HIV sex	1= Male 2= Female 3= TG
	FM 2 HIV relationship	1=husband; 2=wife; 3=son 4=daughter 5=daughter in law 6=grand son 7=brother
4.3	Has any death occurred in the family due to HIV/AIDS	1=Yes 2= no
4.4	If yes, their details (FM=Family member)	
	FM 1 HIV death age	years completed
	FM 1 HIV death sex	1= Male 2= Female 3= TG

	FM 1 relationship	1=husband; 2=wife; 3=son 4=daughter 5=uncle 6=elder brother 7=brother in law 8=father 9=mother 10=first husband 11=first wife
	FM 2 HIV death age	years completed
	FM 2 HIV death sex	1= Male 2= Female 3= TG
	FM 2 HIV death relationship	1=husband; 2=wife; 3=son 4=daughter 5=uncle 6=elder brother 7=brother in law 8=father 9=mother 10=first husband 11=first wife
4.5	Are there any orphans in your family	1=Yes 2= no
4.6	If yes, their details (FM=Family member)	years completed
	FM 1 orphan age	
	FM 1 orphan sex	1= Male 2= Female 3= TG
	FM 1 orphan relationship	1=grand son 2=self 3=brother
	FM 2 orphan age	years completed
	FM 2 orphan sex	1= Male 2= Female 3= TG
	FM 2 orphan relationship	1=grand son 2=self 3=brother
4.7	Are there elders in your family	1=Yes 2= no
4.8	If yes, their details: (FM=Family member)	years completed
	FM 1 elder age	
	FM 1 elder sex	1= Male 2= Female 3= TG
	FM 1 elder relationship	1=aunt 2=uncle 3=brother in law 4=brother 5=elder sister 6= father in law 7=father 8=mother 9-step mother

		10=mother in law 11=parents & in laws 12=sister in law
	FM 2 elder age	years completed
	FM 2 elder sex	1= Male 2= Female 3= TG
	FM 2 elder relationship	1=aunt 2=uncle 3=brother in law 4=brother 5=elder sister 6= father in law 7=father 8=mother 9-step mother 10=mother in law 11=parents & in laws 12=sister in law
	FM 3 elder age	years completed
	FM 3 elder sex	1= Male 2= Female 3= TG
	FM 3 elder relationship	1=aunt 2=uncle 3=brother in law 4=brother 5=elder sister 6= father in law 7=father 8=mother 9-step mother 10=mother in law 11=parents & in laws 12=sister in law
Awareness on HIV / AIDS		
5.1	Are you aware of any incurable disease	1=Yes 2= no
5.2	If yes, can you name a few?	1=HIV; 2=cancer; 3=others; 4= all treatable / no such disease
5.3	Have you ever heard of HIV/AIDS	1=Yes 2= no
5.4	If you have heard of HIV/AIDS, where from you have heard?	1=Radio 2= TV 3= cinema 4= newspapers 5= posters 6= exhibitions 7= health worker 8= adult education 9= religious leaders 10= political leaders 11= schools 12= community meetings 13= friends 14= relatives 15= work place 16= others 17=counsellor / activist 18=doctor 19=hospital 20=all

5.5	Are you aware of modes of HIV transmission	1=Yes 2= no
5.6	If yes, what are they?	1=sex 2=blood 3=syringe 4=mother to child 5=others
5.7	What can a person do to avoid from infecting of HIV / AIDS	1=use condom 2=avoid sex 3=awareness 4=others 5= single faithful partner 6= test 7=no idea 8=drugs 9=untested blood 10=reuse of syringe 11=test for ANC 12=good food
5.9	Can a person get HIV from mosquito bite	1=Yes 2= no 3= do not know
5.10	Can people protect from HIV by having one uninfected faithful sex partner	1=Yes 2= no 3= do not know
5.11	Can people protect themselves from HIV by abstaining from sexual intercourse	1=Yes 2= no 3= do not know
5.12	Can a person get HIV by sharing meal with infected person	1=Yes 2= no 3= do not know
5.13	Can a person get HIV by sharing a needle or using the needle already used by an infected person	1=Yes 2= no 3= do not know
5.14	Do you think a healthy-looking person could be an HIV positive?	1=Yes 2= no 3= do not know
5.15	Do you think a positive pregnant woman can transmit HIV to her new-born child?	1=Yes 2= no 3= do not know
5.16	Are you aware of any government's policies and	1=Yes 2= no

	programmes on HIV/AIDS?	
5.17	Did anyone in the past 12 months approach you to educate you on HIV?	1=Yes 2= no
5.18	Can a person protect himself / herself against HIV by using condoms regularly and correctly	1=Yes 2= no 3= do not know
General Health Services / Health Seeking Behaviour		
6.1	How often you seek medical help whenever you are sick?	1=Never 2= some times 3= always
6.2	When members of your family get sick where do they generally go for treatment?	1=Government set up 2= private set up 3= charitable set up 4= unqualified medical people 5= chemist shop 6= no where
6.3	Are you aware of any disease / infection with sex organs?	1=Yes 2= no
6.4	What are they?	1=OI; 2=Syphilis; 3=Rashes; 4= Generia; 5= STI; 6= RTI; 7 =UTI
6.5	What did you do last time when you had any problem with sex organ?	1=No treatment 2= took home based remedy 3= borrowed prescription from friend 4= took medicine I had at home 5= purchased medicine from chemist shop 6= went to a traditional healer 7= went to hospital 8=self medication
6.6	What are the nature and extent of the general health facilities in your community?	
	Public	1=yes; 2=nil; 3=no idea; 4=good; 5=fair; 6=bad
	Private	1=yes; 2=nil; 3=no idea; 4=good; 5=fair; 6=bad

	NGO	1=yes; 2=nil; 3=no idea; 4=good; 5=fair; 6=bad
	Clinic	1=yes; 2=nil; 3=no idea; 4=good; 5=fair; 6=bad
	Health centre	1=yes; 2=nil; 3=no idea; 4=good; 5=fair; 6=bad
	Dispensaries	1=yes; 2=nil; 3=no idea; 4=good; 5=fair; 6=bad
6.7	When you sought health care	
	a) Did staff respond well?	1= Yes 2= No 3=some times good
	b) Did staff spend enough time with you?	1= Yes 2= No 3=some times good
	c) Who gave major care – Doctors?	1= Yes 2= No
	c) Who gave major care – Nurses?	1= Yes 2= No
	c) Who gave major care – Staff?	1= Yes 2= No
	c) No one	1= yes; NA= at least one cared
	d) Did you get privacy?	1= Yes 2= No
	e) Was facility clean?	1= Yes 2= No
6.8	How far is the nearest place for HIV testing either from home or work place (distance)	Actual distance in Kms.
6.9	How far is the nearest place for HIV care & treatment either from home or work place (distance)	Actual distance in Kms.

6.10	What was the cost of HIV test?	Actual in rupees
Sexual Behaviour		
7.1	At what age did you have first sexual intercourse	Years completed ; 8888 = not so far
7.2	Who was your first sexual partner	1=Female 2= commercial female worker 3= male 4= hijra 5= commercial male worker 6=husband 7=wife
7.3	You had any pre-marital sex	1=Yes 2= no
7.4	Do you have /had extra-marital sex	1=Yes 2= no
7.5	Did you ever had sex with same sex / hijra	1=Yes 2= no
7.6	Did you ever have sex with a commercial sex worker	1=Yes 2= no
7.7	If yes, what was your age when you went for first time?	years completed
7.8	And, did you have sex with commercial sex worker in last one year?	1=Yes 2= no
7.9	Do you have sex regularly other than your spouse / regular partner?	1=Yes 2= no
7.10	Do you believe commercial sex worker is uninfected	1=Yes 2= No 3= not sure
7.11	Do/Did you use condom, when you had sex with non-regular partner	1=Yes 2= no

7.12	If you do not / use irregularly a condom, is it because	1=Not available 2= too expensive 3= felt not necessary 4= believe partner is uninfected 5= believe partner is faithful 6= I am already infected so do not care 7=do not know how to use 8= others 9=no knowledge of its usefulness 10=drunk 11= husband not co-operate
7.13	If not living with spouse, for how long you are not living together	months
7.14	In your working environment which sex is predominant	1=Male 2= Female 3=both equal 4=public place (auto driver, dhobi) 5=TG
7.15	Is there any commercial sex activity in the neighbourhood	1=Yes 2= no 3=do not know
7.16	Does your work involve out station travel	1=Yes 2= no
7.17	In last 12 months how often you have been away from home	1=Every week 2= fortnightly 3= monthly 4= once in a while
7.18	How long you normally stay when you are away from home?	Days
7.19	Where do you stay when you travel outside?	1=With friend 2= hotel 3= guest house 4= relatives 5= others
7.20	Were you anytime subjected to sexual abuse	1=Yes 2= no
7.21	If yes, when was it for the first time?	years completed
7.22	If yes, is it	1=Regularly 2= occasionally 3=once
7.23	Have you ever sold intoxicating drugs	1=Yes 2= no
7.24	If yes, is it	1=Regularly 2= occasionally

7.25	Have you ever used intoxicating drugs?	1=Yes 2= no
7.26	If yes, when was it for the first time?	years completed
7.27	If yes, is it	1=Regularly 2= occasionally
7.28	If yes, do you use syringe while taking drug	1=Yes 2= no
7.29	Have you ever donated blood?	1=Yes 2= no
7.30	If yes, was it	1=Voluntary 2= for money 3= both
7.31	Were you ever given blood transfusion?	1=Yes 2= no
7.32	Do you drink alcohol	1=Often 2= once in a while 3= never 4=not now 5=regular before infection
7.33	If yes, when was it for the first time?	years completed
7.34	Do you take drink before having sex	1=Regularly 2= often 3= rarely 4= no 5=occasionally earlier
Personal Experience of HIV Positive Persons		
8.1	How did you discover your HIV status	1=Voluntary testing 2= while donating blood 3= after prolonged illness 4= while seeking employment 5= while seeking employment for abroad; 6= ANC test 7= when spouse detected 8=HIV awareness camp 9=pregnancy test for wife 10=first husband long illness 11=work place intervention 12=child unwell & positive 13=spouse death 14=before surgical procedure 15=when friend tested + 16=long illness of late husband 17=husband's friends' sudden death 18=during assisted fertilisation tests 19=death of child

		20=volunteer took to test centre 21= long after husband death, sister insisted
8.2	Was it part of routine testing	1=Yes 2= no
8.3	Where was it detected	1=Private 2= govt. 3= NGO 4= hospital 5= clinic 6= laboratory
8.4	How did you react to the result?	1=Shocked 2= ashamed 3= no reaction at all 4= disappointed 5=embarrassed 6= others 7=cried 8=fear 9=fell unconscious 10=sad 11=to commit suicide 12=repent past 13=go out alone 14=no reaction as no idea of HIV 15=bad about husband behaviour 16=worry how got infection 17=worry about children 18=fear of infecting others 19=fear of death 20=never worried in life 21=curious how got 22=depression; 23= Ddoctor frightened
8.6	Did you have pre- and post-test counselling?	1=Yes 2= no 3= only post test
8.7	Have you disclosed your HIV status to others?	1=Yes 2= no
8.8	If yes, who are they?	1=Spouse 2= parents 3= children 4= close friends 5= co-workers 6= neighbours 7= counsellor 8=siblings 9= In laws 10=guardian 11=relatives 12=no one 13=own family disclosed to all
8.9	What was the initial reaction of family members?	1=Neglected 2= isolated 3= avoided 4= verbal abuse 5= physical abuse 6= no basic amenities 7= took property 8= thrown out of home 9= no adverse reaction at all 10= shocked 11= cursed 12= disappointed 13= empathised 14= embarrassed 15= unknown to family 16= never discriminated 17=not applicable 18=mental torture 19=gave more support 20=coerced to go 21=own family ok, but in laws no 22= already living

		separately 23= part of family cared, others discriminated
8.10	If not, why?	1=stigma & rejection 2= discrimination 3= others 4=publicly discuss 5= as pr doctor advice 6=not to hurt & no occasion to talk to others
8.11	Did your family accept you?	1=Yes 2= No 3= some members only 4= all, but after some time 6=not known to others
8.12	If yes, how long did they take to accept?	Actual in months
8.14	Did you take any precaution to protect your spouse / partner from getting infected?	1=Yes 2= no
8.15	If yes, what efforts did you take?	1=Abstain from sex 2= started using condom 3= stopped sharing needles 4= stopped donating blood 5= others 6=got from spouse
8.17	Did you take any precaution to protect your children from getting infected?	1=Yes 2= no 4=not yet decided
8.18	If yes, what efforts did you take?	1=Decided not to have a child 2= provided ARV drugs 3= others
8.20	Whether care was/is decided by	1=Doctors 2= staff 3= hospital policy 4=NGO 5=self
8.21	How your children are treated at home?	1=Withdrawn from school 2= had to take up job 3= denied basic amenities 4= others 5=no problem 6=no children 7=nothing 8=not at home 9=NA 10=tortured 11=no problem as grown up 12=thrown out of home 13=too young
8.23	What was/is the reaction of community towards you	1=Treatment denied 2=referred to other hospitals 3= social boycott 4=not known to others 5=no problem

		6=treated but indifferent 7=discrimination
8.25	What was/is the reaction of community to your spouse?	1=verbal abuse 2= physical abuse 3= no adverse reaction at all 4= NA 5=not known to others 6=discrimination 7= do not know
8.27	What was/is the reaction of community to your children?	1=verbal abuse 2= teased 3= physical abuse 4= discrimination at school like in games, sitting, etc. 5= thrown out of school 6= no adverse reaction at all 7= not known to others 8=no children 9=attempted to throw out of school 10=NA 11=no problem as grown up
8.29	Does / did your employer know your HIV positive status	1=Yes 2= no
8.30	If yes, what was the reaction of your employer towards you	1=Promotion denied 2= compulsory retirement 3= termination 4= no retirement benefit 5=no problem
8.32	Did you change job in last six months?	1=Yes 2= no
8.33	If yes, what was the reason for change	1=Terminated 2= stigma 3= discrimination 4= others 5=nothing particular
8.34	What was/is the reaction of your colleagues towards you	1=Neglected 2= isolated 3= avoided 4= verbal abuse 5= physical abuse 6= teased 7= no adverse reaction at all 8=not known to others 9=NA
8.36	Who takes care of you when you are sick	1=Spouse 2=children 3= parents 4= siblings 5= others 6=not so far 7=nobody 8=friends 9=b in law 10=partner 11=in law family
Coping Mechanism		
9.1	Did you receive support from:	
	a. Family	1=Yes 2= no

	b. Employer	1=Yes 2= no
	c. Community	1=Yes 2= no
	d. NGO	1=Yes 2= no
	e. Government	1=Yes 2= no
	f. Others	1=Yes 2= no
9.2	What type of support you received from others for (a) Patient care	1= Yes; 2= ART; 3= Bus fare; 4= counselling; 5= Drugs; 6= Financial help; 7= Guidance; 8= NA; 9= Hostel; 10= Nil; 11= Support; 12= TB drugs; 13= Tests; 14= Parents; 15= Spouse; 16= Network; 17= No; 18= Friends; 19= Govt.; 20= In laws; 21= Private Hospital; 22= Others
	What type of support you received from others for (b) Psychological and spiritual support	1= Yes; 2= ART; 3= Bus fare; 4= counselling; 5= Drugs; 6= Financial help; 7= Guidance; 8= NA; 9= Hostel; 10= Nil; 11= Support; 12= TB drugs; 13= Tests; 14= Parents; 15= Spouse; 16= Network; 17= No; 18= Friends; 19= Govt.; 20= In laws; 21= Private Hospital; 22= Others
	What type of support you received from others for (c) Child care	1= Yes; 2= ART; 3= Bus fare; 4= counselling; 5= Drugs; 6= Financial help; 7= Guidance; 8= NA; 9= Hostel; 10= Nil; 11= Support; 12= TB drugs; 13= Tests; 14= Parents; 15= Spouse; 16= Network; 17= No; 18= Friends; 19= Govt.; 20= In laws; 21= Private Hospital; 22= Others
	What type of support you received from (d) others	1= Yes; 2= ART; 3= Bus fare; 4= counselling; 5= Drugs; 6= Financial help; 7= Guidance; 8= NA; 9= Hostel; 10= Nil; 11= Support; 12= TB drugs; 13= Tests; 14= Parents; 15= Spouse; 16= Network; 17= No; 18= Friends; 19= Govt.; 20= In laws; 21= Private Hospital; 22= Others

9.3	How your family has managed the household?	1=cheaper food; 2=reduced food consumption; 3= Sent children to live with relatives / hostel; 4= Migrate to other place; 5= Taking obligations from extended family, community; 6= Doing nothing;7= not living with family; 8=nothing as already poor
9.4	How your family has managed the household finances?	1=Begging 2= Income diversification3= Took loan 4= Sold assets 5=mortgage assets
9.6	What other avenues your family resorted for raising and supplementing family income	1= additional job by children; 2= took up job; 3 = additional work; 4= nil; 5= NA (no family or not living with family)
9.8	What type of support your employer has provided to you / your family	1=Medical service; 2= financial support3= medical insurance 4= special leave 5= paid leave 6= support to family 7= alternate job for family members 8= others 9= not known to employer 10=nothing 11= not applicable
9.10	What was/is the nature of support from NGO	1=Yes, 2=ART, 3=Bus fare, 4=Counselling, 5=Drugs, 6=Financial help, 7=Guidance, 8=NA, 9=Hostel, 10=Nil, 11=Moral support, 12=TB drugs, 13=Tests, 14=Awareness / IEC, 15=Books to child, 16=Care, 17=Education, 18=ESI health cover, 19=Food, 20=Job, 21=Leave, 22=Nutrition food, 23=Other Ids, 24=Ration card, 25=School fee, 26=Shelter, 27=Site, 28=Training,
	What was/is the nature of support from Government	1=Yes, 2=ART, 3=Bus fare, 4=Counselling, 5=Drugs, 6=Financial help, 7=Guidance, 8=NA, 9=Hostel, 10=Nil, 11=Moral support, 12=TB drugs, 13=Tests, 14=Awareness / IEC, 15=Books to child, 16=Care, 17=Education, 18=ESI health cover, 19=Food, 20=Job, 21=Leave, 22=Nutrition food, 23=Other Ids, 24=Ration card, 25=School fee, 26=Shelter, 27=Site,

		28=Training,
	What was/is the nature of support from Missionary	1=Yes, 2=ART, 3=Bus fare, 4=Counselling, 5=Drugs, 6=Financial help, 7=Guidance, 8=NA, 9=Hostel, 10=Nil, 11=Moral support, 12=TB drugs, 13=Tests, 14=Awareness / IEC, 15=Books to child, 16=Care, 17=Education, 18=ESI health cover, 19=Food, 20=Job, 21=Leave, 22=Nutrition food, 23=Other Ids, 24=Ration card, 25=School fee, 26=Shelter, 27=Site, 28=Training,
	What was/is the nature of support from others	1=Yes, 2=ART, 3=Bus fare, 4=Counselling, 5=Drugs, 6=Financial help, 7=Guidance, 8=NA, 9=Hostel, 10=Nil, 11=Moral support, 12=TB drugs, 13=Tests, 14=Awareness / IEC, 15=Books to child, 16=Care, 17=Education, 18=ESI health cover, 19=Food, 20=Job, 21=Leave, 22=Nutrition food, 23=Other Ids, 24=Ration card, 25=School fee, 26=Shelter, 27=Site, 28=Training,
9.11	In case there are orphans in your family, from whom and what support they get	
	- family	1=Yes 2= no
	- NGO	1=Yes 2= no
	- Government	1=Yes 2= no
	- Missionary	1=Yes 2= no
	- Others	1=Yes 2= no
9.12	Are any medical services or aid provided by government in your community for HIV positive	1=Yes 2= no

	people?	
9.13	If yes, what type of service / aid provided	1= ART 2= financial help to children 3= site / house; 4=tests 5=counselling 6=nutrition food 7=bus pass 8=ration card /Aadhar 9=OI drugs 10=widow pension,11=job 12=education to childern13=medical insurance 14=do not know 15=condom 16= extra ration
9.14	For how long you have received the support from government services	in months; 3333=nil at present
Impact - Consequences		
10.1	How you have managed to take care of yourself?	1=Use past savings 2= mortgage assets 3= sale assets & durables 4= stopped taking medicines 5= doing nothing 6=help from others 7=took up job 8=took loan 9=hope & strength 10=work & spend 11=support from extended family
10.2	What is your current monthly expenses for medical treatment	in rupees
10.3	What is your current monthly expenses for medical treatment for HIV/AIDS	in rupees
10.4	Did your care giver lose income while attending on you	1=Yes 2= no
10.5	Have you needed anyone to take care of you while you are/were sick?	1=Yes 2= no 3=not so far
10.6	If yes, who takes/took care?	1=Spouse 2= children 3= parents 4= siblings 5= others 6=no one7=friends 8=in laws 9=partner

10.7	What additional responsibilities were taken by spouse to support the family	1=Quit job 2= took up job 3= took additional job 4= others 5=NA 6=nothing
10.9	What additional responsibilities were taken by children to support the family	1=Gave up education 2= Quit job 3= took up job 4= took additional job 5= others 6=nothing 7= NA 8= too young
10.11	Have you have lost income during sickness?	1=Yes 2= no 3=NA (for unemployed)
10.12	If yes, extent of loss	1=All wages 2= partly
10.13	How much you have lost during last 12 months?	in rupees; 1111=unable to calculate

Master dataset can be shared on request through email consultant.nagendra@gmail.com as permissible by JNU rules.

Minutes of the meeting of the Ethics Committee for Ph.D. candidate Mr. C. Nagendra, CSRD, SSS held on March 22, 2006

The meeting was held in the Committee Room of the School of Social Sciences at 3.00 p.m. on Wednesday, March 22, 2006. The following members were present:

Prof. Satish Jain, CESP, Chairperson
Prof. S.P. Gautam, CP
Dr. Ritu Priya, CSM & CH
Prof. Madhu Bala, SLS, and
Prof. A. Mahmood and P.M. Kulkarni, supervisors of Mr. Nagendra.

Mr. Nagendra briefly described the approach proposed to be adopted for his research work on "Socio-Economic Factors Influencing HIV/AIDS in Delhi". A copy of the synopsis was provided along with the draft instruments. Aspects of confidentiality of respondents were mentioned and relevant guidelines from the report of the National Committee for Ethics in Social Science Research in Health were provided. A draft consent form was also presented.

The committee deliberated on various issues of confidentiality, liability, and rights of respondents. The committee asked Mr. Nagendra to provide information on the following:

1. What procedure do the VCTCs (from where respondents are to be identified with consent) follow to obtain consent? In case no procedure has been prescribed, can an appropriate protocol be developed for this purpose?
2. What is protocol adopted by other organisations engaged in research in this area?
3. What precautionary steps (such as coding forms and removing names) are proposed to maintain confidentiality?
4. How would consent be obtained to interview members of family?
5. Can the respondents be drawn from existing networks of HIV positive persons?

It was also pointed out that the consent forms and the questionnaire be made available in Hindi as well since many respondents would not know English.
Mr. Nagendra was asked to provide clarifications/ information in about a month after which the committee would meet and examine the issues.

The minutes end here.

Note for the meeting of the Ethics Committee for Ph.D. candidate

Mr. C. Nagendra, CSRD, SSS to be held on May 12, 2006

Issues / points for discussions:

1. <u>The procedures followed at the VCTCs (from where respondents are to be identified with consent) with regard to obtaining consent</u>.

   Institutions contacted / visited: NARI, Pune; YRG Care, Chennai; TISS, Mumbai; Lady Hardinge Medical College, Delhi; Indian Network of Positive People, Chennai; Delhi Network of Positive People, Delhi.

   Broadly procedure followed is that general consent is obtained from participants. Then research student obtains written consent. This consent is applicable for individual and also family members. HIV status is not disclosed by the institution. The participation is purely voluntary. In case of LHMC the matter is already submitted to their Ethics Committee.

   Services of self help group may also be obtained, if participants are not willing to respond to the student directly.

2. <u>The protocol adopted by other organisations engaged in research in this area.</u>

   All of them follow basically the ICMR guidelines.

3. The precautionary steps to maintain confidentiality.

All questionnaires will have continuous running unique number. The references to identification in the questionnaire that ispart 1. General Information will be deleted. The corresponding reference will be in a separate register to be kept under lock and key by the student.

The interview shall be done at a confidential place within the hospital or network office in the presence of member, with whom he/she may be comfortable with.

4. Consent from the family members.

The consent form is revised and includes consent for interviewing family members. It will also seek identification of members, who can be contacted and where they can be interviewed.

Also a separate informed written consent will be obtained from the identified family member/s.

5. The participation of networks of HIV positive persons.

The Positive network has responded favourably. However, they would like to examine the final draft instruments. Already draft instruments have been given for perusal and comments.

As suggested by the Committee during previous meeting, the research methodology is proposed to be modified i.e, "Cases" would be drawn from the positive network and "controls" would be drawn from the earlier proposed VCTCs.

6. Hindi translation of consent forms and the questionnaire.

It will be done.

7. Other suggestions received from institutions:

i. You had mentioned that you are not planning the **back translation of the Hindi** translation. Please ensure that a back translation (from local language Hindi translation back to English) is done by a third person who has not seen the original English version. After this is done, please compare the English and the back translation, and any discrepancy noticed in the back translation means that the error lies in the Hindi translation. Since in a majority of cases, we administer only the local language translation to the study participants based on their fluency in that particular language, I would strongly recommend that you organize a back translation. Unless you compare, you will not be sure if any key words or sentences have been included/left out in the translation. You may then do the quality check directly.

ii. Some key elements of informed consent have to be included. e.g., duration, risks, benefits, your IRB contact, that is name and contact details of the IRB Chairperson who can be contacted for any questions on rights of the participant in the study.

iii. Whether you plan to compensate the participant for his/her time spent for this study, if in cash or in kind, or if no compensation is planned, please clarify it in the consent form.

iv. Towards the end of the consent form, you have this sentence: (* If the respondent cannot sign, the interviewer should certify that the matter has been clearly explained to the respondent and the respondent has given his/her consent) - This may please be modified to reflect the presence of a witness. Oral consent is generally not accepted.

v. For practical purposes, the footer of the informed consent, and also the questionnaire, should have the following details: title of the study, nature of document (whether informed consent or questionnaire), language (whether English or Hindi, this is for tracking, especially if we use different languages), version number and version date of the document, page number as page x of y.

vi. Please also get a translation certificate from the persons who have translated and back translated, for your records.

vii. I hope your IRB would be affixing the signature and seal of the IRB Chair in the original document, which will then be photocopied for administering to the participants (in proof of IRB verification). Also, the EC chairman's name address, phone numbers are a must along with the contact details of your Dean or competent authority. This is given for any grievance or breach of confidentiality.

viii. In the consent form you can write about 'risk'. The risk would be disclosure of status to you. You should clearly write that there would be no benefit to the respondent.

ix. The person who is the investigator, your guide and your organisation will take liability if there is breach of confidentiality. The Ethics committee can decide on that. That's why EC chair's contact details are very important.

x. The Good practices internationally followed are ICH guidelines, Good Clinical Practice [GCP]

Minutes of the meeting of the Ethics Committee for Ph.D. candidate Mr. C. Nagendra, CSRD, SSS held on May 12, 2006

The meeting was held in the Committee Room of the CESP, School of Social Sciences at 3.00 p.m. on Friday, May 12, 2006. The following members were present:

Prof. Satish Jain, CESP, Chairperson
Prof. S.P. Gautam, CP
Dr. Ritu Priya, CSM & CH, and
Prof. A. Mahmood and P.M. Kulkarni, supervisors of Mr. Nagendra.

Prof. R. Madhubala regretted her inability to attend the meeting but discussed the matter with the candidate earlier in the week and conveyed her remarks to Prof. Kulkarni; these were communicated to the committee.

The Chairman asked Mr. Nagendra to apprise the committee on the information he was asked to obtain on issues raised in the previous meeting. Mr. Nagendra described the procedures followed by other institutions and researchers in the area. He also briefed the committee about the suggestions made by other organisations. He further proposed steps he could take in obtaining informed consent from respondents and maintaining confidentiality and submitted draft pro-forma for these. Further, a cover sheet on name and address be removed from the schedule and kept in safe custody with the supervisors/centre/committee. He informed that he would prepare a Hindi translation, and have it translated back and the translation verified as was suggested.

The committee examined the drafts and also the schedule. The committee also discussed the issue of liability and agreed that there should be adequate safeguards. After discussions, the committee recommended the following:

1. An undertaking is given by the researcher that the identifying information is not photocopied, but is kept in safe custody of the supervisors and that this will not be disclosed to anyone and is solely for the purpose of authenticating the genuineness of the interview. The university reserves the right to take action in case of breach of the undertaking.
2. The consent form should have a statement that the respondent has understood that confidentiality will be maintained. This should have the name, address, and signature of the respondent and then be kept separately in safe custody. A standard letter (proforma) is given by the researcher to the respondent thanking the respondent, giving the undertaking on confidentiality, and a reproduction of the consent given by the respondent, as an acknowledgement.
3. No countersignature of the committee/supervisor as such is needed as the name of the centre/school and university and names of the supervisors appear on the schedule anyway.
4. For interviewing family members, the consent form should include the place where the respondent agrees to have the interview.

5. Some re-sequencing of questions in the schedule is desirable.

The committee recommended that Mr. Nagendra be permitted to proceed with the work of data collection following the procedure prescribed above.

The Chairman suggested that a report on the recommendations be sent to the Dean, School of Social Sciences.

The committee also felt that it is desirable to have a standing ethics committee for the school in order to examine the ethical aspects for research studies of this nature and resolved to recommend this to the Dean.

The minutes end here.