

स्वाध्याय

स्वमन्थन

स्वावलम्बन

UTTAR PRADESH RAJARSHI TANDON OPEN UNIVERSITY

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Indira Gandhi National Open University



UP Rajarshi Tandon Open University

CHFE-01 BASICS OF HIV/AIDS

- First Block** : Basic Facts of HIV/AIDS
- Second Block** : HIV Transmission and Testing
- Third Block** : HIV/AIDS Prevention and Control:
Socio-Ethical Issues
- Fourth Block** : Supplementary Reading Book

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School of Continuing Education

CHFE - 01
BASICS OF
HIV/AIDS

Block

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BASIC FACTS OF HIV/AIDS

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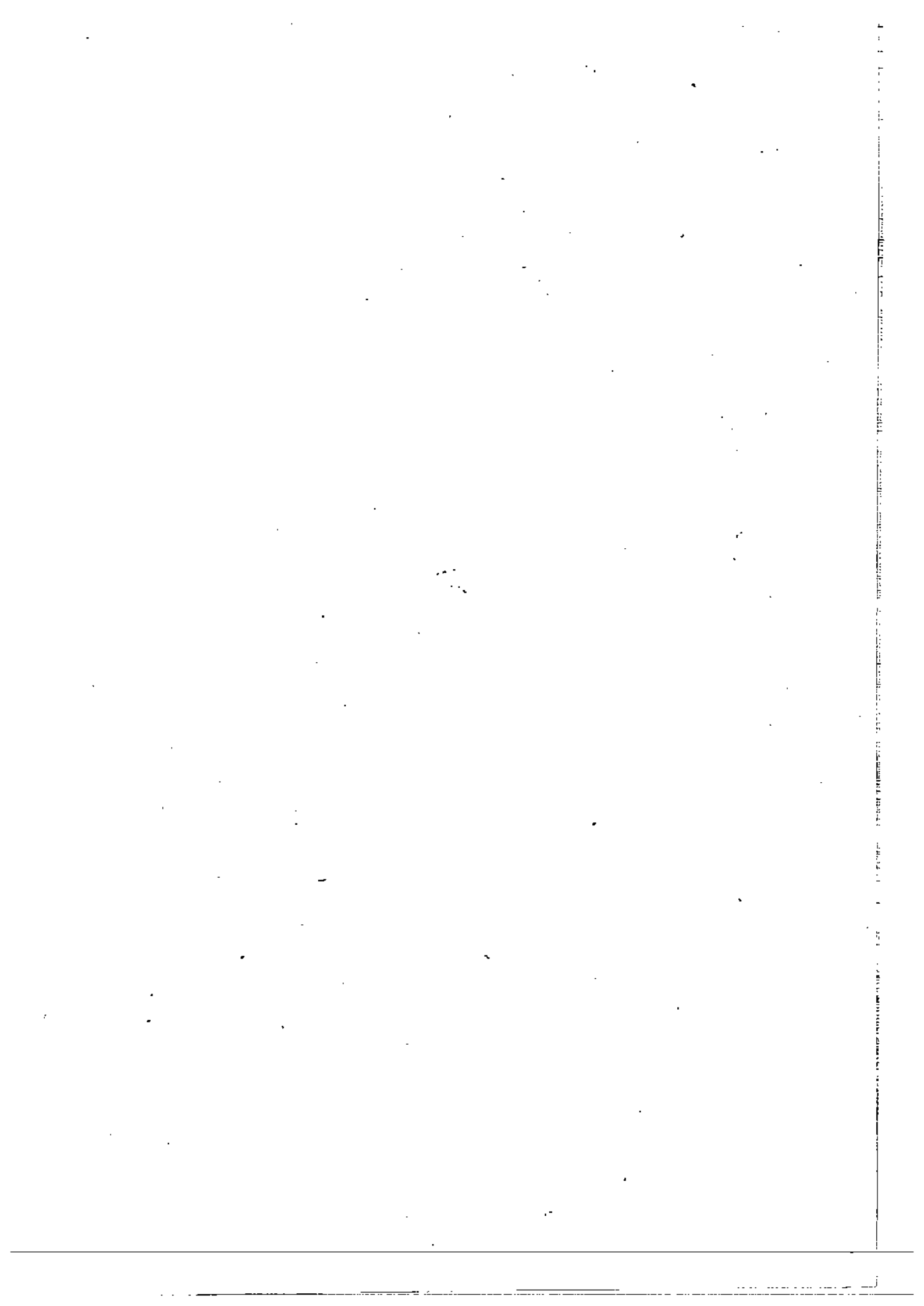
UNIT 4

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INTRODUCTION TO BLOCK 1

Welcome to the study of the Basic course on HIV/AIDS. You are in the 1st Block of the course. In this Block there are four units which will provide basic facts about HIV/AIDS. Unit 1 is on 'Global and National Scenario of HIV/AIDS'. The statistics on HIV/AIDS keep changing everyday. However, we have tried to provide the latest information available. Perhaps you may be able to get better updates from the Supplementary Reading Books which the University will keep issuing from time to time. Unit 2 deals with 'HIV/AIDS disease profile'. In this unit an understanding about immune system of the body, difference between HIV and AIDS, different stages of HIV infection and the signs and symptoms of HIV/AIDS have been described. Unit 3 explains 'Misconceptions of HIV/AIDS/STDs'. Attempt has been made in this unit to identify some of the misconceptions related to HIV transmission, misconceptions pertaining to HIV/AIDS treatment, care and rehabilitation. Unit 4 discusses the 'History of HIV/AIDS'. Apart from recognizing the clinical description of HIV/AIDS, an attempt has been made in this unit to trace the history of HIV/AIDS in the world as well as some of the theories of the origin of HIV/AIDS.

The four units provide a comprehensive understanding about the basic facts of HIV/AIDS which will help you as a learner to proceed to other blocks of this course dealing with specific topics.



UNIT 1 GLOBAL AND NATIONAL SCENARIO OF HIV/AIDS

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1.0 AIMS AND OBJECTIVES

In our country, HIV appeared much later than in other parts of the world. However, this killer disease is spreading rapidly and has now emerged as a serious social, economic and public health problem. AIDS does not differentiate between age, sex, profession and religions, social, political, economic, cultural, educational and family status. The tragedy of AIDS in the worst affected countries of Africa and the West is likely to repeat itself in India in the next few years unless measures are taken in time to counter it. While offering curative care to AIDS patients seems to be distant reality in the absence of a vaccine, evolving strategies to prevent and control the unabated spread of this disease is desirable and possible. There is also an urgent need for timely intervention in the area of treatment of opportunistic diseases, advocating healthy lifestyles and providing an enabling environment for those in need for care and support. For this an immediate and effective response is required from every educated individual in our country. For this purpose we have prepared these lessons which are presented to you in the form of books or blocks. This first unit is on the global and national scenario of HIV/AIDS.

After studying this unit you will be in a position to:

- Understand the global scenario of HIV/AIDS;
- Analyze the situation of HIV/AIDS in different regions of the world and the major initiatives from different governments in these regions;
- Understand the problem of HIV/AIDS in India; and
- Perceive the impact of the problem of HIV/AIDS in socio-economic development.

1.1 INTRODUCTION

AIDS, which is one of the most dreaded diseases of humanity, has spread to every part of the world, threatening people from all spheres of life. The first case of HIV infection was reported in 1981 among the homosexuals in the United States of America while HIV was first reported in 1986 among commercial sex workers from Chennai, India. The recent report from the Joint United Nations Program on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) estimated 32.4 million adults and 1.2 million children with HIV infection as on December 1999. The widespread prevalence of HIV/AIDS has to be seriously considered for any type of public health program. In this section we shall analyze the prevalence of HIV/AIDS at the Global, Regional and National levels together with its impact on the socio-economic development.

1.2 GLOBAL SCENARIO OF HIV AIDS

According to the World Health Organization (WHO projections), a total of 40 million men, women and children worldwide will have been infected with HIV, by the end of 2000.

In 1990's, AIDS became a phenomenon in almost all the continents. In 1992, in Europe, most of the cases were reported from France, Italy, Spain, Germany and the United Kingdom. Certain countries had higher rates of AIDS like Switzerland (65 cases) France (66) and Spain (67 cases). In the America's, Canada, Brazil and Mexico have the largest number of cases outside the United States. Bermuda and Barbados reported of highest rates of AIDS cases. In the South-East Asian and Pacific countries, Australia, Singapore, India and Indonesia have reported substantial number of HIV infection.

There was also a rise in the number of AIDS cases in adults and children from 9,85,119 in 1994 to 1,69,811 by mid 1995 as reported by the Global Program on AIDS (GPA). But GPA also approves the fact that the actual number of cases may be four times greater than the reported number. Among the reported AIDS cases, only at about half accounted for the developing countries though the GPA estimate of actual cases stands higher. It has been estimated by GPA that about 18.5 million adults and more than 1.5 million children have been infected with HIV since the first incidence in the late 1970's and early 1980's.

Incidence of AIDS in Different Countries

Irrespective of the incompleteness of the reporting of AIDS cases, the World Health Organization maintains a tally of all the cases reported to it. As per the 1991 WHO report, the number of AIDS cases in various countries per 100,000 population is as follows: In America, Bahamas (95.1), Bermuda (40.3) Cayman Islands (23.5), United States (16.3), Honduras (9.1) and Mexico had (3.5) reported AIDS cases. In Europe, Spain had highest number of reported cases (8.7) of the AIDS and Sweden had the lowest -1.5 AIDS cases. African region had got the highest number of HIV/AIDS cases reported in the world:

Malawi (85.3), Uganda (53.5), Congo (52.5), Zimbabwe (45.7), Tanzania (40.9) and Togo (17.6). In the Western Pacific region, Australia (3.9) had the highest number of AIDS cases and Japan had the lowest (0.1) number of cases reported.

In 1999, an estimated 5,70,000 children aged 14 or younger became infected with HIV. It has been estimated that over 90 per cent were babies born to HIV-positive women, who acquired the virus at birth or through their mother's breast milk. In this category, also nine-tenths were in sub-Saharan Africa.

A recent report of the Joint United Nations Program on HIV/AIDS (UNAIDS) published in Dec 1999, gives the global summary of the HIV/AIDS epidemic (Table-1.1).

Table 1.1

Global Summary of HIV/AIDS as on December 1999		
People newly infected with HIV in 1999	Total Adults Women Children <15 Yrs.	5.6 Million 5 Million 2.3 Million 570000
Number of people living with HIV/AIDS	Total Adults Women Children < 15 Total	33.6 Million 32.4 Million 14.8 Million 1.2 Million
AIDS deaths in 1999	Total Adults Women Children < 15 Yrs.	2.6 Million 2.1 Million 1.1 Million 470000
Total number of AIDS deaths since beginning of the epidemic	Total Adults Women Children <15 Yrs.	16.3 Million 12.7 Million 6.2 Million 3.6 Million

Source: AIDS epidemic Update: December 1999 UNAIDS (Joint-United Nations Program on HIV/AIDS).

The report of the UNAIDS shows that the overwhelming majority of people with HIV-some 95 per cent of the global total-live in the developing world. The report also affirms that HIV is still a challenge in industrialized countries due to the unsafe sexual behaviour of gay men. HIV infections in the former Soviet Union have doubled in just two years. There has been a steep rise in HIV incidence in Eastern Europe and Central Asia due to intravenous drug abuse. The same reason has been reported in the Middle East, though AIDS cases are still relatively low there.

Sub-Saharan Africa continues to have the highest number of HIV/AIDS cases, with close to 70 per cent of the global total of HIV-positive people. A vast majority of them may die in the next 10 years or so due to the infection and the existing poor socio-economic condition of that region.

Check Your Progress I

1. Give a brief account of the incidence of HIV/AIDS across the globe.

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1.3 REGIONAL SCENARIO OF HIV/AIDS

In this section, we shall focus on the situation of HIV/AIDS with specific reference to the various international regions. These areas include Africa, Asia, Europe and the United States.

Situation of HIV/AIDS in Africa

Africa has the highest prevalence rate of HIV in the world. There are about fifteen countries in Africa with very high incidence of HIV. In the beginning of the 21st century, some 23.3 million Africans, south of the Sahara are estimated by UNAIDS/WHO to have HIV infection or AIDS. This means that almost 70 per cent of the world's HIV/AIDS infected patients are present in a region that is home to just 10 per cent of the world's population.

Various studies show that the increase in HIV prevalence is very rapid in Africa. In Kinshasa, Zaire, examination of pregnant women found that the antibody positive rate rose from 0 (zero) percent to 8 percent over a 16 year period. AIDS has been the leading cause of death among males and the second leading cause of death among females in some central African cities since 1989.

Recently, around 15 studies on HIV prevalence in the general population were conducted in various African countries. They have given more insights into the spread and shape of the epidemic. The findings of the 15 studies conducted in both rural and urban areas in nine different African countries suggest that between 12 and 13 African women are infected for every 10 African men. UNAIDS/WHO estimate that, at the end of 1999, 12.2 million women and 10.1 million men aged 15-49 were living with HIV in sub-Saharan Africa.

The studies, as quoted in the report of UNAIDS, December, 1999, suggest that in many African countries, antenatal estimates tend to underestimate the real levels of HIV infection in women who progressively become less fertile; the longer their infection progresses, the less chance they have of getting pregnant. Since many HIV infected women are no longer becoming pregnant, they are not showing up at antenatal clinics where blood samples for anonymous HIV testing are taken. Thus, the antenatal estimates do not give a true picture of the extent of HIV infection in the female population as a whole.

It is to be also noted that the population-based studies suggest that infection levels in men are lower than the levels of HIV recorded among pregnant women. The conclusion seems to be that there are significantly more women than men having HIV infection in sub-Saharan Africa.

The reasons behind more infection among females is not very clear. Combinations of certain factors are clearly involved. HIV passes more easily from men to women through sex than from women to men. Another factor is related to the difference in age patterns of HIV infection in men and women as women tend to become infected at a younger age than men for both biological and cultural reasons. The studies show that in Africa, girls aged 15-19 are around five or six times more likely to be HIV-positive than boys of their own age.

Impact of HIV/AIDS

The impact of HIV and AIDS on African nations is clearly manifested in the 1999 **Human Development Index**-a ranking published by the United Nations Development Programme (UNDP). While life expectancy at birth in Southern Africa was 59 years in the 1990's it is set to recede to just 45 years between 2005 and 2010-its lowest level in half a century, according to the Population Division of the United Nations.

In Africa, the private sector is feeling the cumulative impact of the epidemic. A recent study of commercial farms in Kenya revealed very high levels of HIV. On one sugar estate, a quarter of the entire workforce was infected with HIV. Direct cash costs related to HIV rose dramatically as company spending on funerals increased five-fold and direct health expenditure increased ten-fold. Due to the increasing health costs of the employees, the owners of a flower farm sold their company. Many companies have started prevention programmes in the work place so that they are able to protect their investment in human capital. Still there exists a dilemma in terms of the benefits and insurance payments to the AIDS victims and it involves more expenditure for the companies. If the same trend continues in Africa, new business ventures would be far from reality.

• Situation of HIV/AIDS in Asian Countries

Irrespective of the fact that AIDS arrived relatively late in Asia, UNAIDS/WHO estimate that 6.5 million people were living with HIV at the end of 1999 and over five times as many as have already died of AIDS in the region. In this section, we shall focus on the situation of HIV/AIDS in some of the Asian countries.

A. Thailand

Thailand is considered to be one of the leading HIV infected nations, but there is a significant reduction in the incidence rate due to active prevention programmes. As per sentinel surveillance data, the number of people living with HIV at the end of 1991 was 200,000 to 400,000. It has been projected that 3.4 to 4.3 million Thais could be infected by the year 2000. Total AIDS cases during 1990s could reach 650,000 and cumulative AIDS deaths could reach 500,000.

Though the AIDS epidemic is relatively new in Thailand, in the opinion of experts, transmission of the HIV began in the late 1980's. The Ministry of Public Health (MOPH) estimated that as of December 1990, approximately 200,000 Thais were HIV-positive. The MOPH has also divided the population into following risk groups: IDUs, commercial sex workers, high-risk men and new borns. Another sentinel survey conducted in June 1991 showed that an additional 50,000 to 100,000 Thais became infected in the first six months of 1991, raising the cumulative total to 250,000 to 300,000 infected.

The report of the Joint United Nations Programme on HIV/AIDS published in December 1999 has appraised the well-established HIV prevention programmes of Thailand due to which there seems to be a considerable reduction in the prevalence rate. A study conducted in Northern Thai province of Chiang-Mai showed that the proportion of population that was HIV infected fell from a peak of 6.4 per cent in 1994 to 4.6 per cent in 1997. It is also observed that there is a fall in HIV prevalence in young women. In women under 25 experiencing their first pregnancy, HIV prevalence fell by 40 per cent over the three-year period. A slightly earlier decline in HIV prevalence among young male military conscripts was also observed in Northern Thailand. Thailand is the first Asian country, which has observed a decline in its HIV infection figures.

B. Republic of Korea

An estimated number of sero-positive individuals in Korea in 1991 accounted for 494 in which the major risk groups were homosexuals and bisexual men. By March 1992, 185 AIDS / HIV cases had been officially reported by the health authorities.

C. Malaysia

The official data from the Ministry of Health show that by the end of February 1992 the country had 2,900 HIV-infected persons and had only 46 cases of AIDS, of whom 33 had died. But it was also stated that the number of AIDS cases reported constitute about 80 percent of the actual number of cases. Intravenous drug abusers among the Indonesian migrant population in Peninsular Malaysia also contribute to the increase in HIV-infection.

D. Lao PDR

Lao PDR, one of the twenty least developed countries in the world can have unimaginable disaster if there is an out-break of any epidemic. The geographical location of Lao PDR is very risky. HIV-infected giants Thailand, China, Myanmar, Vietnam and Cambodia surround it. The estimated population of the country is 4 million in which only one case of AIDS was reported by the Lao Government to WHO office in Bangkok. Poor testing reporting system and lack of awareness could be some of the reasons for this.

E. Philippines

Though the first case of HIV in the Philippines was reported in 1984, it had reached 335 in June, 1992. In addition to this, the Philippine department of Health assumes as many as 4,000 to 7,000 Philippines may be infected during the same period. Among the 335 reported cases, 166 were men and 169 were women. Analysis of the reported HIV and AIDS cases shows that sexual relation was the one main mode of transmission in the Philippines (50 per cent heterosexuals, 13 percent homosexuals, and 5 per cent bisexuals).

The AIDS epidemic update: December 1999 published by the UNAIDS admits that the HIV infection in the Philippines appears to remain contained at low levels. It is reported that registered sex workers are screened every two weeks for other sexually transmitted infections (STIs) and are treated for any STIs. According to the National Behavioural Surveillance conducted in 1997, nearly three-quarters of registered commercial sex workers said that they had used a condom with their most recent client.

F. Indonesia

The Republic of Indonesia has an estimated 187 million population as of 1993 in an unevenly distributed in about 6,000 islands. The first victim of AIDS recorded in Indonesia was a foreign tourist who died in Bali, in 1987. Cumulative total up to 31st March, 1993 shows a sum of 31 AIDS cases including 22 deaths, and 109 HIV positive cases in that country.

G. China

After having detected the first AIDS case from among a foreign tourist group, in 1985, the government has taken serious measures. Surveillance centers on AIDS have been established in different areas namely, Province/Municipalities and Autonomous Regions by the health authorities. The total number of AIDS cases and HIV positive cases reported up to November, 1992 from 18 provinces and autonomous regions were 261 and 969 respectively.

The report of the UNAIDS shows that the bulk of new infections were concentrated among intravenous drug abusers even in areas where it was previously little recorded like the populous coastal province of Guangdong. HIV prevalence among intravenous drug abusers in this province rose from virtually nothing at the start of 1998 to 11 per cent by the start of 1999. Due to various socio-economic factors sex industry has been very active in China in recent times and it has been estimated that there may be as many as 4 million commercial sex workers throughout the country. Behavioural surveys show that more than 5 out of 10 sex workers have never used a condom (in some areas 9 out of 10) to protect themselves and their clients which anticipates a potential threat of HIV/AIDS in China. From the behavioural surveys it is deduced that there was negligence and lack of awareness amongst people.

H. Vietnam

Prevalence rates of HIV in Vietnam remain relatively low, which are on the rise. There has been more than ten-fold increase between 1994 and 1998 in the prevalence rate of HIV in pregnant women. This is indicated in the HIV surveillance system, but it did not claim beyond 1.5 per 1000. Intravenous drug abusers are considered to be the highest risk group whose HIV prevalence remained stable over that period at 18 per cent. In the female sex workers, HIV prevalence increased five-fold in the four years to 1998, reaching 2.6 per cent. National surveillance suggests that the HIV infection rate in male STI patients doubled to 1 per cent in the same period.

I. Bangladesh

Bangladesh does not have a serious prevalence rate, but the report of the UNAIDS predicts warning signals that rates could rise quickly. Take the case of female sex workers; HIV infection rates ranged between 0 to 15 per 1000 in different sites. Around half of all commercial sex workers are infected with syphilis, which increases the chance of HIV transmission if her customer is infected with the virus. As far as the use of condom is concerned, less than 20 per cent of sex workers had this practice. It is estimated that Bangladesh has about 25,000 intravenous drug abusers who share needles and syringes daily. For the moment, HIV prevalence in this group is relatively low, about 2.5 per 1000. It could be a serious threat if needle exchange programmes and other prevention measures are not urgently undertaken.

J. Cambodia

Cambodia has the highest levels of infection in Asia. An improved surveillance system shows that HIV is well established in the general population in all provinces, reports UNAIDS. HIV prevalence among pregnant women in 1998 exceeded 2 per cent in 12 out of the country's 19 provinces. It is reported that nationwide, on an average, some 3.7 per cent of married women of reproductive age were living with HIV in 1998. Men may be having more infection, as observed among the male blood donors than the females.

K. Mongolia

Mongolia has got the lowest rate of HIV infection. The first case of HIV infection was reported in this country in August 1992. This led to a strong political commitment from the Government. As a result, 90,000 serum samples from different groups were tested till 1992 and there was only one positive case.

Problem of HIV/AIDS in Eastern Europe and Central Asia

Newly independent states of the former Soviet Union have reported a high rate of HIV prevalence in 1999. According to the UNAIDS report-AIDS epidemic Update, Dec. 1999-the proportion of the population living with HIV doubled between end-1997 and end-1999 in this part of the world. In Central and Eastern Europe, the number of infected people rose by a third over the

course of 1999, reaching a total of 360,000.

In the Russian Federation and Ukraine, intravenous drug abuse is considered to be the main cause of the major part of the new infections. It is also admitted that reported infections represent only a fraction of real HIV infections. In the first nine months of 1999 over 2,700 HIV cases were reported in Moscow which shows a three times increase; as many as in all previous years combined. Sudden rise is also recorded in the towns and cities around Moscow.

In addition to the practice of intravenous drug abuse, there was evidence for unprotected sex with multiple partners in the Russian city of St. Petersburg. As a result, sexually transmitted infections such as syphilis, and gonorrhoea have also found a fertile ground. This situation was also recorded in the report of UNAIDS. The report of Outreach Service Providing Support and Safe Injecting Services for Drug Users in the Russian city of St. Petersburg show that 10 per cent of over 1800 clients tested positive for syphilis. There is another group, which could be another vulnerable group for HIV infection. This is the female drug injector who earns her livelihood by commercial sex work. It is reported that among 100 females of this high-risk category who used to attend the outreach service, 32 per cent had syphilis. This is another indication of the possibility of uncontrolled HIV transmission in the near future.

Another area of great concern is the large number of intravenous drug abusers among the unemployed young people and even among the school children in many of the industrial cities of the Russian Federation. It is reported that among the intravenous drug abusers, there are clients as young as 12 years. There has been an increase in the percentage of client's aged less than 14. It has risen from 0.1 per cent in 1997 to 2 per cent in the first quarter of 1999. It has been recorded by the European Centre for the Epidemiological Monitoring of AIDS that 90 per cent of all AIDS cases reported in 1998 and 1999 in the Entire Eastern European region were in Ukraine. This was mainly due to the increasing number of intravenous drug abusers.

Situation of HIV/AIDS in the Middle East

HIV is no more a far away reality in the Eastern Mediterranean region mainly due to intravenous drug abusers. According to UNAIDS report, drug injecting is the most common cause of AIDS in some countries, accounting for two-thirds of reported cases in Bahrain in 1998 and half in the Islamic Republic of Iran. While in Tunisia intravenous drug abuse causes more than one third of AIDS cases, in Egypt it accounts for one AIDS case in 10 among intravenous drug abusers. In Pakistan, 5.4 per cent of 783 intravenous drug abusers tested for HIV were found to be positive in 1995. Studies of United Nations International Drug Control Programme (UNDCP) show that in a few countries of the Middle East-Egypt, Iran and Lebanon-drug abuse is a real problem and the number of addicts are counted in millions in this part of the world. There has been a rise in the occurrence of Sexually Transmitted Infections in the Eastern Mediterranean region, which is estimated to be around 10 million cases every year though the reporting level is very low in this region. This is another indicator of the high-risk about sexual practices that exist in this region.

Situation of HIV/AIDS in the United States

AIDS was first reported in 1981 here. It is recorded that, there were more than 2,50,000 AIDS affected persons by the end of 1992 and more than 1,70,000 had already died. Gay men are the most vulnerable groups, as majority of the AIDS cases are reported from this high-risk group. It is also noticed among heterosexual men and women. AIDS is among the three major causes of death for women and men aged 25-49 years. It is one of the top 10 causes of death for children 1 to 4 years old. Hence, AIDS is now becoming a disease of the families. An analysis of the number of reported cases during the course of epidemic find that the cumulative number of cases doubled rapidly from 1978 to 1982. It has been estimated that 1984 may have been the year with greatest number of new infections, about 1,60,000.

Impact of Anti-Retroviral Therapy on the Disease

There was a steep rise in the rates of infection in homosexual and bisexual men in 1984 and then fell significantly. The total rates of infection of this group were estimated to be 5,90,000 in 1991. Though early fears had witnessed increasing new infections in drug users, it decreased after 1986 and the estimated cumulative rates are 2,65,000 in 1991. As per the observation made by Lyn Frunkin and John Leonard, by 1986, about 15,000 new HIV infections occurred annually in heterosexuals and a total of about 100,000 were infected by 1991. The UNAIDS report admits the effectiveness of antiretroviral therapy in prolonging death. In the United States, there was a decrease in AIDS deaths by 42 per cent between 1996 and 1997, but only 21 per cent between 1997 and 1998. Western Europe is experiencing a decline in AIDS deaths. Antiretroviral therapy is commonly used here.

Check Your Progress II

1. Describe briefly the situation of HIV/AIDS in the United States

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1.4 SITUATION OF HIV/AIDS IN INDIA

In India the HIV/AIDS epidemic is about fifteen years old and is considered to be one of the most serious public health problems. While the first AIDS case in India was reported in May 1986, 10,857 cases of AIDS have been reported to the Ministry of Health and Family Welfare from 32 states and Union Territories till 31st January 2000 as per NACO. Table 1.2 illustrates the state-wise cumulative occurrence of AIDS cases as on January 31, 2000.

Table 1.2 State-wise distribution of the reported cases of HIV/AIDS as on 31st January, 2000

S.No.	State/Union Territory	Blood Samples Screened	HIV Positive	AIDS
1	2	3	4	5
1.	Andhra Pradesh	74566	704	48
2.	Assam	17310	251	67
3.	Arunachal Pradesh	495	0	0
4.	Andaman & Nicobar Islands	12452	129	0
5.	Bihar	10194	41	3
6.	Chandigarh	56737	266	137
7.	Punjab	1523	65	100
8.	Delhi	335594	1545	219
9.	Daman & Diu (UT)	250	8	1
10.	Dadra & Nagar Haveli(UT)	160	1	0
11.	Goa	73463	2490	19
12.	Gujat	454372	1767	137
13.	Haryana	171810	645	1
14.	Himachal Pradesh	5896	130	27
15.	Jammu & Kashmir	8981	40	2
16.	Karnataka	415976	5906	250
17.	Kerala	44547	215	106
18.	Lakshadweep(UT)	1211	8	0
19.	Madhya Pradesh	112148	1022	354
20.	Maharashtra	442981	50556	3405
21.	Manipur	43124	6952	454
22.	Mizoram	44022	134	12
23.	Meqhalaya	14250	60	8
24.	Nagaland	9156	469	37
25.	Orissa	93750	192	16
26.	Pondicherry(UT)	92896	3479	141
27.	Rajasthan	23044	554	106
28.	Sikkim	616	12	2
29.	Tamil Nadu	765531	15107	4914
30.	Tripura	5613	4	0
31.	Uttar Pradesh	122436	1565	234
32.	West Bengal	163991	649	57
	Total	3622095	94,966	10,857

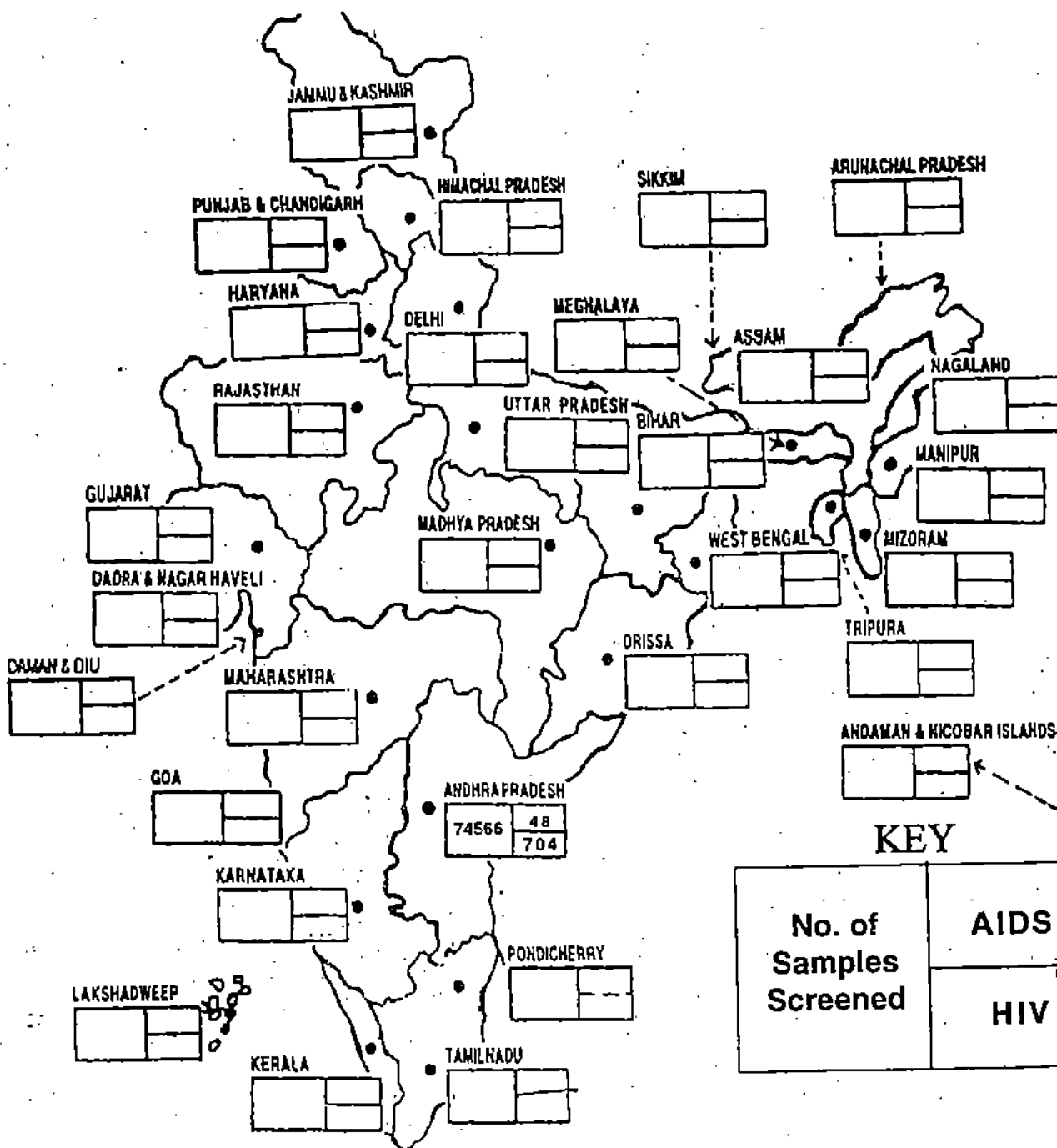
Source: NACO. Ministry of Health and Family Welfare, Govt. of India.

Epidemiology of HIV/AIDS in India

The UNAIDS report estimates that around 4 million Indians have HIV infection by the end of 1999, Table 1.2 shows that 10857 AIDS cases have been reported to the NACO as on 31st January 2000. Among the 36,22,095 sample screened across the country, 94,966 samples were found to be HIV positive. The number

EXERCISE

You may fill up the blank boxes with appropriate figures (see Table 1.2 on page 15) pertaining to each state. Follow the example given for Andhra Pradesh.



of AIDS cases reported in India does not give a full picture of the reality or the magnitude of the problem. The factors responsible for these phenomena are under reporting by states and lack of diagnostic facilities and skills.

A. Distribution of AIDS as per Age/Sex

According to NACO's 1998 report, sexually active and economically productive age group (15-50 years) accounted for majority of AIDS cases (89%). If we split the age factor into further divisions, 30-45 years age group has the highest rate of infection: 45 per cent followed by 15-29 years age group 44 per cent, 46 and above 7 per cent and 0-14 years 4 per cent. Among the total number of 5204 AIDS cases in 1988, males accounted for 4108 (78.94%) and female 1096(21.06%) and the Male: Female ratio was 3:1.

Another area of great concern is the rise of paediatric AIDS. About half of the cases are recorded within six months of age and die within five years. If this situation continues, child survival programme of Government of India would not attain its intended objectives. The main mode of transmission is from mother to child. In some slums of Mumbai, the prevalence is as high as 6 per cent among persons who attend Antenatal clinic (ANC). Attenders in these clinics record a prevalence rate of more than 1 per cent. After having realized the severity of the problem, NACO has started a prevention programme for prevention of paediatric AIDS through AZT prophylaxis on experimental basis from 1998-1999.

B. Mode of Transmission

The Sentinel surveillance data of HIV as on 31st January 2000 of NACO shows that 48.46 per cent of HIV positive individuals had been infected, through sexual transmission. While 6.76 per cent persons acquired through blood and blood products, 3.88 per cent persons acquired through infected syringes and needles. Due to prenatal transmission 0.28 per cent persons have been infected. In a large number of cases the mode of transmission is not known.

C. Growth in Seropositive Cases

There has been a comparative rise in seropositive cases between 1986 and 1998. A figure of 10.2 per cent per thousand in 1986-1992 has reached 22.7 per cent in March, 1998 which accounts for 11.5 per cent increase. The main cause of infection is heterosexuality as it accounts for about 75 per cent. Surveillance reports (NACO, 1998) of few years show alarming situations among different HIV high-risk groups with the following trends:

- Infection among sex workers in Mumbai has increased from 1% to >50% in 5 years;
- Infection among IVDU's in Manipur has increased from 1% to 55.8% in 5 years;
- Infection among STD clinic attendants in Mumbai has increased from 1% to 55.8% in 5 Years;
- There has been also an increase of HIV infection among STD clinic attendants in Mumbai from 23% to 36% in one year and;

- Infection rate among the truck drivers in Tiruchinapalli rose from 2.7% to 5% in 2 years.

We shall see the situation and pattern of transmission of HIV/AIDS in detail in some of the states in the country.

HIV/AIDS in South India

Tamil Nadu

It was in Chennai that the first few seropositive cases were reported in the country in 1986. As per the sero-surveillance rate up to 31st January 2000 Tamil Nadu has reported 15107 HIV positive cases and 4914 cases of AIDS out of 765531 blood samples screened. The state stands second in terms of the highest number of AIDS cases and the state has also got a good system of surveillance in the country compared to other states. Available data shows that HIV prevalence among women has been 1.5 per cent in Chennai. The state AIDS society has also launched campaigns that address the issues of AIDS related stigma directly, along side a campaign to encourage safer sexual behaviour. UNAIDS report 1999, acknowledging behaviour surveys, shows that there has been a 50 per cent increase in casual sex among factory workers over past two years and an increase in the condom use with casual partners from 17 per cent in 1999 to 50 per cent in 1998.

Kerala

In Kerala as per the NACO report, there are 106 AIDS and 215 HIV cases. There is a strong belief that there could be more number of cases, as a good number of the productive workforce in the state either migrate to Middle East or to Metropolitan cities in India for employment. Many of them are reported to be either indulging in pre-marital sex or extra-marital sex. This needs to be further verified and the findings should be based on scientific research.

Due to the fear and stigma associated with HIV/AIDS, there are reported incidences of violence against the HIV infected in the state. A report in the Hindu (Dec. 17, 1999) speaks of the tonsure of two women by a mob of about 100, allegedly spreading AIDS in a small town near Malapuram in Kerala. Even private/religious institutions taking care of the AIDS patients are being threatened by the locals. Many feel that anti-AIDS campaigners in the state have contributed to some extent in generating an exaggerated scare about the disease in the general population.

Karnataka

In Karnataka the reported cases of HIV and AIDS accounted for 5909 and 250 respectively, as on 31 January 2000. Karnataka has several homes taking care of the HIV infected. St. John's Medical College Bangalore, is one of the pioneer Medical Colleges in the country providing treatment to the HIV/AIDS infected in the country.

Andhra Pradesh

Andhra Pradesh had as many as 704 HIV cases and 48 AIDS cases among the 74,566 blood samples screened. Many patients from the state go to Tamil Nadu and Karnataka for treatment, care and rehabilitation.

Union Territories

Pondicherry reported 3479 HIV and 141 AIDS cases up significant to note here that the Union Territories (UTS) of Andaman and Nicobar Islands and Lakshadweep have reported of 129 and 8 cases each respectively. No AIDS cases have been reported from these Union Territories officially although media keep reporting actual cases of death due to HIV/AIDS.

HIV/AIDS in North India

The situation of HIV/AIDS in North India shows a rising trend though the surveillance system in this region is not up to the optimum level. Delhi has reported 219 AIDS and 1545 HIV cases out of the 33556 blood samples screened up to 31 January, 2000, while Chandigarh and Punjab reported of 331 (266+65) HIV and 237 (137+100) AIDS cases. During this period, Uttar Pradesh had 1565 HIV and 234 AIDS cases Bihar, which is one of the backward states of India in many of its socio-demographic indicators, does not have a well-established testing system, due to which less number of screenings for HIV is done here. The total blood samples screened accounted for 10,194 of which only 3 cases of AIDS and 41 cases of HIV were reported from this state. Bihar is also ill-equipped to meet the menace though the state is located in a geographically high-risk region close to north-eastern states and Nepal. The state also has a large number of migrant population, who works in metropolis and other near by states. Himachal Pradesh, which has got five sentinel sites, reported 130 HIV and 27 AIDS cases. Jammu & Kashmir, with three sentinel sites detected 2 AIDS and 40 HIV cases. It may be noted that for every reported case there will be hundreds of unreported or undiagnosed cases in the country.

HIV/AIDS in Western India

Maharashtra

Maharashtra has a well-established surveillance system for HIV/AIDS in India. This does not mean Maharashtra is free from this menace. On the contrary, Mumbai, the business capital of the country has the highest prevalence rate of HIV/AIDS in the country. As per NACO data out of 442981 samples screened in Maharashtra, as many as 50556 were found to be HIV carriers while 3405 AIDS cases were detected as on 31st January 2000. Mumbai is known for the large concentration of commercial sex workers as well as other risk groups like the truck drivers, migrant labours, professional blood donors etc. There are large number of NGOs who work exclusively in the area of HIV/AIDS in this state.

Gujarat

Gujarat had screened 454372 blood samples, the maximum in the western region as on 31st January 2000. Among the total samples screened in the state, 1767 HIV and 137 AIDS cases were detected during the corresponding period. A study conducted by the Preventive and Social Medicine Dept. at Surat Medical College in 1994 shows that HIV sero-prevalence in male is rather high among the population of Surat City. 953 persons from different occupational groups were screened in which the sero-prevalence rate was observed to be 2.4

per cent. It was high among prisoners (5%/178 prisoners), which was followed by STD patients (3.5%/313 STD patients) and diamond workers (0.8%/236). Sexual contact was the only reported reason for the mode of transmission. A vast majority of them were living away from their families.

Rajasthan

According to NACO report, as on 31st January 2000, 23044 blood samples were screened in Rajasthan out of which 554 HIV and 106 AIDS cases were detected. It has been reported that there are several tribal groups in Rajasthan, where women are traditionally working as commercial sex workers, in several centres in villages and small towns of the state. Such trends are likely to make the situation worse. A study conducted in 1994 in the eastern part of the state shows that at least 20,000 women were known to be involved in sex trade. Among them, 2000 persons were detected with HIV.

Goa

Baina in Vasco-de-Gama, the largest town in Goa, has shown an increasing trend in HIV prevalence rate from one per cent in 1987 to 27 percent in 1993. According to NACO report, this town has got 2000 female sex workers. Goa has got 2490 HIV cases and 19 AIDS cases from 73463 blood samples screened as on 31st January 2000. With a large tourist population visiting the state, the risk factors involved in this state are several.

HIV/AIDS in East India

North East

North Eastern region in the India is reported of having high prevalence rate of HIV/AIDS, due to its special geographical location. As per NACO's report, Manipur has 6952 HIV cases and 454 AIDS cases out of 43124 blood samples screened as on 31st January 2000. Nagaland reported of 469 HIV and 37 AIDS cases while Assam reported 251 HIV and 67 AIDS cases during the corresponding period. During the same period, Meghalaya reported of 60 HIV and 8 AIDS cases. Arunachal Pradesh has not reported even a single case, mainly due to the small number of screening of blood samples (495) in the state. It has been observed that the prevalence rate among intravenous drug abusers in Manipur is 60 per cent to 70 per cent. The same mode of transmission has entered into Nagaland, with 50 per cent prevalence rate and 6 per cent to 10 per cent in Mizoram in mainly high-risk category of IVDUs. The drug smuggling in Manipur and parts of Mizoram and Nagaland is mainly from Burma. The nearness of Manipur to notorious Golden Triangle of Myanmar, Thailand and Laos and the free borders of Myanmar make the availability of heroin in the state easier. Assam is also not far away from this influence.

West Bengal

Among the 163991 blood samples screened in West Bengal, 649 HIV and 57 AIDS cases were reported, as on 31st January 2000. In Orissa 213 HIV and 16 AIDS cases were reported during the same period. Sonagachi project in West Bengal started in 1992 cover over 5000 CSWs residing in About 370 brothels, apart from around 1500 street based sex workers. The project started with

NACO/WHO financial support. At present the project is being supported by DFID. The basic components for intervention include provision of health services including STD treatment, use of IEC techniques and promotion of condom programming. It has been found to be a successful intervention initiative.

AIDS in Special Situations

In 1991, it was estimated that there were around one lakh CSWs in Mumbai. Among them 20 to 30 were infected with HIV at that time. A study conducted by Tata Institute of Social Sciences in 1989-1990 shows that there were approximately two million CSWs in India, residing in 817 red light districts. According to a WHO report the increasing rate of positive case in Mumbai is higher than that of Africa and the large scale mobility of people makes the possibility of transmission of the disease outside the city more stronger. A study conducted by Indian Health Organization in Mumbai in 1993 on the sexual life of the truck drivers shows that about 90 per cent of the truck drivers visit CSWs on highways, red light areas and other places. A vast majority of them were aware of STDs but did not use condoms. Assam has also got a large number of floating populations like truck drivers and security personnels which makes the situation conducive for the spread of HIV. These groups use the services of CSWs and many are found to be infected with STDs.

Interventions

How can the problem of STDs and HIV be addressed in the Indian prison? Though homosexuality has been practised among the prisoners, how it can be controlled is a major issue. That was the main reason why the then IG Prisons, Ms. Kiran Bedi refused to order free distribution of condoms in Tihar Central Jail because of section 377 of the Indian Penal Code which outlawed sodomy. Though many NGO activists sought decriminalization of consensual homosexuality, on 5th May, 1994, the then Minister of State for Home Affairs Mr. P.M. Sayed informed the Lok Sabha that there was no proposal under consideration of the Government to supply condoms to prisoners in Tihar Jail. The Minister also said that the Delhi Government had reported that a team of doctors took blood samples of high-risk prisoners and only one case was found to be HIV positive.

Though AIDS is spreading, AIDS awareness in rural areas is not up to the optimum level. A study was conducted by the Department of Preventive and Social Medicine, Rural Medical College of Pravara Medical Trust, Loni, Ahmednagar in 1992-93, in 20 villages covering 1000 respondents. Among the total respondents, 40 per cent reported that they were aware of AIDS. It was also observed that 94.4 per cent respondents did not know anything about the signs and symptoms of AIDS, while 77.1 per cent were unaware of any preventive measures.

All India Institute of Hygiene and Public Health (AIHPH), Sonagachi, Calcutta, has introduced a new AIDS intervention programme, using sex workers as 'peer educators'. After having undergone a six-week training programme, they go about visiting each brothel, educating the occupant,

distributing condoms and reiterating the urgency of combating AIDS. This programme is considered to be very effective as the number of condoms distributed by the sex workers in Sonagachi have gone up from 1500 in September 1992 to approximately 65,000 in April 1994. The abortion rate and STD prevalence rate have also come down in this region. NACO has already initiated various intervention programmes in some of the North Eastern states with assistance of international development organizations, especially for the intravenous drug abusers. The Indian Council of Medical Research (ICMR) has also taken up an active step with the support from WHO in conducting operational research on outreach programming in the region. A model project, "Continuum of Care Project" on the home or community based rehabilitation for the persons with AIDS is at work in Manipur which is a joined programme of Oxfam, Sharon NACO, WHO and the Government of Manipur.

Check Your Progress III

1. Briefly describe the situation of HIV/AIDS in Northern India.

1.5 IMPACT OF HIV/AIDS ON SOCIO - ECONOMIC DEVELOPMENT

HIV/AIDS can affect every sector of the country, due to the special nature of the disease and the existing socio-economic condition of the masses in our country. In this section, we shall briefly analyse the impact of HIV/AIDS on socio-economic development.

Economic Impact

The youth are considered to be the economically active work force of any economy. Since majority of the AIDS victims are youth, it may in the long run destroy the productive force of any country. This trend has been already observed in Africa. The killer disease thro-kills the existing production system. It may also prevent the entry of new business opportunities, since no one would be interested to invest in an epidemic dominated region. This would add further fuel into the fire of a collapsing economy. The gains made through liberalisation, and market economy could be badly affected if timely measures are not taken in time to contain the spread of HIV/AIDS.

Health Impact

Another issue is the rising health expenditure. Even before the incidence of HIV/AIDS in India, it was impossible to satisfy all the health care needs of citizens in India. With the widespread prevalence of HIV/AIDS, a good percentage of health expenditure is spent on HIV/AIDS related programmes, at the cost of other health problems. This would further weaken the existing health care delivery system.

A full-blown AIDS patient is susceptible to various communicable diseases like Tuberculosis, Pneumonia etc. This may also lead to the increase in the prevalence of these communicable diseases in the general population as it has been already noted in India. All the more, if proper measures are not taken, the entire health care delivery system has to bear the consequences of the disease. For example, an ill-functioning blood bank in a hospital, may generate many 'innocent AIDS victims' through the blood transfusion process.

Due to the particular nature of disease, AIDS victims no more exist as independent persons, but always remain dependent on the rehabilitation personnel or on family members. This may create a vicious circle of dependence in society.

1.6 THE NEED FOR INTER-SECTORAL CO-ORDINATION

Having understood that HIV/AIDS is no longer a health problem alone, it is important to have proper collaboration between different sectors. This calls for an effective co-ordination among different Central and State Government Departments, Educational Institutions, Local Bodies, partnerships with Non-Government Organizations (NGOs) and corporate bodies for preventing and controlling HIV/AIDS in India.

NACO has already taken some steps to conduct periodic meetings with various organizations to elicit views and sensitize them on issues concerning HIV/AIDS. NGOs and other Private Voluntary Organizations (PVOs) have been welcomed to participate in the programme management. NACO has also ensured the participation of corporate sector in addressing the problem. Top level bodies like Confederation of Indian Industries (CII), Federation of Indian Chambers of Commerce Industry (FICCI), ASSOCCHAM and Bengal Chamber of Commerce and Industry have already started programmes in collaboration with NACO for the integration of HIV/AIDS/STD prevention and control activities into their on going health care, educational, and other social development activities. Tata Iron and Steel Company (TISCO), Jamshedpur has already taken a lead role in integrating HIV/AIDS awareness programme in their on-going family welfare programme.

Check Your Progress IV

1. What is the impact of HIV/AIDS on the health care sector in India?

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1.7 LET US SUM UP

HIV/AIDS has entered every part of the world, posing a threat to people from all walks of life. In this unit we have discussed the global scenario of HIV/AIDS. We have also tried to get a picture of the problem in different regions of the world and the associated social development problems in different countries. It is evident that no country in the world can deny the prevalence of HIV/AIDS and if it denies, it affirms the fact that there is no proper surveillance system there.

A detailed analysis of the problem in India shows that how it has become a serious public health problem in India in general and different states in particular. Though sexual contact is the main mode of transmission in India, other modes like intravenous drug use, blood transmission, and mother to foetus transmission are also commonly observed. NACO has initiated various programmes to control this epidemic.

HIV/AIDS is not a health problem alone. It is also a socio-economic problem. We have also analysed how it poses a threat to the economy and other social institutions. Inter-sectoral co-ordination is a must in controlling this problem. NACO has taken a lead role in co-ordinating other Government departments, NGOs and corporate sectors to participate in its various programmes. However, we have still a long way to go in ensuring the participation of different agencies to prevent and control HIV/AIDS in India.

1.8 KEY WORDS

- AIDS** : An acronym from the abbreviation A.I.D.S. Acquired Immuno Deficiency Syndrome
- HIV** : Human Immuno Deficiency Virus
- Pandemic** : An epidemic over a wide geographical area — usually worldwide
- STD** : Sexually Transmitted Disease

Check Your Progress I

1. Give a brief account of the incidence of HIV/AIDS across the globe.

Irrespective of the incompleteness of the reporting of AIDS cases, the World Health Organization maintains a tally of all the cases reported to it. As per the 1991 WHO report, the number of AIDS cases in various countries per 100,000 population is in the following direction. In the Americas, Bahamas (95.1), Bermuda (40.3) Cayman Islands (23.5), United States (16.3), Honduras (9.1) and Mexico had (3.5) reported AIDS cases. In the Europe, Spain had highest number of reported cases (8.7) of the AIDS and the Sweden had the lowest 1.5 AIDS cases. The African region had the highest number of HIV/AIDS cases reported in the world: Malawi (85.3), Uganda (53.5), Congo (52.5), Zimbabwe (45.7), Tanzania (40.9) and Togo (17.6). In the Western Pacific region, Australia (3.9) had the highest number of AIDS cases and Japan had the lowest (0.1) number of cases reported.

Check Your Progress II

1. Describe briefly the situation of HIV/AIDS in the united states.

AIDS was first reported in 1981 in the USA. It is recorded that, there were more than 2,50,000 AIDS affected persons by the end of 1992 and more than 1,70,000 had already died.

Gay men are the most vulnerable groups, as majority of the AIDS cases are reported from this high-risk group. It is also noticed among heterosexual men and women. AIDS is among the three major causes of death for women and men aged 25-49 years. It is one of the top 10 causes of death for children 1 to 4 years old. Hence, AIDS is now becoming a disease of families.

Analysis of the number of reported cases during the course of epidemic find that the cumulative number of cases doubled rapidly from 1978 to 1982. It has been estimated that 1984 may have been the year with greatest number of new infections, about 1,60,000.

Check Your Progress III

1. Briefly describe the situation of HIV/AIDS in Northern India.

The situation of HIV/AIDS in North India shows a rising trend though the surveillance system in this region is not up to the optimum level. Delhi has reported 219 AIDS and 1545 HIV cases out of the 335594 blood samples screened up to 31 January, 2000, while Chandigarh and Punjab reported of 331 (266+65) HIV and 237 (137+100) AIDS cases. During this period, Uttar Pradesh had 1565 HIV and 234 AIDS case. Bihar, which is one of the backward states of India in many of its socio-demographic indicators, does not have a well-established testing system, due to which less number of screenings for HIV is done here. The total blood samples screened accounted for 10,194 of which only 3 cases of AIDS and 41 cases of HIV were reported from this state. Bihar is also ill equipped to meet the menace though the state is located in a

geographically high-risk region close to northeastern states and Nepal. The state also has a large number of migrant population, who work in metropolis and other near by states.

Himachal Pradesh, which has got five sentinel sites, reported 130 HIV and 27 AIDS cases. Jammu & Kashmir, with three sentinel sites detected 2 AIDS and 40 HIV cases. It may be noted that for every reported case there will be hundreds of unreported or undiagnosed cases in the country.

Check Your Progress IV

1. What is the impact of HIV/AIDS on the health care sector in India?

Even before the incidence of HIV/AIDS in India, it was impossible to satisfy all the health care needs of citizens in India. With the widespread prevalence of HIV/AIDS, a good percentage of health expenditure is spent on HIV/AIDS, related programmes, at the cost of other health problems. This would further weaken the existing health care delivery system. A fullblown AIDS patient is susceptible to various communicable diseases like Tuberculosis, Pneumonia etc. This may also lead to the increase in the prevalence of these communicable diseases in the general population as it has been already noted in India.

All the more, if proper measures are not taken, the entire health care delivery system has to bear the consequences of the disease. For example, an ill-functioning blood bank in a hospital, may generate many 'innocent AIDS victims' through the blood transfusion process. Due to the particular nature of disease, AIDS victims no more exist as an independent person, but always remain dependent on the rehabilitation personnels or on family members. This may create a vicious circle of dependence in society.

1.10 FURTHER READINGS

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UNIT 2 HIV/AIDS DISEASE PROFILE

Content

- 2.0 Aims and Objectives
- 2.1 Introduction
- 2.2 Immune System of the Body
- 2.3 Profile of HIV and AIDS
- 2.4 Stages of HIV/AIDS Development
- 2.5 HIV Infection, Tuberculosis (TB) and STDs.
- 2.6 Let Us Sum Up
- 2.7 Key Words
- 2.8 Model Answers
- 2.9 Appendix
- 2.10 Further Readings

2.0 AIMS AND OBJECTIVES

The objective of this unit is to provide you with an understanding about the disease profile of HIV/AIDS, its characteristic features, signs and symptoms. It is aimed at disseminating the factual information about HIV/AIDS in its true conception. After reading this unit, you should be able to:

- Visualize the functions of immune system of the body, prior to HIV infection and after HIV infection;
- Understand the basic difference between HIV and AIDS;
- Explain the different stages in the development of HIV infection;
- Identify the signs and symptoms of HIV;
- Correlate between TB and HIV infection and similarly HIV infection and STDs;
- Know how AIDS is different from other diseases.

2.1 INTRODUCTION

In the previous unit, you have learnt the global and national scenario of HIV/AIDS, and its impact on developmental issues.

The AIDS epidemic has cut across the conventional boundaries of nationality, sex and age in the course of time from its specific geographic and particular high risk group population to the general population. The **Human Immune Deficiency Virus (HIV)**, which causes AIDS, has infected millions of men, women and children in developed as well as developing countries. AIDS is the 'Late' stage of infection with a virus that takes many years to cause illness. Although, AIDS was first recognized in USA in 1981, the phenomenon has occurred worldwide within a short span of time. There is no substantial treatment or vaccine available and this has made the communities to react and

adopt measures, which can curtail the spread and prevent any further new infections.

This unit will look at the disease-profile of HIV/AIDS, the role of immune system in a healthy person and in an HIV infected person and the correlation between TB and HIV infection. In the unit which shall follow we discuss how HIV/AIDS is not transmitted and about myths and misconceptions of HIV/AIDS / and STDs.

2.2 IMMUNE SYSTEM OF THE BODY

We are familiar with the term pollution. There are various types of pollution such as: water pollution, air pollution, sound pollution, etc. These can cause various illness. There are several types of unseen organisms existing around us. Very often it is difficult to detect them with our naked eyes. However, some of these organisms can cause us health problems. It is very difficult to avoid many of these organisms. Very often it is not possible for us to eliminate these organisms from the environment as contact with them is unavoidable. The air around us is usually filled with viruses, parasites and bacteria. They are found everywhere on our dress, restaurant, drawing room, school, hospital, market place etc. They live among animals, birds and plants. They are also found in large numbers in the garbage, stagnated water, drainage etc. They also cause decomposition of dead plants and animals. Many of these bacteria are our constant companions. They are not dangerous to our health and good living. In fact we live in friendly relationship in the company of these bacteria which help each other to survive.

It is important to know that most of these friendly bacteria live on the mucous membranes that line our body's natural opening. They help protect ourselves in potentially harmful situations. It is interesting to know that most of the body's undesirable invaders are overcome by the natural pesticides in sweat, saliva and tears. They are also dissolved by stomach acids, or trapped in the sticky mucous of the nose and throat before being expelled by a sneeze or cough. Some of the viruses and bacteria can make people sick. The ones that can make us sick are called germs. There are many kinds of germs. They cannot be seen through naked eyes. Sometimes these organisms which can cause disease may enter the bloodstream of our body. If they enter the bloodstream and tissues, they will multiply fast and start destroying, vital body cells. In most situations, the body defeat these invaders. Thus we recover from ordinary diseases like common cold or a flu.

Communicable and Non-Communicable Diseases

Some of the diseases can be passed from one person to another. These diseases are called **communicable diseases**. Influenza, common cold and are examples of communicable diseases. There are also non communicable diseases. They cannot be passed from one person to another. Heart disease, Cancer, Dabetes and Cataract are some of the examples of **non-communicable diseases**.

AIDS is a communicable disease. However, this disease cannot be easily passed on from one person to another like the common cold. AIDS cannot be spread through air, water or ordinary contacts. It can be spread only through certain specific routes. We shall discuss those details in a separate chapter in this book.

There are at least two known ways to protect ourselves against a communicable disease. One sure way to protect our body from such diseases is to keep the body free from germs. In other words, we should not allow germs to enter our body. The second way to protect our body from communicable diseases is to use our body's own defence system against the germs which have entered our body.

Defence System of the Body

Every human body has a defence system to protect the body from diseases. This defence system is known as the **immune system**. Our body's immune system helps in fighting off germs that enter our body. Our body has several parts and organs which are made up of small units. These units are called "cells". There are different types of cells in our body. For example, there are bone cells, blood cells, muscle cells, skin cells, etc. in our body. If we are infected with the virus (HIV) which causes AIDS, our immune system becomes weak. The HIV destroys the cells that are responsible for our body's immune system. If the cells are destroyed, then our body will be unable to fight off germs. Therefore, if we are infected by the AIDS virus, we become sick and die faster than any other normal person.

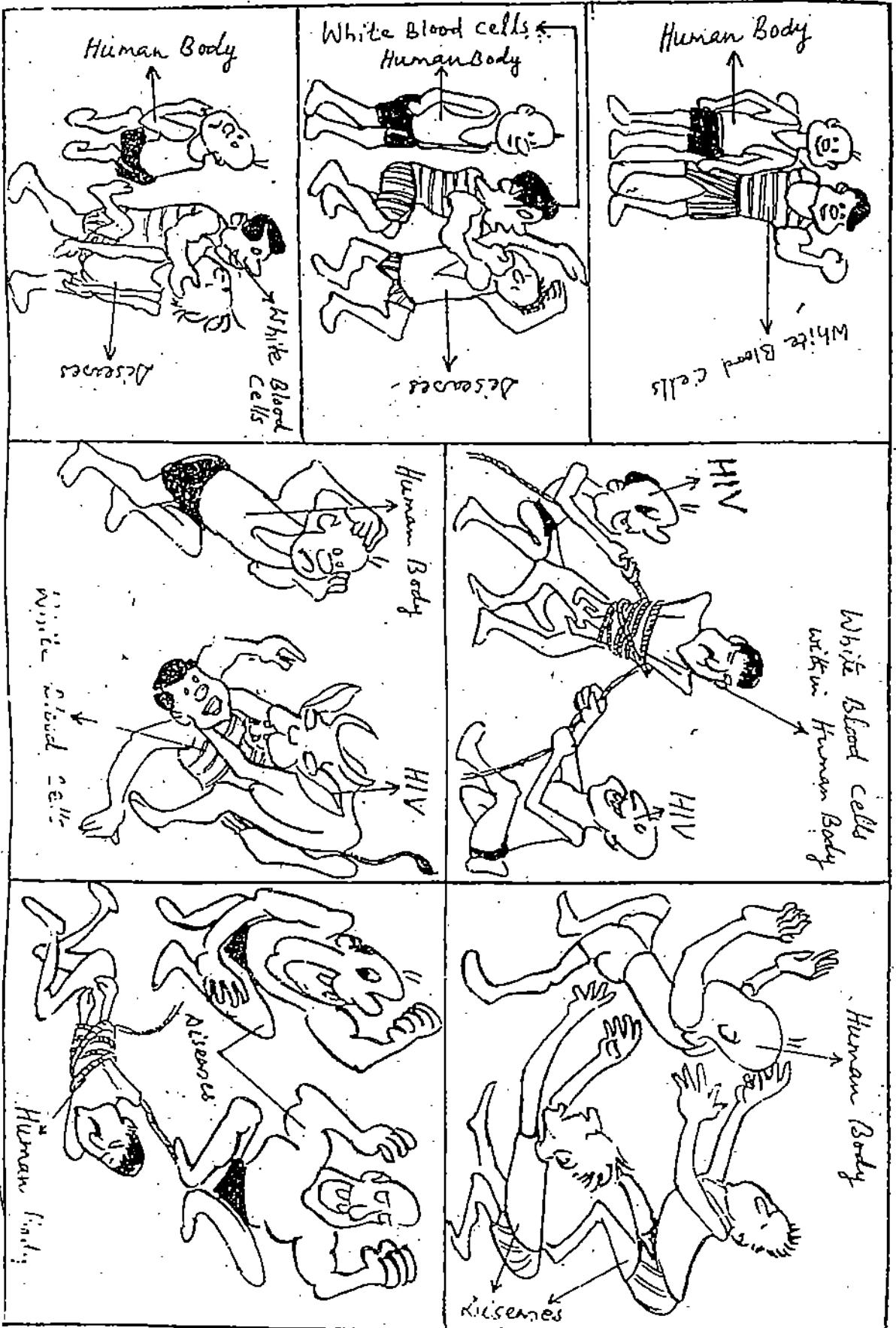
Functioning of the Immune System

The immune system within our body functions like an army. Usually an army consists of hundreds of thousands of persons. They keep round the clock vigil to safeguard and protect the country. Similarly our body consists of special blood cells. These blood cells fight off the germs that enter our body. Our body constantly keep producing millions of blood cells. These blood cells are in fact part of our body's immune system.

There are two types of Cells in our body: 1) **Phagocytes** and 2) **Lymphocytes**. Phagocytes destroy all types of external particles entering into our blood stream. Lymphocytes are white blood cells. They kill the germs that attack our body. There are different types of white blood cells. Two of these types which are important for fighting off the germs are T-cells and B-cells.

When a germ enters our body and attacks our immune system, the Phagocytes become activated. They send signals to the T-cells. The first T-cells which are alerted are called Helper T-cells. Although they don't fight, they convey emergency messages to other special cells. These special cells destroy the virus as well as the cells within our body that the virus has infected.

The Helper T-cells also convey emergency signals to the B-cells. The B-cells produce antibodies which fight the germs. Therefore, the Helper T-cells function as an alarm system within our body. In the absence of this alarm system, our body's immune system or defence system becomes non-functional.



(A) White blood cells guard our body against diseases. (B) They fight germs that attack our body. (C) Serious illnesses make us sick during fight against germs, but finally white blood cells win. (D) If HIV enters our body, it will destroy white blood cells. (E) After white blood cells are attacked, our body loses all types of protection. (F) Without white blood cells diseases can attack our body. (G) Once HIV has weakened us any disease can take over our body.

HIV and Helper T-Cells

The HIV/AIDS virus is a unique virus. It immediately kills the Helper T-cells after entering our body. Therefore, the Helper T-cells are not able to send any signal to other special T-cells and B-cells. Thus, HIV/AIDS virus hinders our immune system from protecting our body. Once HIV has attacked our immune system, our defence system becomes weakened. It will help the germs to take over our body and we become sick. Since we do not have a strong immune system to fight off the germs, day by day our body will become weaker and weaker gradually. This will lead us to an early death.

People with HIV/AIDS virus are deprived of Helper T-cells. Therefore it is easy for them to develop infections that people with normal Helper T-cells do not get. These infections take the opportunity of the weak immune system of our body. Since our body's alarm system does not work in the absence of the Helper T-cells, the germs causing infections enter our body. These infections are called "opportunistic infections". Once infected with any kind of a disease, people with HIV/AIDS virus will stay sick all through. They normally have an untimely death.

Check Your Progress I.

1. What do you understand by communicable and non-communicable diseases?

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2.3 PROFILE OF HIV/AIDS

What is AIDS?

The first cases of AIDS were diagnosed in 1981. Some physicians in California and New York came across unusual opportunistic infections among homosexual men. These infections did not respond to medication. Therefore, the patients could not live longer and eventually died. These patients did not show usual conditions of illness known to Medical Science at that time. Thus it became evident that we have a new illness to be treated. This new disease was named "Acquired Immuno-deficiency Syndrome" (AIDS).

ACQUIRED IMMUNO-DEFICIENCY SYNDROME (AIDS)

The San Francisco AIDS Foundation has explained the acronym AIDS as:

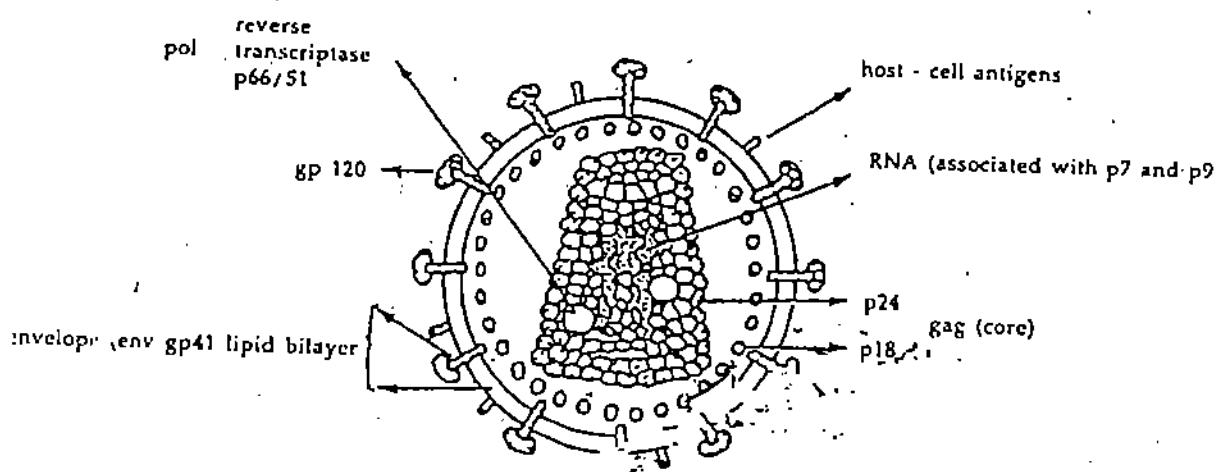
- A = Acquired — not born with
- I = Immune — body's defence system
- D = Deficiency — not working properly
- S = Syndrome — a group of signs and symptoms.

The word acquired was chosen because the disease was neither genetically determined nor the result of other conditions. In other words, it was acquired during a normal period of life. Several years lapsed between the identification of the virus that caused AIDS and the first reports of AIDS cases. So far in all cases, the development of HIV in human body leading to AIDS has proved to be fatal. In other words they died of AIDS defining illness. Therefore, AIDS is not a single disease. It is a set of diseases which result from the destruction of the body's defence system. This destruction is done by the Human Immunodeficiency Virus (HIV).

Human Immunodeficiency Virus (HIV)

HIV is a very small and fragile virus. It cannot survive outside the human body. Therefore, it is not a contagious disease. It cannot be passed from one person to another easily like a common cold or flu virus, nor can it be passed through ordinary social contacts.

HIV is a member of a group of viruses called **retroviruses**. Retroviruses are simple microscopic organisms dependent on a host for reproduction. These microscopic organisms lack an independent metabolism. Therefore, they cannot grow without energy and nutrients supplied by a host cell.



Representation of the structure of the human immunodeficiency virus

An HIV infected person may continue to live a perfectly normal life without showing any physical symptoms. Such a situation is called HIV non-Symptomatic. Once the disease progresses, the person will begin to have different illnesses. He/she may also show certain physical symptoms. The situation is called HIV symptomatic. The term 'AIDS' is used when the disease has progressed and the person develops one or more serious infections or conditions. HIV was first described in 1983 in Paris. It has had several names during its short history of less than two decades. But

HIV has now been accepted internationally. Some people also call it the "AIDS Virus". The virus enters the Helper T-cells of the immune system. In the cells, it destroys genetic material. The damage caused is permanent. All body fluids contain Helper-T-cells. The concentration is high in blood, semen and vaginal secretion.

HIV Carrier

Anybody who has the HIV/AIDS virus is a carrier. He/she can infect others. Very often the person does not know that he/she is a carrier. He/she has no symptoms of disease and the person who infected him/her may have had no symptoms either. A person can be a carrier unknowingly for many years before the virus has destroyed so much of the immune system that he/she falls ill. Some months after the infection, the body produces antibodies to the virus. These can be detected by a special test.

Window Period

The period of time after a person becomes infected with HIV, but before antibodies have been formed is called **Window Period**. This period is usually two to three weeks and is rarely longer than three months. The virus is present in the blood. It can be detected by an antigen test. But an antibody test will prove negative. It may be noted that the antibodies developed against HIV within the body are not capable of fighting off the germs.

Incubation Period

Incubation period is the time limit between infection with HIV, and the development of an AIDS defining condition. The exact limit of incubation period for AIDS is not known. However, some facts are available based on certain reported AIDS cases. These cases show that the incubation period can be of five months in some cases. It can also be 10 years or 20 years or even more. This is because HIV/AIDS virus was identified about 20 years ago. We may be in better position to provide more accurate time period after passing through, say another decade of fighting the HIV/AIDS virus.

The few HIV and full blown AIDS cases reported in India so far do not provide details about the exact time of infection. Further, the testing system within the country is neither well equipped nor adequately manned by trained personnel competent enough to handle the cases efficiently. The HIV infected persons in India have to face a number of hurdles before approaching a testing centre. Even then, they are not very forthcoming, with a proper frame of mind to discuss and disclose facts with sincerity and openness. Therefore, the few cases that are recorded cannot be reliably used to predict the incubation period.

Symptoms of HIV

Signs and Symptoms of HIV infections are similar to the signs and symptoms of many other diseases. The presence of certain signs and symptoms do not necessarily indicate HIV infection in a patient. Therefore, if the symptoms continue in a patient for a longer period say, about a month he/she should seek medical attention. One may need a pre-test counselling and opt for an HIV test. Usually most people have a prolonged period

without illness after the infection with HIV/AIDS virus. In such people, AIDS may develop after several years of their exposure to the virus. Analysis of AIDS cases from around the world indicate that about fifty per cent of HIV infected people develop AIDS within about ten years of infection. There are several types of illness that the HIV/AIDS virus can develop in a person. These illness will eventually result in the development of full-blown AIDS. Some of the signs and symptoms noticed among the HIV infected are:

- Loss of about ten per cent of weight;
- Chronic diarrhoea and vomiting;
- Prolonged fever without an identifiable source;
- Development of pneumonia;
- Development of certain types of Cancer;
- Abnormalities with skin, glands and eyes;
- Acute transient illness with fever, muscle aches, headaches, rash or sore throat;
- Experience of fatigue and malaise;
- Lymph nodes may often enlarge around the time of Sero-Conversion i.e the point where antibodies against HIV are produced for the first time;
- Development of oral, anal and penile ulcers and herpes zoster;
- Gastrointestinal symptoms including nausea;
- Coughing or shortness of breath and seizures and;
- Loss of normal thought process caused by brain infections;

The advanced stage of HIV infection is AIDS. The symptoms of AIDS will differ from person to person. It will depend on the immunodeficiency of the individual. Most of the health problems faced by AIDS patients are caused by opportunistic infections. Every part of an AIDS patient can be affected by one or another opportunistic infection.

Check Your Progress II

1. Briefly describe the "Window Period".

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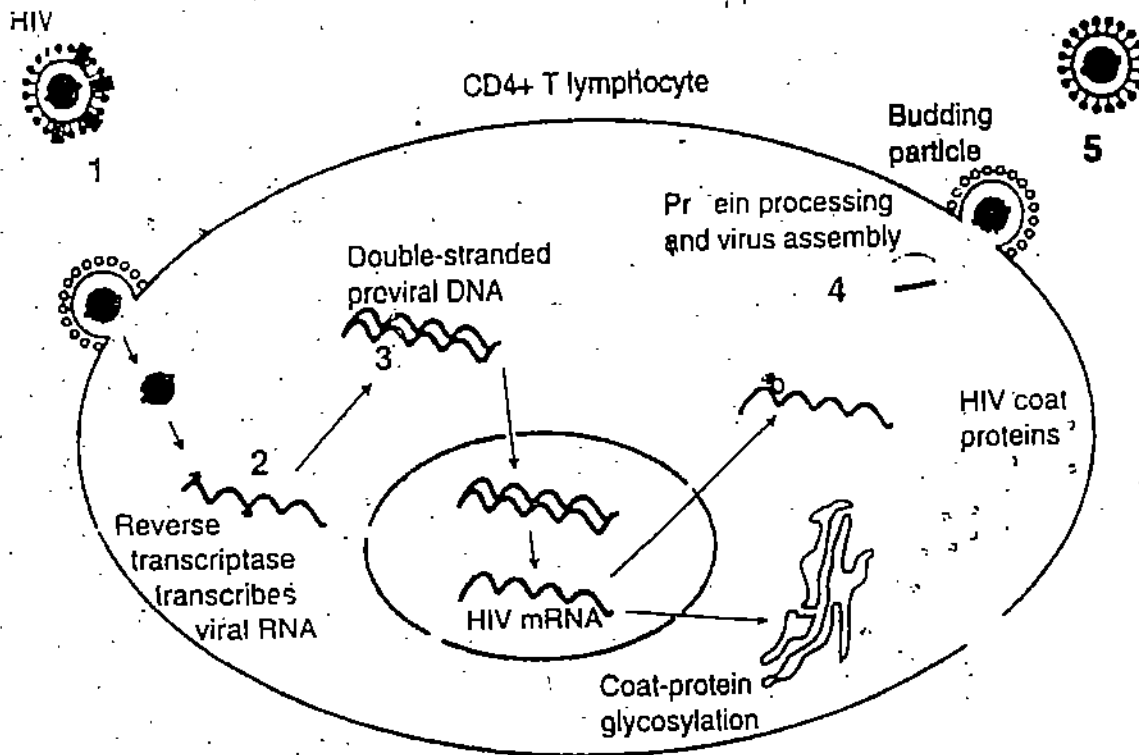
2.4 STAGES OF HIV/AIDS DEVELOPMENT

- 1) Initial infection or Window period;
- 2) Sero conversion illness;
- 3) Asymptomatic phase (initial HIV infection);
- 4) Intermediate stage;
- 5) Stage of AIDS and
- 6) Terminal stage.

i) Initial Infection

HIV enters the human body either through a breach in the mucous membrane during sexual activities (sexual) or through of blood or tissue (blood). Mother

HIV replication in the cell



1. **Inhibit binding to CD4:** Soluble CD4 (no longer in clinical trial).
2. **Inhibit reverse transcriptase enzyme:** Zidovudine (AZT), didanosine (ddI), zalcitabine (ddC), lamivudine (3TC), stavudine (d4T), foscarnet, non-nucleoside reverse transcriptase inhibitors (e.g., nevirapine).
3. **Terminate DNA chain synthesis:** Zidovudine, didanosine, zalcitabine.
4. **Block virus assembly and budding:** Interferons.
5. **Inhibit maturation of virion core proteins:** Protease inhibitors (e.g., saquinavir).

to child transmission is the third route. The virus enters the body through a breach in the mucous membrane. It attacks to the CD4 lymphocytes present below the mucous membrane. From there the virus is transmitted to the regional lymphnodes and then into blood stream. From the blood stream the virus spread to all the organs. It takes 48 hrs for the virus to spread to the blood from the lymphnodes. During this period the patient is highly infectious. He is totally asymptomatic. During this period the body does not produce sufficient antibodies to the ELISA test which can detect the presence of the virus. During this period the conventional tests for the virus (ELISA) will show negative results. Hence, it is also called as the "Window period".

ii) Sero Converting Illness

After a period of 6-8 weeks, a patient may experience a mild fever. At this time the patient's blood becomes positive (ELISA). His body has started producing antibodies. This period lasts for two to three days. There is a decline in the CD4 cells. From a normal of >1000 cells it may drop to <500 cells. Apart from fever a patient may experience body pains, skin rash, paralysis of nerves. After 3-4 days the patient becomes normal. His CD4 counts which had dropped drastically will come up but they will not be normal.

iii) Asymptomatic Phase.

During this phase the patient is totally asymptomatic. He has no symptoms. His ELISA test is positive. If CD4 counts are measured over this time, it shows a steady decline. This period may last for 5-10 years and even more in certain exceptional cases. In our country it may last for 3-7 years. The CD4 count varies between $1000 - 500$ cells / mm^3 .

iv) Intermediate Phase

During this phase the patient may become symptomatic once again. The CD4 count falls between $200 - 500$ mm^3 . Patient may manifest minor skin infections and may take a longer time to recover from other illnesses.

v) Stage of AIDS

It is the late stage of HIV infection. Patient is found with opportunistic infections. The CD4 count is <200 mm^3 during this stage. The list of opportunistic infection is given in the table 2.1 at Appendix I of this unit.

vi) Terminal Stage

This is the stage when the CD4 count falls < 50 cells. The patient do not respond to the antiretroviral therapy and have more serious infection. All these 6 stages of HIV/AIDS disease are largely based on North American and European experience. Apart from the **Centres for Disease Control's (CDC) Staging**, NACO has come out with its own staging system for patients with HIV/AIDS in India. This classification is based on local experience. The stages are:

Asymptomatic Stage

In this stage of HIV/AIDS disease no symptoms

Symptomatic Stage

During this stage, minor signs and symptoms are visible.

Terminal AIDS Stage

During this stage the HIV infected person succumb to full-blown AIDS with major and minor signs and symptoms due to an array of opportunistic infections.

Full-blown AIDS

By the time an infected person reaches the fourth stage, his/her immune system collapses. The patient is now faced with major life-threatening infection. Pneumonia caused by the parasitic pneumocystis carinii is common. A type of cancer affecting the skin called Kaposi's Sarcoma is also common in many patients. These symptoms have been found among most patients in United States. In certain parts of Africa, a wasting condition called "slim disease" linked to persistent diarrhoea is common. The patient usually becomes thin and grossly fatigued. Very often the patient also suffers from multiple infections like herpes and tuberculosis. Full-blown AIDS seems to be fatal. Some patients with regular medication, exercise and care have lived longer. However, they survive for not more than three or four years. Experience in India shows that most patients diagnosed with full-blown AIDS die within less than six months of the diagnoses. In exceptional cases, some have survived for one to two years.

AIDS Dementia

The HIV/AIDS virus may pass through the blood brain barrier, which normally 'filters out' substances in the blood. This can destroy certain brain cells. Destruction to brain cells brings about symptoms ranging from mild confusion, memory loss, deteriorating thought processes, inappropriate behaviour, personality change, premature senility and incontinence. During this stage, a patient will require complete care and support. In most of the full-blown AIDS cases, patients are found to be suffering from illnesses involving the brain or nervous system. AIDS dementia appears to result not from opportunistic infection, but from the action of the virus itself.

2.5 HIV INFECTION, TUBERCULOSIS (TB) AND STDs

An alarming factor in the AIDS epidemic is the increasing link between HIV infection and tuberculosis. It is well documented that one of the several opportunistic organisms that can attack people with HIV infection is *Mycobacterium tuberculosis* – the bacterium that causes tuberculosis (TB). This bacterium, though present in the body is not able to do any damage in healthy individuals enjoying a normal immune system. In people infected with HIV, however, tuberculosis becomes active when the immune system breaks down and spreads to various parts of the body. The person becomes contagious to others.

Tuberculosis is endemic and flourishes where there is poverty, inadequate health care facilities, malnutrition and over crowding. There is a parallel epidemic of

TB occurring due to the AIDS pandemic in sub-Saharan Africa and South East Asia. WHO estimates that more than seven million people, 98 per cent of whom are in the developing world are co-infected with HIV and TB. In many countries such as Uganda, Zambia, Rwanda and Malawi the reported number of TB cases have more than doubled during the late 1980s. This was primarily attributable to HIV. AIDS is reviving an old problem in developed countries e.g. in the United States of America, where there was sudden increase in multi-drug resistant tuberculosis cases (MDR-TB).

In South East Asia, high rates of acquired drug resistance of up to 35 per cent and 46 per cent have been documented in India and Nepal respectively. In this region, TB exists as a latent infection in nearly one-half of the adult population. There are data to show that 40-60 per cent of AIDS patients in India, Myanmar, Nepal and Thailand have TB, indicating that TB is the most common life-threatening opportunistic infection associated with HIV.

With a high prevalence of TB infection in India, the problem of HIV/TB co-infection is likely to pose a major challenge in near future. The deadly duo of HIV and TB may thus mean an additional drain on meager health resources. Therefore, the need of the hour is to strengthen the existing NTCP (National TB Control Programme) and to ensure that all patients diagnosed with TB are treated effectively.

TB that appears in HIV infected patients is little different from the TB that appears in non HIV infected patients. In non HIV infected patients TB mainly involves the lungs (pulmonary TB). In the lungs it usually involves a single portion and it is usually the upper portion (upper lobe tuberculosis). In patients who are HIV positive other parts of the body (extra pulmonary TB) are more involved than the lungs. It may commonly involve the lymph nodes. In advanced disease many organs of the patient may be infected with TB (miliary or disseminated TB). In the west TB is seen in the stage of AIDS whereas in developing countries it is seen in all stages of HIV infection. If a person is infected with the TB bacilli he/she will develop an allergic reaction. This can be tested by a skin test known as Mantoux Test. In a normal person Mantoux Test is considered as positive if the reaction is more than 10 mm. In HIV infected patients if the mantoux reaction is >5 mm, person is considered as mantoux positive.

The treatment of TB is the same between HIV and non-HIV infected patients. Patients need to be monitored to see that the bacilli have been eradicated. It may be difficult to eradicate the bacilli in HIV infected patients. Patients may need a longer time to eradicate it. Patients with HIV may also have diarrhoea and malabsorption. They may not absorb the drugs. Hence, they may have inadequate treatment and develop drug resistance. This aspect also has to be kept in mind. Giving certain drugs can prevent TB in HIV infected patients. This has not yet been accepted in our country.

HIV Infection and STDs

Sexually Transmitted Diseases (STDs) are diseases that are usually spread during sexual activities. Details of STDs are discussed in Block I of the Elective courses on HIV/AIDS. The relationship between STD and HIV



infection is many fold. STD and HIV infection are associated with the same risk behaviours, i.e. unprotected sexual intercourse (sexual activities) with multiple partners. The predominant mode of transmission of both HIV infection and STDs is sexual. There are other routes of transmission for both which include blood, blood products, donated organs or tissues and through an infected woman to her foetus or newborn infant. Thus, the same measures that prevent STD also prevent sexual transmission of HIV infection.

The presence of STD has been found to facilitate the acquisition and transmission of HIV infection. There are some STDs that cause genital ulcers, such as syphilis, chancroid and herpes and these can increase the risk for HIV transmission up to ten folds. Other STDs causing discharge, are gonorrhoea, chlamydial infection and trichomoniasis. The rate of transmission is up to four fold. As a result, early diagnosis and effective treatment of STD can contribute significantly to a reduction in HIV transmission. Many of the measures for preventing the sexual transmission of HIV and STD are the same, as are the target audiences for these interventions. STD clinical services are an important access point for persons at high risk for both HIV and STD, not only for diagnosis and treatment but also for education and counselling on prevention.

Increasing evidence suggests that there is increased severity of manifestations of STD and reduced response to conventional therapeutic regimens in HIV infected persons. Trends in STD incidence and its prevalence are easier to monitor than trends in HIV seroprevalence, and are therefore valuable for determining the impact of HIV/AIDS control programmes. STDs are very common in urban areas of the country. The killer virus HIV too has succeeded in entering from high-risk group population in urban areas to general population of urban, rural and tribal communities. Both STDs and HIV can be prevented through behavioural changes.

Why is AIDS different from other diseases?

One of the crucial points that has been made about the HIV/AIDS epidemic is that it is different from most other epidemics and diseases. It requires a much different and broader response—one that goes beyond the health sector. There are various factors that make it different from other diseases.

The first and the foremost factor that is unique about HIV/AIDS (from the rest of other diseases) is its state or condition where the immune system of an individual is totally destroyed. The HIV/AIDS person falls prey to a number of opportunistic infections, especially, Tuberculosis. This virus is spread through specific risk behaviours that are mostly within the realm of private life. This has already been discussed in various units provided to you. The most common mode of HIV transmission is unprotected sex and a sexual activity with multiple partners—one that is intimate and private and not open to public debate. Behaviour modification is one of the several ways one can think to reduce the progression of disease in near future.

Unlike other diseases, AIDS retains a long period of “invisibility” with opportunistic infections appearing years later. It takes between 5 to 10 years or even longer between the initial infection and the onset of clinical symptoms of AIDS. Persons who are infected may have many years of productive normal life. However, the danger is that most people are unaware that they are infected with the virus and can continue to spread it to others.

The epidemic's visible and less-visible consequences pose an urgent and massive threat to development. Deteriorating child survival, reduced life expectancy, increasing number of orphans and loss of the most productive section of working population are some of the commonly seen consequences. Finally, the prognosis for people infected with the virus is bleak. There is neither a vaccine against HIV nor effective medical cure for HIV infection. Treatment options are prohibitively expensive. HIV/AIDS is essentially an incurable and fatal disease. Successful prevention strategies, emphasizing on behaviour modification and healthy lifestyle practices can curtail the spread of HIV/AIDS.

Check Your Progress III

1. Write a short note on "Full blown AIDS".

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2.6 LET US SUM UP

In this unit you have learnt about the disease profile of HIV/AIDS. We saw how HIV is different from AIDS conceptually and in general, how both the terms are used interchangeably or together to mean the subject. This introduction to the various concepts of HIV/AIDS has been primarily aimed to help you to understand the true profile of the disease and to provide you with the accurate information on HIV/AIDS when lot of misconceptions are wide spread among common people.

You also read about the different stages of HIV/AIDS development and their signs and symptoms associated with each stage. You came to know about how TB and HIV infections are correlated, especially in a country like India. TB is endemic among the population and its significant role, as a potential opportunistic infection at the terminal stage of HIV/AIDS development is certainly a concern for all.

Similarly, you were introduced to another significant issue, namely, the relation between HIV infection and other STD's. This was very significant because both HIV infection and STDs' route of transmission are predominantly through sexual exposure. The presence of STD has been found to facilitate the acquisition and transmission of HIV infection. As a result, early diagnosis and effective treatment of STD can contribute significantly to a reduction in HIV transmission.

2.7 KEY WORDS

- AIDS** : An acronym from the abbreviation A.I.D.S. Acquired Immuno Deficiency Syndrome.
- Antibodies** : Substances produced by white blood cells in response to antigens. They fight off bacteria, viruses and others organisms, which attack our bodies and cause disease. In the case of HIV, antibodies produced by the body are not effective in neutralising the virus.
- Antigen** : Any substance that the body regards as foreign and against which it produces an antibody. Viruses, bacteria and fungi are regarded by the body as antigens.
- CD4 Cell** : A type of lymphocyte crucial to the normal function of the immune system. Also known as T4 cells, CD4 + lymphocytes and T-helper lymphocytes; they are the principal target cell for HIV infection.
- DNA** : De-oxy-ribonucleic acid, the nucleoprotein of chromosomes.
- Endemic** : It refers to the constant presence of a disease or infection agent within a given geographic area or

population group, without importation from outside. For instance, common cold is endemic because somebody always has one.

- Epidemic** : The 'unusual' occurrence of a disease in a community or region clearly in excess of expected occurrence'. For instance, in the US, a disease such as Cholera is not normally present in the population. Therefore, even few cases of Cholera would constitute a "potential" epidemic in US. But in India, cholera is always present in some population subgroups (endemic situation).
- HIV** : Human Immune Deficiency Virus.
- Incubation Period** : The time between infection with a disease causing organism and the onset of the visible signs and symptoms of the disease.
- Lymphocytes** : A class of white blood cells responsible for regulation of the immune system'. Divided into B-cells (which produce antibodies) and T-cells.
- Opportunistic Infections** : Organisms, which cause infection in individuals with an impaired immune system.
- Pandemic** : An epidemic over a wide geographic area, usually worldwide. AIDS is said to be pandemic.
- Pathogen** : A living microorganism or virus capable of producing a disease.
- PGL** : Persistently enlarged lymph glands.
- Retrovirus** : Retroviruses are a class of viruses characterized by their ability to convert RNA to DNA during replication in the host cell.
- RNA** : Ribonuclei Acid. Genetic material inside a cell.
- STD** : Sexually Transmitted (Transmissible) Disease. Any disease which may be passed on sexually.
- Vaccine** : A substance that contains antigen of an organism. In the vaccinated person, it stimulates active immunity and future protection against infection by that organism.
- Virus** : An extremely small organism visible only through an electron microscope. Viruses cause a wide variety of diseases in humans. They do not respond to treatment with antibiotics.
- Window period** : The period of time when a person may be infected with HIV, but before antibodies has been formed. This period is usually two or three weeks and is rarely longer than three months.

Check Your Progress I

1. What do you understand by communicable and non communicable diseases?

Communicable and Non Communicable Diseases

Some of the diseases can be passed from one person to another. These diseases are called communicable diseases. Influenza, Common Cold and Chickenpox are examples of communicable diseases. There are also non communicable diseases. They cannot be passed from one person to another. Heart disease, cancer, diabetes and cataract are some of the examples of non communicable diseases.

AIDS is a communicable disease. However, this disease cannot be easily passed on from one person to another like the common cold. AIDS cannot be spread through air, water or ordinary contacts. It can be spread only through certain specific routes. We shall discuss those details in a separate chapter in this book.

There are at least two known ways to protect ourselves against a communicable disease. One sure way to protect our body from such diseases is to keep the body free from germs. In other words, we should not allow germs to enter our body. The second way to protect our body from communicable diseases is to use our body's own defence system against the germs which have entered our body.

Check Your Progress II

1. Briefly describe "Window period".

Window Period

The period of time after a person becomes infected with HIV, but before antibodies have been formed is called Window Period. This period is usually two to three weeks and is rarely longer than three months. The virus is present in the blood. It can be detected by an antigen test. But antibody test will prove negative. It may be noted that the antibodies developed against HIV within the body are not capable of fighting off the germs.

Check Your Progress III

1. Write a short note on "Full blown AIDS".

By the time an infected person reaches the fourth stage, his/her immune system collapses. The patient is now faced with major life-threatening infection.

Pneumonia caused by the parasitic pneumocystis carinii is common. A type of cancer affecting the skin called Kaposi's Sarcoma is also common in many patients. These symptoms have been found among most patients in United States. In certain parts of Africa, a wasting condition called "slim disease" linked to persistent diarrhoea, is common. The patient usually becomes thin and grossly fatigued. Very often the patient also suffers from multiple infections like herpes and tuberculosis. Full-blown AIDS seems to be fatal. Some patients with regular medication, exercise and care have lived longer. However, they survive for not more than three or four years. Experience in India shows that most patients diagnosed with full-blown AIDS die within less than six months of the diagnosis. In exceptional cases, some have survived for one to two years.

2.9 APPENDIX

Appendix I

Table 2.1

CLINICAL CATEGORIES OF HIV INFECTION

Category A: Consists of one or more of the conditions listed below in an adolescent or adult (> 13 years) with documented HIV infection.

Conditions listed in categories B and C must not have occurred.

Asymptomatic HIV infection.

Persistent generalized lymphadenopathy.

Acute (primary) HIV infection with accompanying illness or history of acute HIV infection.

Category B: Consists of symptomatic conditions in an HIV-infected adolescent or adult that are not included among conditions listed in clinical category C and that meet at least one of the following criteria: (1) The conditions are attributed to HIV infection or are indicative of a defect in cell-mediated immunity; or (2) the conditions are considered by physicians to have clinical course or to require management that is complicated by HIV infection. Examples include, but are not limited to, the following:

Bacillary angiomatosis;

Candidiasis, oropharyngeal (thrush);

Candidiasis, vulvovaginal; persistent, frequent, or poorly responsive to therapy.

Cervical dysplasia (moderate or severe) / cervical carcinoma in situ;

Constitutional symptoms, such as fever (38.5°C) or diarrhoea lasting >1 month;

Hairy leukoplakia, oral Herpes zoster (shingles), involving at least two distinct episodes or more than one dermatome;

Idiopathic thrombocytopenic purpura;

Listeriosis;

Pelvic inflammatory disease, particularly if complicated by tuboovarian abscess and;

Peripheral neuropathy;

Category C: Conditions listed in the AIDS surveillance case definition;

Candidiasis of bronchi, trachea, or lungs;

Candidiasis, esophageal;

Cervical cancer, invasive;

Coccidioidomycosis, disseminated or extrapulmonary;

Cryptococcosis, extrapulmonary;

Cryptosporidiosis, chronic intestinal (>1 month's duration);

Cytomegalovirus disease (other than liver, spleen, or nodes);

Cytomegalovirus retinitis (with loss of vision);

Encephalopathy, HIV-related;

simplex : chronic ulcer(s) (>1 month's duration); or bronchitis,

Pneumonia, or esophagitis;

Histoplasmosis, disseminated or extrapulmonary ;
Isoporiasis, chronic interstitial (> 1 month's duration);
Kaposi's sarcoma;
Lymphoma, Burkitt's (or equivalent term);
Lymphoma, primary, of brain;
Mycobacterium avium complex or M. Kansasii, Disseminated of extrapulmonary;
Mycobacterium tuberculosis, any site (pulmonary or extrapulmonary);
Mycobacterium, other species or unidentified species, disseminated or extrapulmonary;
Pneumocystis carinii pneumonia;
Pneumonia, recurrent;
Progressive multifocal leukoencephalopathy;
Pneumonia, recurrent;
Progressive multifocal leukoencephalopathy;
Salmonella septicemia, recurrent;
Toxoplasmosis of brain and;
Wasting syndrome due to HIV.
Salmonella septicemia, recurrent;
Toxoplasmosis of brain and;
Wasting syndrome due to HIV.

2.10 FURTHER READINGS

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UNIT 3 MISCONCEPTIONS OF HIV/AIDS/STDs

Contents

- 3.0 Aims and Objectives
- 3.1 Introduction
- 3.2 Myths and Misconceptions Related to Transmission of HIV/AIDS/STDs
- 3.3 Misconceptions Related to Traditional and Cultural Practices
- 3.4 Misconceptions Related to Information, Education and Communication(IEC)
- 3.5 Misconceptions Related to Care, Treatment and Rehabilitation
- 3.6 Case Study of D'souza: A True Story
- 3.7 Let Us sum Up
- 3.8 Key Words
- 3.9 Model Answers
- 3.10 Further Readings

3.0 AIMS AND OBJECTIVES

The objective of this unit is to provide you with accurate information about how HIV/AIDS is not transmitted. Though the mode of HIV transmission are the same, namely, sexual, blood contact and perinatal, predominance of a particular route of transmission depends upon the personal and social risk behaviours in different areas of the world. This influences the relative frequency of these three modes of spread. Along with the fundamental facts about HIV/AIDS, there exist certain misconceptions and beliefs, which have taken deep-roots within our society. Such ideas and beliefs have to make way for more scientific and appropriate information for the people to understand the real dynamics of HIV/AIDS.

After reading this unit, you should be able to:

- Identify misconceptions related to transmission;
- Know the misconception pertaining to traditional and cultural practices;
- Explain various misconceptions regarding IEC; and
- Understand the misconceptions prevailing on treatment, care and rehabilitation of HIV/AIDS patients.

3.1 INTRODUCTION

The common belief that AIDS is “some one else disease” is an universal phenomenon. In the previous units you have been taught about the disease-profile of HIV/AIDS in detail that includes its modes of transmission, signs and symptoms and the various stages of HIV/AIDS development. All this information helps you to understand the issue better within the context of prevailing myths and misconceptions, which has actually taken deep-roots in our society.

This unit on misconceptions of HIV/AIDS helps you to clear your doubts, anxiety, fear etc. by providing you with scientific information. This information is necessary to help prevent persons with HIV/AIDS, together with their families from social discrimination, rejection and ostracization in a community living. Given the magnitude of the problem, it is necessary for you to always ask, why talk about AIDS? Why not other diseases? Also, what is the factor that makes AIDS a pandemic disease?

Why AIDS And Not Other Disease

In countries with limited resources, people will always ask, why AIDS? Why not spend on more widespread and older diseases such as Malaria? Peter Piot, the present Executive Director of UNAIDS says, AIDS is special. Other epidemics are self-limiting, but AIDS continues to increase. In the first three years the number of people living with AIDS has doubled to 30 million worldwide.

In a malaria epidemic public health measures such as water treatment for larva control can be used to control the disease. What measures can be applied to the way AIDS spreads, which is mainly through sex? Besides if HIV killed a person in a week, or a month instead of after years of a symptomatic existence, there'd have been a greater urgency to fight it.

AIDS is doubly disastrous because the most sexually active years of a person is also the most economically productive years. Moreover, AIDS doesn't die out with the person it has killed, but is passed into their families by the infection of their spouse as well as to their babies. Finally AIDS is unlike most communicable diseases, which affect largely the poor, affects all sections of the society.

Do we Indians need to bother about HIV/AIDS? AIDS has entered Indian society with disastrous implications for lakhs of people living in rural, urban and tribal communities. Thousands of Indians will die of AIDS during the dawn of this millennium. The tragedies of AIDS in the worst affected countries of Africa and the West is set to repeat itself in India in the next few years. Hundreds of full-blown AIDS cases have already been reported in the country and thousands are found to be carrying the HIV. However, for one or the other reason, the Indian public is yet to realize the seriousness of the situation. The reported case of HIV/AIDS infected person in India clearly show that HIV/AIDS has not spared any class, community, religion, group, profession, qualification, age or sex. Is this fear exaggerated? Given the high moral status and lack of promiscuity among the Indians, as claimed by Indians, from every walk of life, won't India escape from such a tragedy?

Therefore, to find solutions to unmemorable question pertaining to HIV/AIDS, you have to understand the dynamics of the disease profile in its true sense, there by, unfolding the myths and misconception related to HIV/AIDS. The general opinion about HIV/AIDS disease that it is a disease of West and we Indians are safe from such infections, only tell about our ignorance regarding its growing threat to the humankind.

How HIV is not transmitted

HIV is a fragile virus outside the body. Heat, ordinary soap and water, household bleach, Lysol and chlorine (bleaching powder) can kill HIV. Surgical instruments may be easily sterilized. Refusal of an Endoscopy procedure to HIV positive patients on the grounds that an endoscope cannot be re-used, because methods to sterilise do not exist, is therefore incorrect.

HIV does not spread like a cold and is therefore relatively difficult to catch. Not one case has been reported of HIV being transmitted by contact with air, tears, sweat, shaking hands, hugging, coughing, sneezing, using swimming pools, toilet seats, sharing towels, bed linen, utensils, being bitten by mosquitoes or other animals, or any other form of everyday contact. Saliva, uncontaminated by blood, has not been implicated as a mechanism of transmission.

It is practically impossible to contract HIV while giving medical/nursing care to HIV patients. Thus medical staff and family members of HIV positive persons have nothing to fear, although a few universal or routine precautions have to be observed.

Consequently, it is unscientific and unethical to quarantine HIV positive persons as was done to a patient in Goa in 1989; or to refuse hospital admission to HIV infected patients as was ordered by several hospitals in Delhi in Feb'90 for several months; or to dismiss an HIV positive person from his/her job as was done in Goa in 1989.

3.2 MYTHS AND MISCONCEPTIONS RELATED TO TRANSMISSION OF HIV/AIDS/STDs

The broad introduction on myths and misconceptions of HIV/AIDS/STDs deals effectively with the inaccurate information, which is quite often believed and passed on without the authenticity of the source. In this light, you have to focus on the various routine activities that are done with the anticipation of getting infected by HIV/AIDS person out of sheer fear, ignorance, anxiety etc.

Handshake (shaking hand)

The chances of getting infection through a 'shake hand' is minimal, as long as the skin is intact without any breaks because in adults the virus is mainly transmitted through the transfer of blood or sexual fluids. Since there is no contact of blood or sexual fluids during a casual shake hand, there are no risks involved. Sharing the same telephone with other people in your office or working side by side in a crowded factory with other infected persons and even sharing the same cup of tea, cannot transmit the infection. These acts will not expose a person to the risk of contracting the infection. Being in contact with the sweat will not transmit the infection. Extensive tests have failed to detect HIV in sweat.

A cut on the skin can act as a portal or entry point for the virus to enter the body. People having cuts or a skin condition called eczema should be extremely careful. Eczema has many small cuts. If these cuts were to get contaminated with HIV infected secretions from an HIV infected patient then another person can get infected. To prevent this route of acquiring the infection a person should cover the wound with a waterproof dressing. While handling HIV infected or other patients they should wear gloves.

Sharing a Toilet / Bathroom etc.

The chances of getting infection through the toilet seat are very remote. For this to happen there would have to be fresh infected blood on the toilet seat in contact with breaks in the skin or genitalia of the next user. Proper and clean use of the toilet can prevent this.

Sharing a Toothbrush (Contact with Saliva)

Saliva contains HIV virus in minute amounts. Saliva also contains an enzyme that inhibits the growth of the virus. A small amount of saliva is highly unlikely to transmit the virus. It has been shown that sharing of a toothbrush or a towel is unlikely to spread the virus. Antiseptics present in the toothpaste kill the virus. Till date only one report of a human bite transmitting the infection has been recorded and it occurred in a child.

Is HIV Present in Sweat?

Although HIV can be found in many body fluids, extensive tests have failed to detect HIV in sweat.

Kissing / Embracing

There is no harm in kissing, embracing or caressing an infected person provided it is a normal dry kiss or a gentle hold. Risk from a dry kiss is almost zero. Moreover, the number of infected persons in general population is low and the risk of catching HIV from kissing someone on the lips or embracing an infected person is almost nil. However, the western practice of kissing (French kiss) where tongue and saliva enter another person's mouth carries higher risk, especially if one person has sores in the mouth, cracked lips or bleeding gums. So far, we have come across only one such case of 'mouth to mouth' spread.

Are Contact Sports Safe?

For somebody to get infected through contact sports, blood from an infected player's body would have to be rubbed into a wound of an uninfected player. This is extremely unlikely.

Swimming Pool/Ponds are Safe

The only way you could possibly catch HIV at a swimming pool or a pond would be if someone carrying the virus gets injured due to an abrasion caused by a hard surface and left a puddle of blood, which you stepped in, causing an injury, on the same surface. Even if you pour ten fresh pints of blood full of HIV virus into a swimming pool, the chances of getting the infection is nil. This is because even with such quantity the dilution will be enormous. Therefore you cannot get infected from a swimming pool.

Circumcision

There is currently no evidence linking female circumcision as a risk factor to HIV infection: The society for women and AIDS in Africa (SWAA) reports that in areas where this practice is still carried out, the prevalence of HIV is low. This would reflect the fact that HIV was introduced relatively recently into these areas or it could reflect the traditional restriction on the number of sexual partners in the societies concerned. However any method of sex which involves bleeding increases the risk of HIV infections and some form of female genital excision, particularly infibulations, can lead to extensive bleeding during initial intercourse. Therefore a female who has undergone circumcision is at a greater risk of getting infected if bleeding takes place during initial intercourse with an infected partner.

There is some evidence that uncircumcised men are more likely than circumcised men to contract and transmit HIV and other STD's. Researchers suspect that the increased risk from being uncircumcised may stem from the fact that foreskin traps vaginal fluid where provides a larger surface area for uptake of the virus, and may be more susceptible to microscopic tears during sexual intercourse. In addition, minor inflammatory conditions are more common in uncircumcised men. Uncircumcised men may not recognize many STD's prevalent among them.

Can One Get HIV on Being Rapid?

Yes, it is possible. The risk can be higher because the violence used can make abrasions and bleeding more likely, creating entry points for the virus. Therefore, if one of the partners is infected, the chances of HIV infection is far greater.

Can One Get HIV by Giving Blood?

No. Some people are afraid and are staying away from this noble cause to donate blood. In order to make up and fill the growing demand for blood everyday, there is an urgent need to go for voluntary blood donation. There is no risk for the donor at all, so long as all the needles are sterile. Moreover you have every right to demand for the safety measures required while donating blood. Any healthy individual between the ages of 18-60 years weighing more than 45 Kgs can donate blood. Blood can be donated 3-4 times in a year (interval of 12 weeks between each donation)

Can One Get HIV by Receiving Blood?

The efficacy of transmission through infected blood is very high-90 to 95 per cent, but transmission through this route is responsible for only about 5 per cent of the global infection. The chances of infection through donated blood donation is almost completely eliminated from the developed countries, due to routine testing of blood donors, coupled with the voluntary exclusion from blood donation by persons practicing high risk behaviours. It is a problem mainly in under developed countries where professional blood donation continue to exist.

In developing countries, facilities for testing of blood products may not be always available. In such circumstances, or in emergency, blood from

voluntary donor is much safer than that from professional donors. Seropositivity is observed to be 17 times higher among professional donors, as compared to voluntary donors. This is because professional donors are in general more frequently involved in the risk behaviours. In order to ensure that the blood received is 100 per cent safe from HIV and other STD infections, one should receive blood from accredited blood banks only and always ensure that the blood is screened for HIV and a proof of which is indicated through a label / sticker saying "HIV screened blood" is prominently marked.

Safer Sex

There is still no clear picture about the concept of 'safer sex' with in the context of HIV/AIDS/STDs among high-risk groups and general population. Abstinence from sexual activities before marriage and being faithful to his/her spouse after marriage is the tradition of living in Indian context. Safer sex is any sexual practice that reduces the risk of passing (transmitting) HIV from one person to another. The best protection is obtained by choosing sexual activities that do not allow semen, fluid from the vagina of the partner or to touch the skin of the partner where there is an open cut or sore. Sex involving a mutually faithful husband and wife is usually known as "Safe Sex" in the Indian context. Other 'safer sex' practice suggested by experts include:

- a) Staying in a mutually faithful relationship where both partners are uninfected;
- b) Sexual gratification through masturbation, massage, rubbing, dry kissing and hugging;
- c) Using a condom for all types of sexual intercourse (anal, vaginal and oral); Condom does not provide 100 per cent safety from HIV transmission;
- d) Avoiding certain practice that increase the possibility of HIV transmission, for e.g. "dry sex" which may lead to breaks in the skin;
- e) Avoiding sex when either partner who has open sores or any sexually transmitted disease (STD);
- f) Oral sex should be avoided if there are sores in the mouth or on the genitals;
- g) Anal sex is dangerous for both the partners since the rectum and penis can break and bleed during intercourse; and
- h) Couples should talk about sex and learn to please each other. This can allow for the negotiation of safer sex and make the intercourse more pleasurable for both and less likely to cause discomfort or minor damage to the genital.

Breast Milk

A pregnant woman who has HIV in her body can pass the infection on to her baby in her womb or during birth. Experts are of the opinion that one out of three babies born to infected mothers are likely to be born infected with HIV. There has been evidence that these babies do not live longer than two to five years.

Another means of transmission from the mother to the child is from breast-feeding. There is about 14 per cent chance of infected mothers passing on the infections to her child through breast milk. WHO and UNICEF advocate breast-feeding in developing countries as the chances of other infections through bottle-feeding are much higher and breast milk will protect them through number of infections and build up the immune system. This suggestion is mainly for HIV infected mothers from the economically poor strata of the society. There are cases, particularly in joint families as we have in India, where, women during lactation period breast feed babies if the mother fall sick or die due to complications in pregnancy. There is a chance that a nursing mother can get infected from an infected baby through cracked nipples. Breast feeding can pass the infection to the baby.

How Safe It is to go to a Dentist?

It is safe to go to a dentist. A dentist usually sterilizes or disinfects equipments after each intervention and consultation. The risk is much more for the dentist than for the patient. Every time the Dentist gives an injection or extracts teeth there is a slight risk that they will puncture their own skin. If the patient is carrying the virus there is a slight possibility that the dentist could become infected. For this reason dentists are now using gloves, masks and protective glasses when treating people known to be infected. There has been at least one well-published case where a dentist with HIV infected several patients. Despite intensive investigation, it is not clear as to how this occurred. The probability of the dentist getting infected is greater.

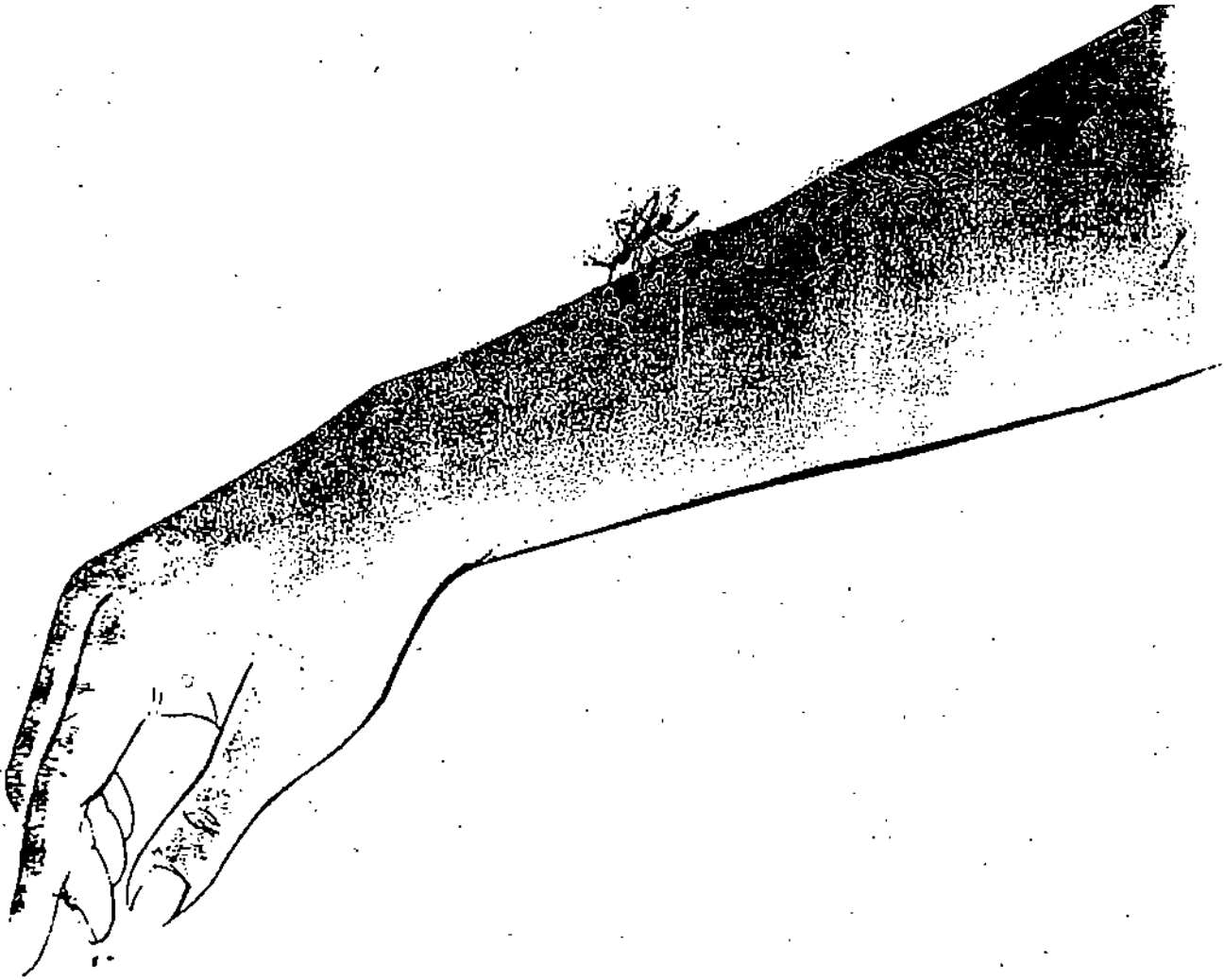
Risk to Doctors and Nurses

Health care providers like medical, paramedical staff and social workers are at a risk of acquiring the infections. They can get infected through the injuries that they obtain during the course of their work. Needle stick injuries are the commonest mode of infection among nurses and doctors. Injuries that occur during surgeries also transmit the infection. Laboratory technicians can get infected from injuries sustained during the process of handling blood in the lab e.g. broken sample containers. Practicing universal precaution can prevent this. There are several reported cases in which HIV infection has taken place among health care providers due to their carelessness. Needle stick injuries are the most common mode of infection.

Mosquitoes

It is certain that no one will get HIV from a mosquito bite. There are many reasons to support this. Mosquito transmitted diseases are common in the world. All the organisms that are transmitting disease through the mosquito have a lifecycle in the mosquito. When the mosquito bites it ingest the blood and injects its saliva. HIV is not found in the saliva of the mosquito. Mosquito transmitted disease is more common in older children where as HIV is not common among older children. When an insect bites a person it does not inject its own or a previously bitten person's or animal's blood into the next person bitten. Rather, it injects saliva, which acts as a lubricant so the insect can feed efficiently. Diseases such as dengue and malaria are transmitted through this manner. However, HIV lives for only a short time inside an insect and unlike organisms that are transmitted via insect bites, HIV does not reproduce and does not survive in insects. Moreover, infected people do not have constantly high

levels of HIV in their blood stream. Secondly, insect mouth parts retain only very small amounts of blood on their surfaces. Lastly, biting insects normally do not travel from one person to the next immediately after ingesting blood, rather they fly to a resting place to digest the meal.



What is the Risk from a Single Episode of Unprotected Sex?

The risk from a single unprotected sex is not clear. Various attempts have been made to quantify the risk. It may be as low as one in 200 for non-traumatic heterosexual vaginal intercourse without a condom. Risk is higher from male to female, anal intercourse, first vaginal intercourse in a woman causing bleeding, higher during menstruation (for a man), and higher if STDs are present. Therefore, it is quite clear that there are sexual factors, which enhance the risk of HIV infection, whether a person goes for a single or multiple episode of unprotected sex.

The following are some of the misconceptions reported among truckers, treated at one of the biggest transport mandis in the country, the Azadpur Transport Mandi (H.T. 22.6.99). One of the biggest problems many organizations trying to clear the misconceptions of the truckers who form a high risk group face is that of relapse. There is a lot of alcoholism and opium addiction among the drivers and once they are high they do not remember about safe sex or using condoms.

1. *Once you contract AIDS your flesh will rot and fall off.*
2. *If the government details that you have AIDS, you will be given a lethal injection and killed.*
3. *AIDS is the result of sexual overindulgence, you can't get it if you visit brothels occasionally.*
4. *AIDS and STDs are caused because of the heat of the truck engine.*
5. *Eating donkey meat can cure AIDS.*
6. *Washing your genitals with your own urine after unsafe sex can protect you from AIDS.*
7. *AIDS is the result of 'bad deeds'.*
8. *Having intercourse with an animal can cure AIDS.*
9. *Also, there is a belief that their illness (AIDS) shall be cured when a person rapes a virgin.*

Can Somebody Get HIV from a Discarded Condom?

There is a small but growing risk that the semen that is contained in a used condom is full of virus. However, it is not going to infect, unless its contents come into contact with the broken skin which are rare. Usually a condom is not re-used. The rag pickers who pick up anything from the garbage etc, may come in contact with used condoms. Such instances are not common and one need not bother too much about it.

There is a common belief among the condom users that condoms are the best prevention device which can protect one from STDs and other infectious diseases including HIV. Though there is universal consensus about the safety of condoms towards such diseases, one can neither ignore the failures of the condom as a protective device. The reasons are many in number. For instance, the user who is unaware of its proper use can end up in coming in contact with genital secretions or come into contact with partners broken skin. Regular condom use by those involved with multiple sexual partners remains the best prevention measure so far.

A serious attitudinal change is needed among the condom user's behaviour with multiple sexual partners. On the one hand, condom usage remain the best preventive device against HIV/AIDS/STDs infections, while on the other hand, the dependence on condom need not necessarily be kept as a rule when a person visits (Commercial Sex Worker) CSW or have different sexual partners every time. It is very often observed that a person's sexual urge succumbs to the situation and therefore, he may not take the basic preventive measures. It is well documented that majority of those who visit CSWs or have different sexual partners do not use condoms regularly.

Tattoos and Ear/Nose Piercing

In many parts of rural areas, urban communities as well as tribal communities, people go for tattooing or nose/ear piercing as a traditional custom or as a fad. It is often done with the involvement of the entire community as a ritual in rural and tribal communities. The risk of infection has been negligible in the past (apart from some scare) which get cured through indigenous treatment. In the

present situation one has to ensure the proper sterilization of the equipments within the context of HIV/AIDS transmission. Instead of questioning the existence of such practices, which have been followed for years, one has to ensure 100 per cent sterilization in order to cope up with the present situation in



context with HIV/AIDS. As a virus can be killed at high temperatures, simple method of sterilization can disinfect it, before using the equipment on another person. Proper sterilization of the equipments reduces the chances of contracting HIV.

Acupuncture/Wax Treatment and Electrolysis

Traditionally and in modern ways of treatment, the practitioner has been using needles, instruments, wax etc. Taking into account the present scenario of HIV/AIDS disease it is important that only sterilized needles are used.

Living Together

A person with AIDS is in need of both physical care and psychological support from his/her family/neighborhood/society. Family members and relatives can often give the best care. At home, he/she is in well-known surroundings where he/she feels secure. The family members and relatives should be informed about the disease, how it spreads and how it doesn't spread and should know that people with AIDS need to be touched and cared for. Families can better respond to the social and psychological needs of their infected member. In our country, the familial bondage is very strong such that the family members and relatives take care of their sick member irrespective of diseases.

Myth and misconception prevailing about HIV/AIDS, sometimes brings about negative response to the extent of cases reported in the newspapers on disowning persons by their own family members. Since AIDS does not spread through social contact, there is no need to isolate AIDS patients for the sake of protecting others from the infection.

A report appearing in Calcutta daily depicted how a man, who was diagnosed to have HIV infection, was ostracized and tortured by a group of angry villagers at a hamlet in Burdwan. The villagers set fire to his hut and were about to kill his entire family comprising his wife and a baby girl. Fortunately, a team of doctors along with some policemen reached there on time and saved the family. The residents of the tiny village from where the AIDS patient was rescued thought the entire family was infected with HIV. They simply refused to go by the fact: That only the man, who had been in Mumbai for some years, was found to be HIV positive and that the rest of his family was free from the disease. "The villagers did not know that simply living together in a family cannot transmit the disease." [Telegraph (Calcutta) : 18.10.99]

Check Your Progress I

1. Briefly explain how HIV is not transmitted.

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2. What do you understand by the concept of 'safer sex'?

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3.3 MISCONCEPTIONS RELATED TO TRADITIONAL AND CULTURAL PRACTICES

There are several tribal and other socially and economically backward communities in India, where prostitution has been the main source of income for the family. Even today, in some parts of central India, a maiden is also provided to the bridegroom along with the bride. The religious backgrounds of a culture and its ancient religion codes are often important sources by which

individuals live their sexual lives. For instance, a daughter of a Devdasi has to accept the profession of the past due to the ritualistic tradition. Likewise, today, very often due to poverty, illiteracy, ignorance and unemployment, a daughter of a prostitute ends up becoming a prostitute. These types of traditional sexual practices may also be significant in the spread of HIV epidemic, particularly in India.

According to the prevailing custom among Gujarati Wadias, their traditional profession is prostitution. Sons, brothers and husbands work as pimps. The responsibility of earning lies with the women. The men bring in the clients, drink, laze and complain of poverty. The land is arid and cultivation impossible. But why don't the menfolk go out and work? Impossible! They say, "we have not done that in our lives, the Wadia custom doesn't permit this! It is a system we cannot question even if we want to..." (TOI: 15.11.98).

— In the Indian society, marriage is considered as an integral part of human existence where the couple remain faithful to each other. It is believed that abstinence from sexual activities before marriage and outside marriage is the tradition of safer sex practice. This immunity of social, cultural and psychological richness has enabled the sero prevalence rate to be at low level. Western societies are more promiscuous and allow certain behaviour, which is not common in Indian society. For instance, homosexuality is not considered an acceptable form of sexual activity in India.

The simplest definition of a 'homosexual person' is one who engages in a sexual act with a person of the same sex. Homosexuality, challenges widely held assumptions about masculinity and femininity, about the way men and women relate to each other. Not surprisingly, its existence is either vigorously denied or subjected to abuse and ridicule. The fact that many gay men and lesbians feel obliged to conceal their sexual orientation makes it difficult for them to assert their civil, political and cultural rights as individuals. Neither the government, nor civil rights groups even acknowledge that homosexuality exists, leave alone address gay peoples experience of discrimination. The gay community in the west are relatively organised and generally characterised by educational and socio-economic advantage than their counterparts in the third world countries. It may be noted that attempts are being made by several NGOs in various parts of the country to organize the homosexuals and reach out to them to help them protect themselves from HIV/AIDS.

According to sexologists sex was never taboo in India. The temples of Khajurao and the literature of Kamasutra indicate that sex was regarded as something very normal and natural and nothing to be ashamed of. The Indian religious literature, Indian philosophy, the art, culture and sculpture of India, all speak volumes about the possibilities of same sex eroticism.

Therefore, one need not attach any taboo to HIV/AIDS as it is primarily transmitted through sexual activities. The society should accept and encourage sex education through parents, teachers and community leaders within the context of HIV/AIDS in order to create a world free from myth and misconceptions about HIV/AIDS for the future generation.

Check Your Progress II

1. Discuss the situation of homosexuals in India.

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3.4 MISCONCEPTIONS RELATED TO INFORMATION, EDUCATION AND COMMUNICATION (IEC)

Communication (oral, written and pictorial) is arguably the single most important human ability that has facilitated the strides humankind has made in the evolutionary chain. All of the human process can be traced to the ability to think and then communicate with fellow beings and make the thought available for the benefit of the race at large. Most of us realise this importance of communicating as an inner need and as a facilitator for social living. If the influence of media and that of opinion leaders is any indicator, there is no denying the fact that each one of us also accept the ability of communication to alter behaviours and attitudes.

To further complicate the situation, in cases where there has been an attempt to communicate, the message has been misrepresented or misinterpreted, resulting in poor communication. Thus, the initial attempts at creating awareness of AIDS have worsened the case by creating a fear psychosis in the minds of the public at large. Mention AIDS or HIV and a strange fear and paranoia grips the mind of the average individual.

Level of Awareness about HIV/AIDS

Level of HIV/AIDS awareness is low in the community. Many studies have shown this. In a survey conducted by Health First – an NGO funded by the TANSACS – among which 1000 school girls and 600 college girls revealed that the level of education cannot be a criterion for awareness. College girls believed that HIV could spread through air (53.9 per cent), food (53.5 per cent) and by touch (46.3 per cent). Ironically, school girls were well informed about the HIV spread.

In an another significant study involving 112 doctors and 108 nurses revealed that about three-fourths of doctors and nurses at AIIMS (New Delhi) have a high degree of fear of acquiring AIDS while treating HIV infected patients. In spite of the knowledge of universal precautions only about half of them practised it. Hence, the information about HIV/AIDS has to reach the entire population in its true sense through adequate planning and commitment along with political will for the welfare of the people.

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•AIDS Awareness Literature

An important significance about AIDS awareness literature is the authenticity of the source. We often find literatures on AIDS written and published by different sources such as an individual, Government bodies, bureaucrats, NGOs and other grass-roots level workers. The idea about AIDS may be misquoted or exaggerated by any of these sources. Therefore, one has to ensure the source of such publications before drawing one's own conclusion. One doesn't catch HIV just by receiving and reviewing literature from AIDS affected areas of the world. This shows the level of ignorance even among persons who are in this field of research and other related activities.

3.5 MISCONCEPTIONS RELATED TO CARE, TREATMENT AND REHABILITATION

Since the beginning of the HIV/AIDS pandemic, prevention and care programmes in most countries have been planned and implemented with a primary focus on prevention of the spread of infection. However, programmes providing care for those infected with HIV and AIDS are yet to be adequately developed in a system with all kinds of constraints. In addition to the physical symptoms of the disease, persons with HIV/AIDS are affected emotionally and together with their families, are often ostracized and suffer from social discrimination and rejection. Stigmas associated with a number of curable diseases like leprosy and tuberculosis still make life hell for those who suffer from them. Thousands of such patients are daily refused treatment for want of proper diagnostic and other facilities. The stigma about AIDS is very high in our country.

The stigma around AIDS is comparatively high in our country. Medical care alone is not enough; tolerance and compassion for individuals, families and communities affected by the virus are required as well. A greater degree of community involvement is also necessary to provide family members with hope and support.

Is it Necessary to Quarantine AIDS Patients ?

AIDS patients should be treated in general wards of hospitals like any other patients. Due to lack of awareness they are sometimes treated in special wards or refused treatment. Ostracization is not only a social, but a medical problem, too. It affects the process of recovery in patients. Recent studies have revealed that patients in isolation develop typical complications, which are uncommon in patients who are treated at home or in a general ward. Such patients also show poor response to medicines. Isolation forces a patient towards poor recovery.

De-institutionalisation has helped the patient to recover more in one's own community, in the presence of his family, relatives and neighbours, than in institutional settings. Quarantine will not help in preventing the spread of the infection. Infection cannot be spread through air, water or casual contact. Quarantine of the patient will not prevent the disease from spreading. It will

drive the patients away from the health care system. Cuba is a classical example where Quarantine was practiced. It did not reduce the incidence (new cases) on the contrary the rates increased. It cost 20 per cent of Cuban health budget to maintain a sanatorium in Havana. Countries like Britain and Australia have reduced their cases by not isolating their patients through education, care and treatment.

There is No Cure for HIV/AIDS Till Date

In the West, the disease progression has been curtailed to some extent as a result of anti-retroviral therapy. It has reduced the incidence of opportunistic infections and increased the life span of the infected individual. The therapy is expensive and it has side effects. It does not cure the infection. At present the therapy has been recommended for life. Very few patients in our country can afford it.

In this situation, the patients are restless to some how find the life saving drug for their illness. Therefore under such pressure they convince themselves to give a try on all possible forms of medicines such as Homeopathy, Ayurveda, Siddha etc. Alternate systems of medicines have not been proved to be effective in curing or control of the disease though they claim to do so. Patients have to be protected from quacks and unscrupulous persons so that they are not exploited. At the present time AIDS is like any other chronic disease such as diabetes or cancer. There are strong indications to the positive results of Ayurveda treatment. However till date no authentic case of recovery has come to light.

"Herbal shield against HIV"

In the midst of false claims, a herbal remedy promises to keep AIDS at bay for the HIV infected. Since the advent of AIDS in India, the beneficiaries have been different foreign funded NGOs, posing as saviours of eatethe unfortunate victims of this dreaded diseases, and fraudulent drug companies and quacks who treacherously made a fortune claiming their drugs cured AIDS. What is perhaps the most attractive detail about this drug, especially for India, is the cost. A pack of tablets lasting a month costs Rs. 3,500, unlike the Glaxo Wellcome group's cocktail three drug therapy which costs upto Rs. 35,000 a month, and has side effects.

Source: (Sunday Observer: 12.09.99)

3.6 CASE STUDY OF D'SOUZA: A TRUE STORY

The story began at 8 am on the morning of 14 February 1989, when a young man named Dominic D'souza living in a coastal province of India received a visit from the police. He was asked to report to the local police station later that day. No reason was given for the request, but the man assumed that one of his friends was in trouble and had asked for his help. Upon arriving at the police station, he was taken immediately to the local hospital by two policemen and told that he must undergo a physical examination. By this time, he was quite

scared, as he did not know why he was being detained. His fear did not abate when he saw that six policemen were standing at the door of the casualty ward, two of them armed with rifles and the other with bamboo sticks.

The examining doctor entered the man's name in a register book. The man was able to see that on the cover of the book was written the word 'AIDS'. This was how he first came to know that he was infected with the human immunodeficiency virus (HIV) — no explanation, no counselling, not even any words of sympathy or support that might suggest that this was not the end of the road.

But there was worse to come. From the hospital, police escort took the man to a former TB sanatorium where he was to be detained against his will for the next 64 days. He was placed in a small dirty room, completely alone, not knowing why he was there or what would happen to him. He was not permitted to contact his family or friends. He survived only because he had no knife or gun with which to take his own life.

Over the next few days, the reason for his detention gradually became clear. He had donated blood several months previously. The local hospital had tested his blood for HIV without his knowledge or consent, and had found that he was HIV positive. But instead of contacting him, the hospital informed the local police. The police had then acted in reliance on the public Health Act in force in that province which provided for the mandatory detention of all HIV positive people. Under the Act, detention was indefinite, regardless of whether there was any actual risk of HIV transmission to other members of the public.

A month went by and the man remained in detention. By this time, his family and friends had been able to make representations on his behalf to the government pointing out the injustice, not to mention pointlessness, of his detention. He received extraordinary support from the people living in his home village who wrote letters demanding his release. Eventually, he mounted a court challenge to the legislation authorizing his detention and, after 64 days of detention, was granted interim leave to return home not, however, because of any illegality in the detention provisions as such, but only because the court considered that the HIV testing procedure that had been followed was not sufficiently reliable to justify detention.

Shortly afterwards, the Act was amended, abolishing the mandatory requirement of detention of all HIV positive people but permitting detention at the discretion of the health authorities. A court challenge mounted against the amended legislation failed. The law in question was the Goa Public Health Act. Dominic went on to become one of the leading advocates in India of the rights of people with HIV. He died from AIDS (acquired immuno deficiency) in May of 1992.

No one hearing this story can doubt that the law has a role to play in the response to the HIV epidemic. Legal issues arose at every point in Dominic's story: his blood was tested for HIV without his consent, the hospital did not disclose his HIV status to him, confidentiality was breached by reason of the

disclosure to the police, and he was then detained under the Public Health Act. And for Dominic, the story did not end there. When he attempted to return to work, he found that his job had already been given to someone else, and his employer asked him to resign because of concern that other employees would not want to work with a person with HIV.

We have heard over and over again about discrimination against people with HIV. We know that it is a deep and pervasive problem. What happened to Dominic is the reality for many people with HIV. No policy to address the effects of the epidemic can afford to ignore the fact that HIV threatens human rights as profoundly as it threatens public health. [SOURCE: UNDP, "People living with HIV: The Law, Ethics and Discrimination. Issue paper (4). UNDP; New York, 1993]

Check Your Progress III

1. Is there a cure for HIV/AIDS at present? Discuss.

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3.7 LET US SUM UP

This unit unfolds a lot of myths and misconceptions related to HIV/AIDS, which has taken its place in the society. The underlying reason for such situation to exist is mainly due to the ignorance about the issue of HIV/AIDS pandemic all over the world. In order to overcome these barriers, it is essential for each one of you to know about the disease profile of HIV/AIDS, its modes of transmissions, signs and symptoms etc, which is discussed in other units.

Once you have sufficient knowledge about HIV/AIDS pandemic, it would become easy to understand the facts and misconceptions of HIV/AIDS clearly. Similarly, in this unit an attempt is made to put forward some myths and misconceptions of HIV/AIDS related to transmission, IEC, traditional practices and care, treatment and rehabilitation so that you are able to interact in a healthy manner in the society.

3.8 KEY WORDS

- Circumcision** : To cut off foreskin of penis in males or clitoris in females as a custom/tradition in some societies.
- Heterosexual** : Heterosexual person is one who engages in a sexual act with a person of the opposite sex.
- Masturbation** : To produce sexual orgasm or arousal by manual stimulation of genitals etc. and not by sexual intercourse.
- Ostracization** : To exclude a person from society or refuse to associate with other family members, relatives, neighbours, etc...
- Professional Donor** : An individual who donates blood for a price.
- Voluntary Donor** : Any individual who donates blood free of cost.

3.9 MODEL ANSWERS

Check Your Progress I

1. Briefly explain how HIV is not transmitted.

HIV is a fragile virus outside the body. Heat, ordinary soap and water, household bleach, Lysol and chlorine (bleaching powder) can kill HIV. Surgical instruments may be easily sterilized. Refusal of an Endoscopy procedure to HIV positive patients on the grounds that an endoscope cannot be re-used, because methods to sterilise do not exist, is therefore incorrect.

HIV does not spread like a cold and is therefore relatively difficult to catch. Not one case has been reported of HIV being transmitted by contact with air, tears, sweat, shaking hands, hugging, coughing, sneezing, using swimming pools, toilet seats, sharing towels, bed linen, utensils, being bitten by mosquitoes or other animals, or any other form of everyday contact. Saliva, uncontaminated by blood, has not been implicated as a mechanism of transmission.

It is practically impossible to contract HIV while giving medical/nursing care to HIV patients. Thus, medical staff and family members of HIV positive persons have nothing to fear, although a few universal or routine precautions have to be observed.

2. What do you understand by the concept of 'Safer sex'?

There is still no clear picture evolved about the concept of 'safer sex' with in the context of HIV/AIDS/STDs among high-risk groups and general population. Abstinence from sexual activities before marriage and being faithful to his/her spouse after marriage is the tradition of living in Indian context. Safer sex is any sexual practice that reduces the risk of passing (transmitting) HIV from one person to another. The best protection is obtained

by choosing sexual activities that do not allow semen, fluid from the vagina of the partner or to touch the skin of the partner where there is an open cut or sore. Sex involving a mutually faithful husband and wife is usually known as "Safe Sex" in the Indian context. Other 'safer sex' practice suggested by experts include:

- a) Staying in a mutually faithful relationship where both partners are uninfected;
- b) Sexual gratification through masturbation, massage, rubbing, dry kissing and hugging;
- c) Using a condom for all types of sexual intercourse (anal, vaginal and oral); Condom does not provide 100 per cent safety from HIV transmission;
- d) Avoiding certain practice that increase the possibility of HIV transmission, for e.g. "dry sex" which may lead to breaks in the skin;
- e) Avoiding sex when either partner who has open sores or any sexually transmitted disease (STD);
- f) Oral sex should be avoided if there are sores in the mouth or on the genitals;
- g) Anal sex is dangerous for both the partners since the rectum and penis can break and bleed during intercourse; and
- h) Couples should talk about sex and learn to please each other. This can allow for the negotiation of safer sex and make the intercourse more pleasurable for both and less likely to cause discomfort or minor damage to the genital.

Check Your Progress II

I. Discuss the situation of homosexuals in India.

The simplest definition of a 'homosexual person' is one who engages in a sexual act with a person of the same sex. Homosexuality challenges widely held assumptions about masculinity and femininity, about the way men and women relate to each other. Not surprisingly, its existence is either vigorously denied or subjected to abuse and ridicule. The fact that many gay men and lesbians feel obliged to conceal their sexual orientation makes it difficult for them to assert their civil, political and cultural rights as individuals. Neither the government, nor civil rights groups even acknowledge that homosexuality exists, leave alone address gay peoples experience of discrimination. The gay community in the west are relatively organised and generally characterised by educational and socio-economic advantage than their counterparts in the third world countries. It may be noted that attempts are being made by several NGOs in various parts of the country to organize the homosexuals and reach out to them to help them protect themselves from HIV/AIDS.

1. Is there a cure for HIV/AIDS at present? Discuss.

In the West, the disease progression has been curtailed to some extent as a result of anti-retroviral therapy. It has reduced the incidence of opportunistic infections and increased the life span of the infected individual. The therapy is expensive and it has side effects. It does not cure the infection. At present the therapy has been recommended for life. Very few patients in our country can afford it.

In this situation, the patients are restless to some how find the life saving drug for their illness. Therefore, under such pressure they convince themselves to give a try on all possible forms of medicines such as Homeopathy, Ayurveda, Siddha etc. Alternate systems of medicines have not been proved to be effective in curing or control of the disease though they claim to do so. Patients have to be protected from quacks and unscrupulous persons so that they are not exploited. At the present time AIDS is like any other chronic disease such as diabetes or cancer. There are strong indications of the positive results of Ayurveda treatment. However, till date no authentic case of recovery has come to light.

3.10 FURTHER READINGS

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UNIT 4 HISTORY OF HIV/AIDS

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4.0 AIMS AND OBJECTIVES

Whenever, a new disease appears, people speculate on the origin of the disease. Various theories have been proposed for the origin of HIV. Similarly history of the origin and time of the first appearance of the disease can vary from country to country. Whenever a new disease has been introduced into a population from another population, it has produced severe disease and death among the origin population. We are now faced with one of the most dreaded diseases of the 20th Century which is likely to affect the humans across the globe with serious socio-economic consequences. In this unit we shall try to examine the history of HIV/AIDS in the world and in India. After going through this unit, you should be able to:

- Recognize the clinical description of HIV/AIDS;
- Trace the history of HIV/AIDS in the world; and
- Discuss the theories of the origin of HIV/AIDS.

4.1 INTRODUCTION

In the past the world has faced many pandemics like cholera and plague. At the turn of the century the world faced an influenza pandemic. Every fifty to sixty years, the world has faced a new disease. These diseases have left a trail of death and morbidity. There was wide spread fear and stigma attached to the victims due to ignorance and fear. As the disease progressed people have studied the what why and how of those diseases. They have found the cause of most of the diseases. They have also found how these diseases spread. Many times they have found cures and vaccines to prevent the spread of the disease. A new disease appeared and affected mankind in the early 1980's. This disease is called the HIV/AIDS infection.

4.2 CLINICAL DESCRIPTION

In 1981 physicians working in Los Angeles came across a serious illness among young males. These patients had a severe form of rare pneumonia. The organism of this pneumonia was identified as pneumocystis carini. This organism is a very rare organism. It was mainly seen among patients who had received chemotherapy for cancer. Now these young males without any evidence of chemotherapy were suffering from this infection. Michael Goitlieb collected five cases of these infections and published it in a scientific journal.

At the same time in New York, physicians were seeing a rare form of skin cancer. It was known as Kaposi's sarcoma. Before 1981 only 500 and odd cases of Kaposi sarcoma had been reported in the world of medical literature. Now many cases are seen at the same time. Alvin E. Friedmann-Kien reported these cases in one of the medical journals. In both these groups the patients were young males and they had profound defects in their body defenses (immunity).

Route of Infection

The new and rare infections were seen among young males and they suffered from severe defects in their immune functions. All these male patients had sex with other men (homosexuals; or Gay's). They had multiple sex partners. Some of them also used sexual stimulants. Intravenous drug users also suffered from a similar problem. Both males as well as females were affected. In 1983, an elderly male patient was found to be suffering from pneumocystis pneumonia. Unlike the younger patients he did not have any history of Gay behaviour. He had been suffering from hemophilia. He had received multiple blood transfusions. Similar cases were reported from Denver, U.S.A.

In 1984, children born to mothers who were abusing intravenous drugs suffered from severe Immune deficiency. It was postulated that they also were suffering from the same disease as their mothers. In the United States this immuno deficiency was also seen among persons of Haitian origins. In France, many Africans sought treatment for severe immunodeficiency. By the end of 1984 a picture of how this disease was being spread and that the disease was becoming global was evident. By the of 1985 it was clear that the disease spread through sex, blood and blood products and from mother to child.

Naming of the Disease

In the beginning the disease had no entity. As this disease was seen among homosexuals it was called as **Gay Related Immuno Deficiency (GRID)** syndrome. By the end of 1983 this disease was also being described among other groups. The Center for Disease Control, Atlanta, USA named this disease as **Acquired Immuno Deficiency Syndrome**. Since then the disease is known as AIDS.

Search for a Cause

Since the disease was first seen among the homosexual males, it was believed that their behaviour put them at a risk. It was felt that the immune system was

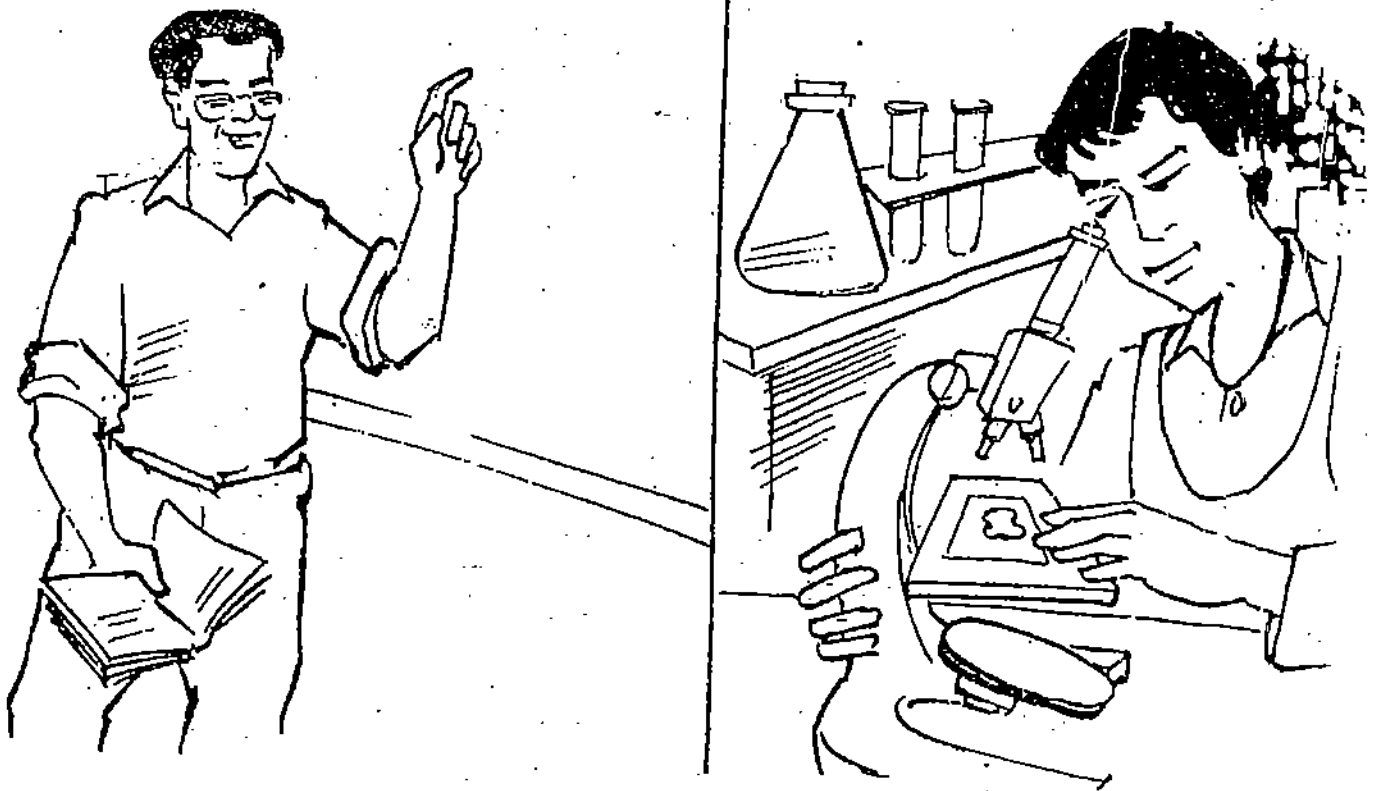
being exhausted due to constant stimulation of immune system by various types of foreign proteins present in the semen. Similarly it was felt that patients with hemophilia were exposed due to repeated transfusions. This concept did not explain the occurrence of the disease among IVD users.

Gays used amyl and butyl nitrates as poppers to enhance their sexual powers. IVD users may have used drugs, which may have some toxic substances. It was thought that the immuno deficiency was due to toxic reactions to these substances. The theory did not explain the occurrence of the disease among the hemophiliac's and among children.

As the disease was seen in various groups, it was postulated that an infectious agent might have caused the disease. Studies among gay men revealed that they had multiple sex partners. It strengthened the search for an infectious agent. It is easy to identify bacterial agents. Since bacteria were not identified, a viral agent was sought.

Robert Gallo an American scientist had discovered a virus that produced a cancer in the human lymphocytes. It was known as HTLV virus. It was a retrovirus. These tumors were more common in Africa. The virus was spread

Germ, Viruses and Bacteria
are visible only through
Microscope



by blood transfusion and through sexual contact. It was postulated that the agent that caused AIDS might be a mutant of that virus. French physicians were seeing patients from Africa who manifested the disease that was similar to the disease seen in the Americans. French scientists started looking for this virus.

A lymph node that was removed from one of the patients was processed in the Pasteur Institute in Paris. Luc Montagnier, Head of the Virology Section and Francoise Barr'e Sinoussi isolated the virus in 1983. This information was first presented by Barr'e at a conference on retrovirus. It was photographed using the electron microscope by the end of 1983. Since it was different from HTLV viruses the French called it the lymphadenopathy-associated virus (LAV). It differed from the HTLV virus. It destroyed the lymphocytes while the HTLV stimulated it. In 1984, it was renamed as Human immunodeficiency virus. Thus the cause for AIDS was established, namely, that HIV caused AIDS defining illness.

Search for a Cure

Sam Border in 1984 used Suramin to treat HIV infection. Suramin was used for treatment of sleeping sickness. It had an antiretroviral activity. It was approved for use in the United States. Hence, he used it on HIV positive patients. It was found to be very toxic and its use was given up early.

In 1964, Jerome Herovitz synthesized a nucleoside known as **azidothymidine**. At that time it did not have any clinical use. In 1984 scientist at Burroughs Wellcome laboratory reinvestigated the drug and found it was effective against the HIV virus. It was the first hope that HIV could be cured. Since then numerous drugs have been synthesized.

In 1990 single drug regimens were shown to be ineffective in controlling the infection. In 1992 two drug regimens were used. It was found that it reduced the incidence of opportunistic infections. In 1996 three drug regimens were used. These regimens reduced the viral burden as well as improved the quality of life. These regimens are known as highly active **antiretroviral therapy**. At the beginning of the twentieth century treatment of HIV infection appears to be similar to that for any other chronic disease. There is hope that the disease will be cured one day. We have to wait with patience.

Check Your Progress I

1. Briefly explain the efforts made towards finding a cure for HIV/AIDS.

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4.3 HISTORY OF HIV/AIDS IN THE WORLD

Theoretically, it should be possible for us to find out when and where the first case of AIDS occurred. However, in practice this is not so easy. Since, we know how HIV is transmitted, namely:

- a) through sexual activities, from women to men, from men to women between women and between men;
- b) through infected blood, via blood transfusions, infected blood products and via the sharing of syringes and hypodermic needles; and
- c) from an infected mother to her baby, before or during birth which is known as prenatal transmission, it is usually possible to work out how each AIDS patient became infected.

Chronologically speaking, the origin of HIV may be traced from the 1950's. At the end of World War II, only a handful of viruses were known. Hundreds more have been discovered since, partly as a result of advanced techniques for culturing them in the laboratory. Viruses are parasites which infect almost every form of life, from single-celled bacteria up to humans. The roughly simultaneous appearance of AIDS in the United States, Europe, Africa and Haiti prompted the question: Had AIDS been around for some time, unnoticed? After combing through medical histories of past patients, investigators found a small number of probable cases of AIDS going back over thirty years over three continents. Working back in time, they found AIDS-like symptoms in patients as early as 1959 (Renee, 1988) :

The first case of HIV in USA was reported in 1981. In 1979 a forty-four year old homosexual man died with Kaposi's Sarcoma in New York city. Kaposi's Sarcoma is a kind of cancer found very common among AIDS patients in the west. In 1977 a twentyseven year old Rwandan mother developed the immunodeficiency symptoms and died. In the same year a thirty four year old Zaiean woman, who sought treatment in Belgium later died of opprotunistic infection in Kinshasa in 1978. In 1975 a previously healthy seven month old black infant from New York had pneumocystis and succumbed. In 1969 a fifteen year old black US boy died with Kaposi's Sarcoma and opportunistic infections in St. Louis. Earlier in 1959 a British sailor with Kaposi's Sarcoma and pneumocystis died in Manchester.

In a few of these cases the retrospective diagnoses of AIDS are now being supported by positive blood tests for HIV. Most of them however, have been identified as possible early cases of AIDS on the basis of the symptoms alone. The search goes on, and it is possible that eventually earlier possible cases will be found somewhere some time.

The earliest known blood sample registering sero-positve by means of several different antibody tests was drawn in Kinshasa and Zaire in 1959. Efforts are still on to trace the history of AIDS through investigations in a less scientific way by going back to the earliest North American cases, and

asking friends of AIDS patients about their sex lives, in an attempt to identify the original "Patient Zero". Investigations are going on to find "Patient Zero". One unproved suggestion is, that US cases all go back to a homosexual Air Canada steward who infected a large number of people across North America. No one knows from where this man caught the disease or if this assumption was true.

Check Your Progress II

1. Trace the history of HIV/AIDS cases in the West prior to 1980s.

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4.4 HISTORY OF HIV/AIDS IN INDIA

When the disease appeared in the West, many people in India thought that the disease would not affect the Indians. Indians have strong family ties and consider themselves as very religious people. Homosexuality is thought to be very rare in India. HIV was seen as a disease of the West. It was seen as disease due to promiscuity. People were complacent about the disease.

In 1985 the Indian Council of Medical Research (ICRM) set up a serosurveillance program. In 1986 the presence of the virus was first detected in sex workers in Chennai. The first Indian patient to suffer from AIDS was reported from Mumbai. In 1987 the ICMR warned the country about the impending epidemic.

Soon after the reporting of the first few HIV/AIDS cases in the country in 1986, Government recognised the seriousness of the problem and took a series of important measures to tackle the epidemic. By this time AIDS had already attained epidemic proportion in the African region and was spreading rapidly in many countries of the world. Government of India without wasting any time initiated steps and started pilot screening of high risk population. A high powered National AIDS Committee was constituted in 1986 itself and a National AIDS Control Programme was launched in the year 1987.

National AIDS Committee

To formulate strategy and plan for implementation of prevention and control of HIV/AIDS in the country, Ministry of Health and Family Welfare constituted a National AIDS Committee in the year 1986, under the chairmanship of the Union Minister of Health and Family Welfare with representatives from various sectors. The committee was formed with a view to bring together various

ministries, non-government organisations and private institutions for effective co-ordination in implementing the programme. The committee acts as the highest-level deliberation body to oversee the performance of the programme and to provide overall policy directions, and to forge multisectoral collaborations.

In the initial years the programme focussed on generation of public awareness through more communication programmes, introduction of blood screening for transfusion purpose and conducting surveillance activities in the epicentres of the epidemic. Every state began testing for HIV and several cases of HIV infections started emerging.

Medium Term Plan for HIV/AIDS Control

In year 1989, with the support of WHO, a medium term plan for HIV/AIDS Control was developed with a US\$ 10 million budget to be provided from external sources. Project documents for the implementation of this plan were developed and implemented in 5 states and UTs which were most affected, namely, Maharashtra, Tamil Nadu, West Bengal, Manipur, and Delhi. Initial activities focused on the reinforcement of programme management capacities as well as targeted IEC and Surveillance activities. Actual preventive activities like implementation of education and awareness programme, blood safety measures, control of hospital infection, condom promotion to prevent HIV/AIDS, and strengthening of clinical services for both STD and HIV/AIDS gained momentum only in 1992.

National AIDS Control Organisation (NACO)

In 1991, a number of donors indicated their interest to support India and accordingly a "Strategic Plan for Prevention and Control of AIDS in India" was prepared for the five year period 1992-1997. The strategic Plan has to date received support from the World bank, WHO and other international agencies. The aim of the plan was to establish a comprehensive, multisectoral programme for the prevention and control of HIV/AIDS in India.

In order to achieve their objectives and combat the onslaught of the HIV/AIDS epidemic effectively, the Government of India established the National AIDS Control Organisation in 1992, as an executive body in the Ministry of Health and Family Welfare at New Delhi, to work for the prevention and control of AIDS in the country. National AIDS Control is headed by an Additional Secretary as its Project Director. Its Secretariat consists of an Additional Project Director (Technical), subject specialists and other technical and administrative staff.

National AIDS Control Board

A national AIDS Control Board has been constituted at the National level under the chairmanship of Secretary (Health), Ministry of Health and Family Welfare in order to review NACO policies, to expedite sanction, approve procurement and to undertake and award contracts to private agencies. The other major functions of the board pertain to the approval of annual operation plan budget, reallocation of funds between programme components, formation of the

programme managerial teams and appointment of senior programme staff. The board exercises all financial and administrative powers, which are beyond the powers of the Addl. Secretary and Project Director, NACO and which the Department of health, Government of India can exercise with the approval of the department of expenditure, Ministry of Finance. No separate reference to Ministry of Finance for funding planned activities is required as the Ministry of Finance is represented on the board.

The National AIDS Control Board has also been entrusted with all the functions, which hitherto were being performed by the technical Advisory Committee under the Chairmanship of the Director General of Health Services (DGHS).

NACO has close collaboration and effective co-ordination among Central and State Governments, various Government departments, local bodies, partnership with NGOs, corporate bodies, international and bilateral collaboration for implementing and monitoring various programmes. More details regarding government initiatives is given in Block III Unit I.

4.5 THEORIES OF THE ORIGIN OF HIV/AIDS

Four theories have been propounded regarding the origin of HIV. The debate still goes on. Let us briefly discuss these theories in the following paragraphs:

Old Human Disease

The first theory is that HIV has been around among mankind for a very long period and has recently become more virulent. One possibility is that the virus comes from a small and isolated ethnic group, which had acquired an immunity to it, so that it had rarely caused death. When it spread outside this group, and reached people who had no such immunity, it became a killer disease.

This theory states that diseases common in one part of the world, when carried to "virgin" territory have often proved a mortal danger to the newly exposed population. European diseases, such as measles and smallpox, virtually wiped out some North American Indians in the eighteenth and nineteenth centuries. This theory is important for a key reason. If this was the origin of the HIV, then the isolated groups' immunity might enable a vaccine to be developed to protect the rest of the world.

There are few completely isolated people left in the world, mainly in the rain forests of New Guinea, Amazonia, and perhaps Central Africa. In fact we have in India the nearly extinct Great Andamanese, a tribe having only 35 members according to the 1991 census. Since one of the early locations of AIDS was Central Africa, much speculation was focused on this possibility. By its nature, this is a theory which is very difficult to disprove, but there is some evidence which argues against it.

The second theory is that HIV has existed for a long time as an animal disease, and has only recently managed to infect and trigger off epidemic in humans. There are other examples of diseases "crossing over" from an animal to mankind, and since a rather similar virus to HIV has been found in a species of monkey, this possibility has received considerable attention.

History has recorded many great human disease epidemics, that have been traced back to infectious organism carried by animals or insects. It is a fact, that domestic and wild animals can harbour germs which, when contracted by human can lead to an infection that in some cases can be passed on from person to person independent of the original animal's source. Source books written in the 1960s before AIDS, listed eighty-four diseases of major significance to public health which can be transmitted from animals to humans.

Like the malaria parasite, in many cases the human host is essential to the lifecycle of the infective organism. It can also be that the human may be an accidental host, contracting the infection from an animal in rare or unusual circumstances, sometimes with the face result that the ensuing disease is more severe in the human than it was in the original hosts.

Since AIDS is a sexually transmitted disease, the theory that it originated among monkeys has in some cases given rise to the idea that the original transmission from monkey to human was via sexual relationship. While medical researchers have not suggested this, the idea has been repeated in some western publications. Many Africans have found this suggestion insulting, and have reacted strongly against the whole "simian origins theory" *simian* being a scientific term for ape and monkeys. Since the western media dominate the international media, and since African scientists find it much harder to have their ideas reported in western media than do European and American scientists, African scientific arguments (often powerful ones) against the simian hypothesis have not become widely known (Renee, 1988).

Recent molecular epidemiological data has indicated that HIV I virus has evolved from the *Pan troglodytes* sub species of the chimpanzees. It was present in that species for centuries. It does not cause any infection among the chimpanzees. HIV 2 is a less virulent form and less prevalent species. It is remarkably similar to a virus known as **Simian immuno deficiency** which is endemic among monkeys. If the virus was present among the chimps and monkeys how did it enter the human beings?

The most likely explanation is found in the cultural practices of the people in Central Africa. Chimpanzees have traditionally served as a source of food to certain people in sub-Saharan Africa. A person may have been infected with the virus during the process of butchering the chimps, he may have had an open wound. The wound may have been contaminated by Chimps's blood. Intermittently this type of contact would have occurred through out the centuries.

In Central Africa the disease must have spread from the infected person to their spouse and if both of them died then the epidemic would not have spread. If the epidemic had to spread certain conditions have to be present. This century provided that ideal condition for the spread of the disease. These conditions included migration, and break up the traditional family system. Migratory nature of employment brought about increased interaction with sex workers. Sexual promiscuity of the times added to the spread. Blood transfusion became common. Hence, contaminated blood could have spread. Contaminated blood was exported from Africa to other parts of the world.

The disease was introduced in United States probably through blood and it spread to other parts of the globe through migration of people as well as the prevalent sexual practices of the Gays. The Gay revolution of 1969 (stonewall riots) with high risk homosexual practices was one of the perfect settings for the spread of the infection. Similar pattern was seen in other developed countries as well.

Man-made Virus

The third theory is that of a man-made virus, perhaps from a germ warfare laboratory. Unlike the first two, this is not a scientific theory posed in terms which are open to experimental confirmation or rebuttal and presented for scrutiny in scientific journals. Rather it has been propagated like a campaign with different versions picked up and relayed in various newspaper and magazines around the world.

According to Renee Sabatier, like all conspiracy theories AIDS-as-germ-warfare is impossible to disprove, but it does seem improbable. The first argument against it is, that Genetic Engineering was not sufficiently advanced to develop such a man made virus at the time HIV first appeared. The AIDS virus must have been in existence several years before 1980, when widespread cases of AIDS started to appear in US hospital. If one accepts the evidence for AIDS cases as early as 1959, it must have been in existence since the mid-1950s. Virologists are emphatic that even if, such a virus could be developed today, the science of genetic engineering was not sufficiently advanced in the late 1970s, for this to be possible.

The second argument is that a virus like HIV is not the sort of bug a germ warfare laboratory would wish to develop. There is no point in developing a virus as a weapon unless one's own side can be protected against it. The ideal germ warfare organism would be one that caused disease very quickly that did not spread by itself but only infected those deliberately infected with it, and for which there was a vaccine to be used to protect one's own side. The HIV differs from this in every respect. Few if any, virologists take seriously the theory that HIV is the result of a scientific conspiracy. So far, there is no substantive evidence whatever that this is where AIDS came from, while there are number of convincing arguments that this origin is unlikely in the extreme.

Mutation Theory

Theories and counter arguments to find the origin of HIV/AIDS is less important than to understand where HIV/AIDS is going. The fourth theory is

called the "Mutation theory". According to this theory, viruses are continually changing and 'mutating' into new strains. It is possible that a mutation took place in a virus which produced a new virus with the deadly properties of HIV. As reported earlier, the first recorded cases for the traces of HIV infection were from North America (1969), and Zaire (1959). However, it is possible that there were other cases of HIV/AIDS in other countries of which we have no knowledge. With increased migration, market economy, liberalization and expansion of global tourism industry, lot of travel has taken place among people within and outside the country since 1950s. This has increased interaction among people. Thus, it is easy for a disease to cross over from one person/community to another. It was believed that HIV was a virus that had undergone mutation or it was produced by recombination of the viral particles. Since the oldest sample was obtained from Africa, it was postulated that it began in Africa and then spread to rest of the world. This theory was not accepted. More sensitive tests showed that this theory was not acceptable. Theories and counter arguments to find the origin of HIV/AIDS is less important than to understand where HIV/AIDS is going.

4.6 LET US SUM UP

Every disease has a history of evolution. However the origin of HIV/AIDS is shrouded in mystery. No one exactly knows where HIV actually came from. In this unit we have tried to explain the clinical description of HIV/AIDS and its historical existence in the world by tracing back to the initial cases of HIV/AIDS in the world. We have also traced the historical background of the disease in India from 1986 when it was first detected in Chennai. There are four theories of the origin of HIV which is usually a curiosity for most learners to know about. Although there is no proof about any of those theories, it will certainly answer many doubts of people and avoid blaming others.

Check Your Progress III

1. Briefly describe the mutation theory.

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4.7 KEY WORDS

Kaposi's Sarcoma : A rare cancer — a tumor of the walls of blood vessels. It also affects the living of internal organs.

Infection : The invasion of a host by organisms such as viruses, fungi, protoza, or bacteria with consequent disease.

4.8 MODEL ANSWERS

Check Your Progress I

1. Briefly explain the efforts made towards finding out a cure for HIV/AIDS.

Sam Border in 1984 used Suramin to treat HIV infection. Suramin was used for treatment of sleeping sickness. It had an antiretroviral activity. It was approved for use in the United States. Hence he used it on HIV positive patients. It was found to be very toxic and its use was given up early.

In 1964, Jerome Herovitz synthesized a nucleoside known as **azidothymidine**. At that time it did not have any clinical use. In 1984 scientist at Burroghs Wellcome laboratory reinvestigated the drug and found it was effective against the HIV virus. It was the first hope that HIV could be cured. Since then numerous drugs have been synthesized.

In 1990 single drug regimens were shown to be effective in controlling the infection. In 1992 two drug regimens were used. It was found that it reduced the incidence of opportunistic infections. In 1996 three drug regimens were used. These regimens reduced the viral burden as well as improved the quality of life. These regimens are known as highly active antiretroviral therapy. At the beginning of the twelfth century treatment of HIV infection appears like any other chronic disease. There is hope that the disease will be cured one day. We have to wait with patience.

Check Your Progress II

1. Trace the history of HIV/AIDS cases in the West prior to the 1980's.

The first case of HIV in USA was reported in 1981. In 1979 a forty-four year old homosexual man died with Kaposi's Sarcoma in New York city. Kaposi's Sarcoma is a kind of cancer found very common among AIDS patients in the west. In 1977 a twenty-seven years old Rwandan mother developed the immunodeficiency symptoms and died. In the same year a thirty four year old Zaian woman, who sought treatment in Belgium later died of opportunistic infection in Kinshasa in 1978. In 1975 a previously healthy seven month old black infant from New York had pneumocystis and succumbed. In 1969 a fifteen year old black US boy died with Kaposi's Sarcoma and opportunistic infections in St. Louis. Earlier in 1959 a British sailor with Kaposi's Sarcoma and pneumocystis died in Manchester.

Check Your Progress III

1. Briefly describe the Mutation theory.

According to "**Mutation theory**", viruses are continually changing and 'mutating' into new strains. It is possible that a mutation took place in a virus which produced a new virus with the deadly properties of HIV. As reported earlier, the first recorded cases for the traces of HIV infection were from North America (1969), and Zaire (1959). However, it is possible that there were

other cases of HIV/AIDS in other countries of which we have no knowledge. With increased migration, market economy, liberalization and expansion of global tourism industry, lot of travel has taken place among people within and outside the country since 1950s. This has increased interaction among people. Thus, it is easy for a disease to cross over from one person/community to another. It was believed that HIV was a virus that had undergone mutation or it was produced by recombination of the viral particles. Since the oldest sample was obtained from Africa, it was postulated that it began in Africa and then spread to rest of the world. This theory was not accepted. More sensitive tests showed that this theory was not acceptable.

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HIV TRANSMISSION AND TESTING

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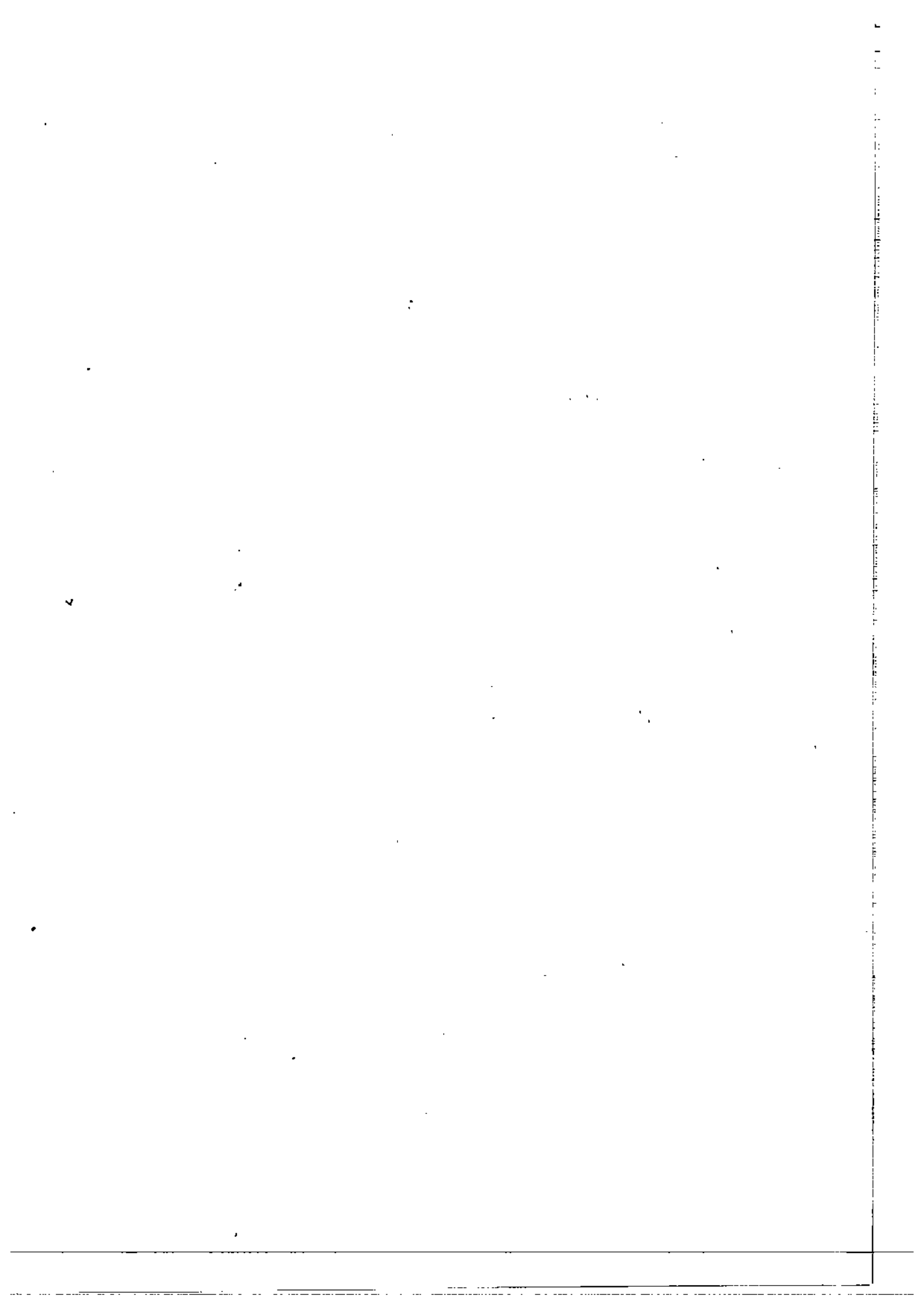
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Moral Issues on HIV Testing 63

INTRODUCTION TO BLOCK 2

Block 2 of the Basic course on HIV/AIDS is perhaps the most important Block in the sense it has made effort to explain various means of transmission of HIV/AIDS. A careful analysis of this block will help in clarifying many doubts and misconceptions prevailing in several groups and communities. There are five units in this Block. Unit 1 explains the 'Transmission of HIV through sex'. It helps us to understand how HIV is transmitted through sex, the various contributory factors to HIV infection through sex as well as some description about various vulnerable sections of population who indulge in risky sexual activities. Unit 2 deals with 'Transmission of HIV through blood'. In this unit explanation about various modes of HIV transmission through blood, and the vulnerable groups of population for HIV transmission through blood have been given. Apart from this certain suggestions to check HIV transmission through blood have been provided. Unit 3 provides details about 'Mother to Child transmission of HIV'. From this unit you will learn various means of mother to child transmission of HIV as well as some of the preventive measures involved in mother to child transmission. Unit 4 is on 'HIV testing and issues involved'. This unit helps you to understand how HIV can be detected in a human body, the various types of HIV tests used as well as the need for pre-test and post-test counselling. Unit 5 is a very important chapter of this Block. It deals with the 'Moral issues on HIV testing'. In this unit the right to autonomy of HIV/AIDS patients, implications of testing entire population and issues involved in maintaining confidentiality have been explained.

- The five units of this Block provide a comprehensive understanding about the what, why and how of HIV testing and strategies involved.



UNIT 1 TRANSMISSION OF HIV THROUGH SEX

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- 1.1 Introduction
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- 1.4 HIV Transmission Risks for Different Practices
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- 1.6 Let Us Sum Up
- 1.7 Key Words
- 1.8 Model Answers
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1.0 AIMS AND OBJECTIVES

The aim of this lesson is to create awareness about the transmission of HIV through sex. This will give us ideas on how to avoid all sorts of risky sexual behaviour.

After studying this unit you will be able to:

- Know how HIV is transmitted through sex,
- Analyze the factors responsible for the risk of becoming infected,
- State various vulnerable sections of population who indulge in risky sexual activities, and
- Interpret the relationship that exists between the modes of transmission and carriers of HIV through sex.

1.1 INTRODUCTION

There are several ways in which one can get infected with HIV. It is very important to know the routes of HIV transmission. This will help us to avoid the spread of HIV. In other words, understanding how HIV passes from one person to another will enable us to protect ourselves. It will also help us to plan and implement programmes for the prevention and control of HIV/AIDS.

Persons infected with the HIV can pass on the virus to those who are not infected. Most transmission occurs from those without symptoms of AIDS. Therefore, it is essential that everyone is aware about the transmission of HIV. It is also important to know who can get infected and how one can get infected. HIV is present in all body fluids, tissues and organs. HIV has been found in almost all body fluids like blood, genital secretions (semen, cervical and

vaginal) saliva, tears and breast-milk. The HIV/AIDS virus can pass on to an individual through three routes. These are:

- (i) Sexual exposures;
- (ii) Contact with HIV/AIDS contaminated blood and blood products and;
- (iii) Mother to child through pregnancy, childbirth, or through breast -milk.

In this unit, let us examine, how HIV spreads among people through sexual exposure.

1.2 MODES OF TRANSMISSION THROUGH SEXUAL ACTIVITIES

Sexual activity, whether homosexual or heterosexual, is the major route of transmission of the HIV throughout the world. The virus can be transmitted by any penetrative sexual act in which HIV-infected semen, vaginal or cervical secretions or blood is introduced into the body through a break in the mucosa. The sexual activities where this type of transmission are:

- (a) Penetrative penile - vaginal intercourse;
- (b) Penile - anal intercourse and;
- (c) Oral - genital contact.

Detailed epidemiological studies throughout the world have documented that sexual transmission occurs through exposure to semen and vaginal or cervical secretions. Exposure to any of these fluids may also occur during other sexual activities.

The precise risk of HIV transmission from a single act of sexual activity is not known. Population - based estimates suggest that the extent of risk through penile - vaginal or penile - anal contact is generally less than one infection per hundred exposures. However, such statistics describe the average within a group of people and cannot be applied to an individual case. While some people have had multiple sexual contacts with infected persons without acquiring HIV infection, others have become infected following a single sexual encounter. Repeated sexual activity with an infected person increases the risk of infection. Let us discuss various types of sexual activity and the risks involved in transmitting HIV during those acts.

Penetrative Penile-Vaginal Intercourse

This is the most common form of sexual activity. Transmission of HIV from men to women and from women to men is well documented. However, transmission rate through heterosexual contact is reported to be high among females.

The transmission from men to women is fairly well understood. Semen from an infected man contains HIV that is most likely associated with infected lymphocytes. HIV introduced into the vagina must make its way into the lymphatics to initiate viral reproduction. Small breaks in the linings of vagina are presumed to be portals of entry to the lymphatics. Women are more

susceptible to infection than men after a single exposure to HIV. This difference may be because the vaginal mucosa has a larger surface area and the vagina acts as a vessel for the seminal secretions. The seminal fluid has a greater contact time with the vaginal mucosa. Moreover, small cuts or break in the mucosa go unnoticed.

Although male to female transmission clearly occurs the means of transmission of HIV from women to men is less clear. Other factors that increase the transmission during the sexual act are the presence of ulcers on the male and female genitalia. Women who have infections in their pelvic organs are more prone to develop infections. Chemical irritation of the vaginal mucosa that occurs due to use of barrier contraceptives may increase the chance of the women getting infected.

Sex between a mutually faithful husband and wife is a safe sex practice. When people seek sex outside marriage we call it a risky activity. However one needs to know the factual information to avoid HIV infection.

Penile-Anal Activity

This means penetration of Penis into the Anus. It appears to be the primary means by which HIV is transmitted among homosexuals. This is sometimes referred as rectal activity and in turn often leads to breaks in the lining of rectum. The rectal mucosa is delicate. These breaks in the rectum linings make it easier for HIV to enter into the lymphatics. Laboratory studies suggest that cells that line the rectum may also become directly infected with the virus. Surveys of the homosexual populations indicate that a partner who inserts his penis into the anus of another partner (active partner) seems to have a lower chance of becoming infected when compared to the partner into whose anus he has inserted (passive partner). When these activities are performed without any physical barriers, it must be considered as high risk for transmission of the virus.

Usually penile -anal activity is not recommended even between a mutually faithful husband and wife on health grounds. It is against dignity for the man to force his wife to agree for penile-anal sex against her will. Every human act whether in public or private has its implications on the behaviour and character of the individual. One must have regard and respect for every human being including a sex worker.

Oral-Genital Contact

This means contact between the mouth and genitals. The role of oro-genital sex as a route of transmission of HIV is poorly studied in populations other than homosexuals. It is because individuals who engage in orogenital sex rarely do so to the exclusion of other forms of sexual contact. It is difficult to attribute transmission of HIV to oral sex and not to other types of sexual exposures:

The possibility of transmitting HIV from the vagina to the mouth seems possible, although it is not documented. Similarly, the feasibility of transmitting of HIV from the mouth to the genitals is unclear. One can speculate about plausible routes of transmission in any type of oro-genital contact. HIV bearing lymphocytes present in semen could contact damaged

mucosa in the mouth and allow the entry of HIV into tissue. Likewise, traces of menstrual blood or vaginal discharges containing HIV could serve as conduct of infection from the genitals to the mouth. Virus is shed in the saliva. Saliva is not infective as the dose of virus needed to transmit the infection is very low. Saliva also contains an enzyme that inhibits the virus. Hence, it does not easily transmit the infection.

Oral sex is very rare amongst most people in the Indian sub-continent for various reasons. Some of these include:

- i) Lack of adequate privacy. Over 70 per cent people live in rural areas in small houses along with several family members (children, joint family, etc) where privacy for intimate sexual activities are limited.
- ii) Almost half the population in most urban areas live in slums which comprise a small room without any privacy and safety.
- iii) Most men and women from the above mentioned categories return home tired and wanting rest after a day's work. They eagerly wait for darkness to set in so that their sexual urges can be satisfied in fleeting moments.
- iv) Most people in India are not exposed or oriented to various forms of sexual activities described above due to their family, cultural, religious, educational, traditional and social background.
- v) Husband and wife hardly talk to each other on sex and sexuality.

It may be noted that very few studies have been conducted on the sexual behaviour of people in India. Therefore, most of the concerns discussed in this unit may not be relevant for most people. However, adequate information on various aspects with regard to sexual activities which are risky in nature need to be made known so that the last person in the country is enabled to take necessary precaution to avoid transmission of HIV/AIDS/STDs.

Check Your Progress I

1. Describe how HIV transmission occurs through sexual activities.

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1.3 FACTORS RESPONSIBLE FOR CAUSING INFECTIONS

The risk of becoming infected with HIV as a result of sexual activity depends on:

- (i) Whether the sexual partner is infected;
- (ii) The type of sexual contact involved,
- (iii) The amount of virus present in the blood or secretions of the infected partner; and
- (iv) The presence in either partner of other sexually transmitted diseases or genital lesions.

Probability that Sexual Partner is HIV Infected

The prevalence of HIV infection among sexually active people varies in different areas and among population sub-groups in those areas. The probability that a person has acquired a sexually transmitted HIV infection is, in general, proportional to the number of sexual partners the person has had in recent years. In areas where the mode of transmission is through heterosexual activity, the highest prevalence of infection has been found among female sex workers. The probability in such cases increases.

The probability of a homosexual man encountering an HIV infected sexual partner ranges from a few percent for those with only a few male sexual partners in areas of low AIDS prevalence to more than 70 per cent for men who have many male sexual partners in areas of high AIDS prevalence. Unlike several permissive societies in the world, the percentage of homosexuals and lesbians in India are very insignificant. However, we do have reported cases of the prevalence of HIV among the minority homosexual population of the country.

Type of Sexual Contact Involved

All forms of sexual activity in which any type of contact with body fluid is involved carries a risk of HIV transmission. While existing data suggests differences in the relative risk of various forms of activity, the precise level of risk associated with each is not yet known. Trauma to the mucous membrane of the rectum or vagina may facilitate transmission of HIV, but is not essential for transmission to occur.

The highest risk for HIV infection occurs amongst men and women who engage in receptive anal activity with an HIV-infected partner. Vaginal intercourse carries a higher risk for heterosexual men and women than oral activity. Oral-genital contact may transmit HIV, but the available data are too limited to permit quantification of the risk from such contact.

Kissing has not been shown to pose a risk of transmission. Nevertheless, while not substantiated, there is a theoretical risk of HIV transmission during 'wet kissing' in which saliva is exchanged and if there are cuts and pores in the mouth.

Self-masturbation obviously poses no risk of HIV transmission. However, mutual masturbation, which may involve exposure to semen or cervical and vaginal secretions, may pose a theoretical risk of HIV transmission if there are cuts, wounds etc. in parts of the body which may be exposed to such body fluids.

Amount of Virus Present in the Blood or Secretions of the Infected Partner

HIV infected individuals are thought to become more infectious as they progress to overt disease i.e. AIDS. Similarly during the window period the concentration of HIV is the highest and the person is highly infectious. Therefore, exposure during window period can be highly risky.

Presence of Other Sexually Transmitted Diseases(STDs)

There is an increasing evidence that the presence of another sexually transmitted disease in one or both partners may increase the risk of HIV transmission. Genital ulceration, may occur with chancroid, syphilis or herpes virus infection. Ulcerative disease appears to increase the susceptibility to infection of uninfected individuals and to enhance the infectivity of those who are already infected.

It is always risky to have sex with Commercial Sex Workers (CSWs) in India. Reports indicate that most of the sex workers suffer from STDs and a large number of CSWs are also found to be HIV infected across the country. The only way to avoid HIV is to remain faithful to one partner or practise abstinence. Sex education is the need of the hour.

Check Your Progress II

1. Describe in brief about the various risk factors involved in the transmission of HIV through sex.

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1.4 HIV TRANSMISSION RISKS FOR DIFFERENT PRACTICES

In the previous sections we discussed various factors responsible for transmission of HIV. In this subsection we have presented risks involved in the transmission of HIV for different practices in a tabular form. Different types of practices are grouped under four categories: Unsafe practices with high risk, unsafe practices with unclear risk, low risk practices with some risk and practices with probably no risk.

Table: 1.1

HIV Transmission Risks for Different Sex Practices

1. Unsafe practices with high risk of HIV transmission.
 - Numerous sex partners;
 - Unprotected anal receptive sex with an infected partner;
 - Unprotected anal penetration with hand (fisting);
 - Anal douching in combination with anal sex.
 - Oral -anal contact and;
 - Vaginal intercourse without a condom with an infected partner.
2. Possibly unsafe Practices with Unclear Risk of HIV Transmission.
 - Fellatio (oral contact with male genitals and contact with semen);
 - Cunnilingus (Oral contact with female genitals) and;
 - Sharing sex toys and implements.
3. Low Risk Practices with some Risk of HIV Transmission
 - Anal or vaginal sex with proper use of intact condom;
 - Wet kissing (French kissing);
 - Fellatio interruptus (contact with male genitals without ejaculations).
4. Practices with Probably No Risks of HIV Transmission.
 - Abstinence from sexual contact;
 - Monogamous relationship in which both the partners are uninfected;
 - Self-masturbation;
 - Masturbation of partner (if no cuts on hands of either partner);
 - Touching, massaging, hugging or stroking and;
 - Dry kissing.

Source : Lyn Frumkin, and John Leonard (1994): Questions and Answers on AIDS, PMIC, California.

Check Your Progress III

1. What are the types of risks involved in different types of sexual practices with regard to transmission of HIV?

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1.5 VULNERABLE POPULATION

Sex Workers or Prostitutes

The HIV virus is primarily transmitted from one person to another through sexual activities. There are various categories of persons who are vulnerable to HIV infection through sexual contacts.

- (i) In every culture, and society one does come across sex workers. These are mostly women who sell their bodies for a price (money). Some men may also involve in male prostitution.

There are various forms of sex work. In big cities and towns, they live in certain areas known as Red Light Areas or Red Light Districts. Women who practice prostitution live in groups in such areas. There are also sex workers who live in brothels. Brothel keepers keep them in brothels by force. They have no freedom to go out of the brothel premises. Very often they have to provide sexual satisfaction to several men in a day.

- (ii) The second category is call girls. Call girls are those who live a more comfortable life. They usually serve customers in their homes or hotels and earn handsome amount.
- (iii) Another category comprise women from some of the tribal communities who practise prostitution as their profession. Some of these tribes are Rajnat, Bediyas, Gadia, Lohares, Kanzars, Bheel etc. Most of these tribes are found in Rajasthan and some other north Indian states who mostly stay along the Highways.
- (iv) There is also another group of young girls who are called Devadasis. These are young girls usually from very poor families who are offered to temples. Almost always, these dancing girls are sexually exploited and they also become sex workers later in their lives. It is a common practice in northern parts of Karnataka and several other States in India.

Homosexuals and Lesbians

Same sex sexual relationships are very high-risk activities. In fact, the very first cases of HIV found were among people involved in the same sex relationships. This trend continued in the United States of America until recently. Oral penetrative sex as well as anal penetrative sex are high-risk activities. This causes bleeding and breaks in the sex organs. In case of oral sex, sex organs get hurt with the teeth. In case of anal sex, penetration becomes painful for both active and passive partners, as the anus can not receive an erect penis. In the process, both the penis as well as the tight rectum suffer injuries or tears causing bleeding as well as transmission of HIV/STDs.

Several reports reveal that a passive partner is very often forced into doing a particular sexual act. Sex can never be enjoyed by force. It then becomes cruel or sadistic act done without concern for the dignity of the individual. Several cases of homosexual rape have been reported.

Same sex relationships are commonly found in:

- (i) Massage parlours
- (ii) Hostels where people of the same sex live.
- (iii) Prisons
- (iv) Welfare Institutions taking care of clients belonging to same sex like Nari Niketan, Beggar's Home, Juvenile Homes, Orphanages etc.
- (v) Camps of armed forces;
- (vi) Among street children and
- (vii) Among child laborers kept in camps.
- (viii) Circus camps etc.

Involvement of eunuchs in the flesh trade is not a new phenomenon in our country. They are a high-risk group in India today. They are estimated to be over one million in India. They run brothels that serve particularly the homosexuals and also cater to bisexuals. With the unabated spread of HIV/AIDS the time has come for initiating actions/legislation to stop such practices.

Sperm Donors

People who donate sperm can also pass on HIV if they are infected. There are several sperm banks located in various parts of the country. The usual donors of the sperm in the country are the poor labourers, beggars or street vendors who make a living out of it. Many drug addicts also donate sperms for a price to buy drugs. There are also reports of students from professional colleges and educational institutions who donate sperm for making additional pocket money. There are some documented cases from various parts of the world where HIV has been transmitted through artificial insemination.

Check Your Progress IV

1. Explain briefly same sex relationship in the context of HIV transmission.

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1.6 LET US SUM UP

In this unit various means of transmission of HIV through sex is discussed. Sex is one of the known sources of HIV transmission. This is also the largest mode of transmission. This mode of transmission generally occurs in three ways.

These three ways are : penetrative penile-vaginal, penile-anal and oral-genital contact. Amongst these three ways penetrative penile - vaginal activity is the most common. In penetrative penile-vaginal activity, transmission from male to female is known.

The risk of becoming infected with HIV as a result of sexual intercourse depends upon mainly four factors. These factors are: (a) Whether the sexual partner is infected; (b) the type of sexual contact involved; (c) the amount of virus present in the blood or secretions of the infected partner; and (d) the presence in either partner of other sexually transmitted diseases or genital lesions. The unit also discusses about HIV transmission risks for different types of sexual practices. The different types of sexual practices are grouped under four sub-headings. These are: (1) unsafe practices with high risk of HIV transmission; (2) possibly unsafe practices with unclear risk of HIV transmission; (3) low risk practices with some risk of HIV transmission and (4) practices with probably no risk of HIV transmission.

In the last section of the unit, various groups vulnerable for HIV transmission through sex are discussed. This vulnerable group of population include sex workers, homosexuals, lesbians, eunuchs and sperm donors etc.

1.7 KEY WORDS

- Oro-genital** : The contacts between oral and genital.
- Epidemiology** : The study of the incidence and distribution of diseases and of their control and prevention.
- Fellatio** : Oral contact with male genitals and contact with semen.
- Cunnilingus** : Oral contact with female genitals
- Eunuch** : A castrated man (some are born without male or female sex organs).
- Lesbians** : A homosexual woman

1.8 MODEL ANSWERS

Check Your Progress I

1. Describe how HIV transmission occurs through sexual activities.

There are three ways of transmission of HIV through sex. The ways are penetrative penile - vaginal, penile - anal and oral - genital. The most common type of transmission is penetrative penile- vaginal. Semen from an infected man contains HIV that is most likely associated with infected lymphocytes that are also present in the semen. HIV introduced into the Vagina must make its way into the blood stream to initiate viral reproduction. Small breaks in the lining of vagina are the presumed entry points to the blood stream.

Check Your Progress II

1. Describe in brief the various risk factors involved in the transmission of HIV through sex.

There are mainly four types of risks involved for different sexual practices. They are 1) unsafe practices with high risk of HIV transmission, 2) possibly unsafe practices with unclear risk of HIV transmission, 3) low-risk practices with some risk of HIV transmission and 4) practices with probably no risk of HIV transmission.

Unsafe practices with high risk of HIV Transmission involves unprotected anal receptive sex With an infected partner; anal douching in combination with anal sex; and vaginal activity without a condom with an infected partner. Possibly unsafe Practices with unclear risk of HIV transmission involves fellatio (oral contact with male genitals and contact with semen); cunnilingus (Oral contact with female genitals) and sharing sex toys and implements. Low risk practices with some risk of HIV transmission include anal or vaginal sex with proper use of intact condom; wet kissing (French kissing); and fellatio interrupts (contact with male genitals without ejaculations). Practices with probably no risks of HIV transmission; include abstention from sexual contact; monogamous relationship, both partners uninfected; self-masturbation; masturbation of partner (if no cuts on hands of either partner); touching, massaging, hugging, stroking and dry kissing ('social kissing').

Check Your Progress III

1. What are the types of risks involved in different types of sexual practices with regard to transmission of HIV?

The risk of becoming infected with HIV as a result of sexual intercourse depends on:

- (i) whether the sexual partner is infected;
- (ii) the types of sexual activities involved;
- (iii) the amount of virus present in the blood or secretions of the infected partner; and
- (iv) the presence in either partner of other sexually transmission disease or genital lesions.

Check Your Progress IV

1. Explain briefly the role same sex relationship in the context of HIV transmission.

Same sex sexual relationships are very high-risk activities. In fact, the very first cases of HIV found were among people involved in same sex relationships. This trend continued in the United States of America until recently. Oral penetrative sex as well as anal penetrative sex are high-risk activities. This causes bleeding and breaks in the sex organs. In case of oral sex, sex organs get hurt with the teeth. In case of anal sex, penetration become painful for both active and passive partners, as the anus can not receive an erect penis. In the

process, both the penis as well as the tight rectum suffer injuries or tears causing bleeding as well as transmission of HIV/STDs.

Several reports reveal that a passive partner is very often forced into doing a particular sexual act. Sex can never be enjoyed by force. It then becomes cruel or sadistic act done without concern for the dignity of the individual. Several cases of homosexual rape have been reported.

Same sex relationships are commonly found in:

- (i) Massage parlors;
- (ii) Hostels where people of the same sex live;
- (iii) Prisons;
- (iv) Welfare Institutions taking care of clients belonging to same sex like Nari Niketan, Beggar's Home, Juvenile Homes, Orphanages etc;
- (v) Camps of the armed forces;
- (vi) Among street children;
- (vii) Among child laborers kept in camps and;
- (viii) Circus camps etc.

1.9 FURTHER READINGS

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UNIT 2 TRANSMISSION OF HIV THROUGH BLOOD

Contents

- 2.0 Aims and Objectives
- 2.1 Introduction
- 2.2 Transmission of HIV through Blood
- 2.3 Vulnerable Population
- 2.4 Issues Related to Transmission of HIV Through Blood
- 2.5 Information on Blood Banks
- 2.6 Government Action on Ferguson Report
- 2.7 Direction of Supreme Court to the Government
- 2.8 Let Us Sum Up
- 2.9 Key Words
- 2.10 Model Answers
- 2.11 Further Readings

2.0 AIMS AND OBJECTIVES

The aim of this unit is to create an awareness and knowledge about the transmission of HIV through blood and blood products. This unit will provide information regarding various modes of transmission of HIV through blood. We will also discuss about various groups of population that are vulnerable from HIV transmission through blood. At the end of the unit some issues like blood donation, blood testing, information on blood banks etc. which has a direct relationship with HIV transmission will be discussed in detail.

After reading this unit you will be able to:

- Know various modes of HIV transmission through blood;
- State various vulnerable groups of population for HIV transmission through blood;
- Analyze the relationship between modes of transmission and vulnerable groups of population;
- Understand various issues related with modes of transmission through blood;
- Suggest various preventive measures to be adopted to check the transmission of HIV through blood; and
- Understand legal issues involved in blood donation and blood bank operations in India.

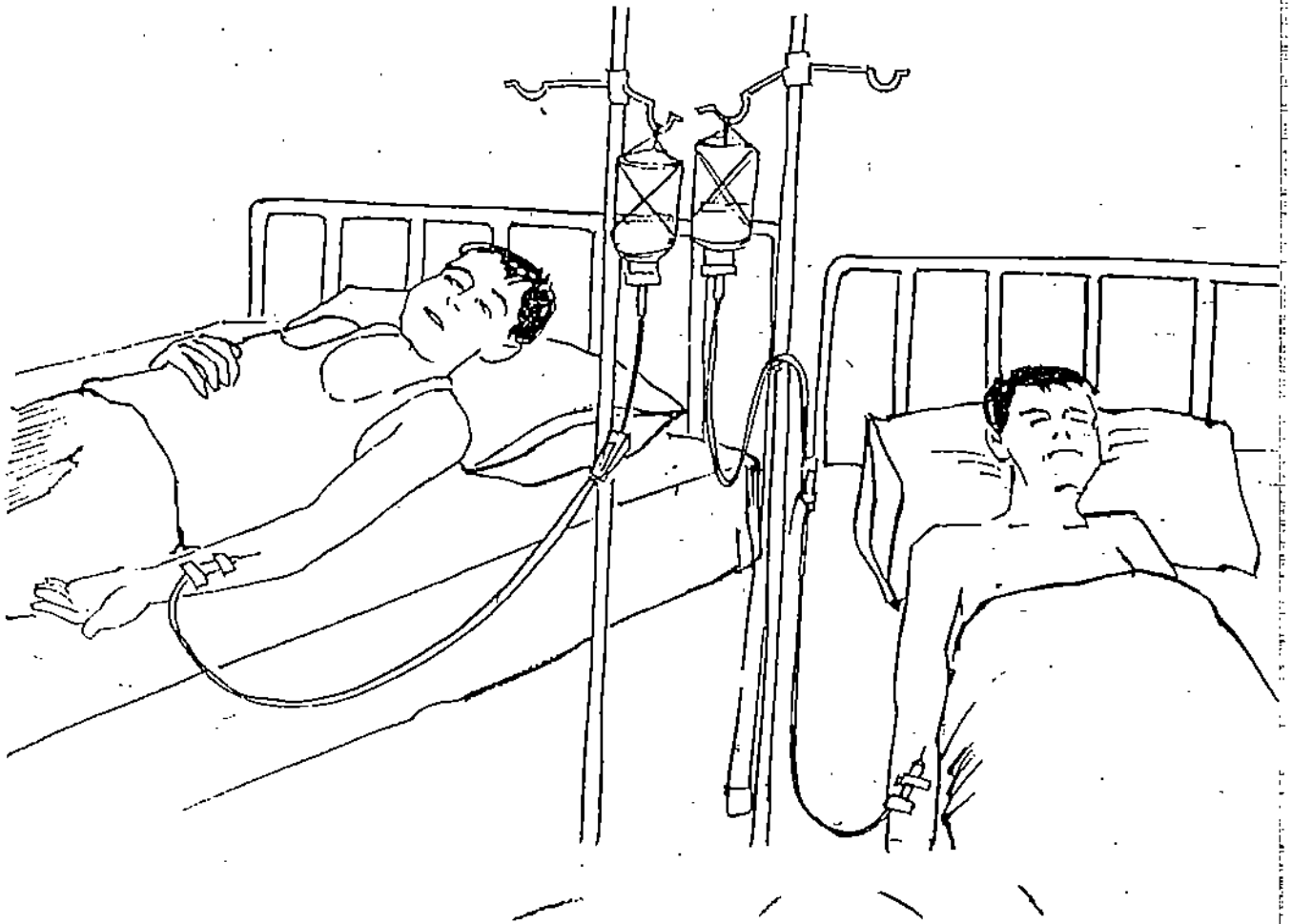
2.1 INTRODUCTION

In the previous unit we have already studied transmission of HIV through sex. In this unit we shall study transmission of HIV through blood. The magnitude

of transmission through blood is very less when compared to transmission through sex. The important aspect about transmission through blood is that this can be completely reduced if certain precautions are followed. All these issues will be discussed in this unit.

2.2 TRANSMISSION OF HIV THROUGH BLOOD

HIV reproduces itself in the CD₄ lymphocytes, which circulate in the blood and other body fluids. Blood collected for transfusion contains these lymphocytes. HIV is not only present with these cells but it is also present in blood unassociated with cells (serum). Thus introduction of blood from infected person to uninfected person will transfer the virus that is present both in the cells as well as the serum. Of all the forms of exposure to HIV, **blood transfusion** is the most effective means of transmitting the virus from person to person. No barrier of any kind exists between the infected person and the individual who receives contaminated blood directly into the blood stream.



Instruments like scalpels or suture needles, if contaminated with infected blood can transmit the infection. Similarly needles that have blood stains on them can transmit the infection. Sometimes injuries that occur with broken glass vials containing infected blood or serum can transmit the infection. The risk of infection through small cuts and abrasions that occur with contact sports e.g. wrestling, football etc. is very low.

Transmission of HIV through Blood Products

Blood that is collected from a donor can be separated into different components using a **cell separator**. One unit of blood will be separated into red blood cells, platelet concentrates and plasma. These components can be used as and when required.

Apart from these conventional uses, substances present in the blood i.e. antibodies are removed to produce **immunoglobulins**. These immunoglobulins are used in treatment of many medical conditions. HIV can be transmitted through these products also. Treating these products can prevent transmission.

Various Means of Transmission

(A) HIV transmission through intravenous drug use (IVDU)

Intravenous drug use acts as a source of transmission of HIV because drug users frequently share syringes and needles to inject drugs. These instruments are not sterile. Small volumes of contaminated blood remains inside previously used needles and syringes thereby providing opportunities to transmit the virus via their blood contents. In the early years of the epidemic, studies found links between HIV drug users and male homosexuals who were already infected with HIV. The overlap of these two groups facilitated the introduction of HIV into drug using population and then to the sex partners of the drug users.

Rapid increase in prevalence of HIV in drug users in major urban areas from around the world were recorded in the late 1980s and early nineties. More detail regarding relationship between HIV/AIDS/STDs and substance abuse is given in **block-I** of the Elective Course on HIV as well as the Elective Course on Alcohol, Drugs and HIV.

(B) Transmission through organ transplantation

HIV can be transmitted through infected organs. HIV is found in the blood as well as the tissue of an infected organ. Before any organ is transplanted the donor has to be screened for HIV. In cadaver (removal of organs from brain of dead patients) transplantation, the donor has to be checked. This route of transmission is very rare in practice. Since an infected person's body fluids contain HIV it is essential to screening for HIV is carried in cases of organ transplantation of any kind such as kidney, bone marrow, eyes, skin, semen etc.

Check Your Progress I

1. How HIV is transmitted through blood and blood products?

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2.3 VULNERABLE POPULATION

A) Hemophilia

Hemophiliacs are born with an inherited bleeding disorder and are exclusively males. This disorder is determined genetically. It results in poor clotting of blood. There is an absence of a single protein that is involved in coagulation. Various forms of hemophilia exist. Hemophilia A is due to deficiency of Factor VIII. It is the most common form of Hemophilia. Hemophilia B is due to deficiency of factor IX.

In 1984 a worldwide survey showed that 74 per cent of Hemophilia A and 39 per cent of Hemophilia B were infected with the virus. Since then there has been a steady decline in the incidence of HIV among this group. This has been achieved by modifying the procedures in preparation of these products. Hemophiliacs who have received cryoprecipitates have a lower incidence of infection.

B) Intravenous Drug Users

Injecting drug users are a potential channel for transmission of HIV. We have already discussed this mode of transmission. In India, injecting drug users have a high incidence of the infection. It is more common in the North Eastern parts of India. The drug addicts often sell their blood to purchase drugs. Several of them are found to be professional blood donors.

C) Professional Blood Donors

Professional blood donors are persons who repeatedly donate blood to the blood banks for money. They are usually poor and unhealthy people. Many of them are found to be HIV carriers. Professional blood donors should be avoided at all costs. A medical test should be performed on them if it is still necessary to accept them as donors. The Supreme Court of India has banned professional blood donation in the country. However, these professionals continue their profession as there is dearth of blood donation in the country. We shall discuss more in detail about Blood Donation and Blood Banks later in this chapter. Professional Blood Donors pose a high risk for infection.

D) Health Care Workers

Health care workers often get injuries due to needle prick and cuts with other equipments. There are several documented cases of health care workers being infected through this route. All health care providers must be aware of the universal precautions and put them into practice. They are more prone to this infection.

E) Patients Suffering from Blood Disorders

Patients who suffer from various blood disorders like various types of anemia, especially Thalassemia or Leukemia require multiple transfusions. We have already discussed about bleeding disorders like Hemophilia. Patients may need multiple transfusions. They are at risk to contract the infection if untested blood is used. Measures that can reduce the need for transfusion in these patients can prevent the infection from spreading.

F) Miscellaneous

There are certain practices through which the HIV can be transmitted through blood due to infected instruments. There are:

1) Circumcision or Genital Mutilation

Practices of circumcision or genital mutilations are found among some groups of people on India. A circumcision needs to be done with extra care. Using clean instruments and if a trained person does the operation the chances of the infection can be reduced.

2) Tattooing, Ear or Nose Piercing

Tattooing, ear or nose piercing is an age-old custom in India. Nose and ear piercing is very common in India. Tattooing is more common among the tribal communities. It can be seen in cities also. These procedures should be done with clean instruments.

3) Organ Transplantations

Patients who receive organ from donors are at a risk of getting infected. There is always a need for verifying the status of a donor before accepting any type of organ from a donor.

Check Your Progress II

1. Write a brief note on professional blood donors.

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2.4 ISSUES RELATED TO TRANSMISSION OF HIV THROUGH BLOOD

A) Blood Donations and Blood Banks in India

Blood donations and blood banks were started in India since 1941. During this period, the Second World War was in full swing. It became necessary to supply blood to the wounded soldiers. In 1941, the then Viceroy of India directed all the Provincial Governments to set up blood banks. These Blood Banks were to supply blood to the soldiers and civilians.

Today, there are over a thousand registered blood banks all over the country. There are also several thousand illegal and unregistered blood banks in the country. A person can donate blood once in three to four months. In India demand for blood out weighs the supply hence, professional blood from donors are also encouraged by the blood banks. The Supreme Court has banned this practice since 1998.

TABLE 2.1
Some Important Facts and Figures about Blood Banks and Blood Donation

FACTS	FIGURES (Nos.)
Government Blood Banks	727
Charitable Blood Banks	38
Private Commercial Blood Banks	710
Total number in the country	1475
Total blood requirement in the country (Average 11 units per hospital bed per annum)	6 Million units
Total Blood collection (annual)	1.95 Million units
Shortage	4.05 Million units

Most of the hospitals are located in urban centers. They cater to 25 per cent of the population. 75 per cent of the Indian population lives in villages. Hence, these figures may not give a true picture of the country.

B) Testing of Blood

Testing of blood for HIV has been made mandatory in most of the countries. There is a law in India, which makes it mandatory to test all the blood that is used for transfusion. A list of Blood Testing Centres for HIV in India is given in your Supplementary Reading Book (AFE-01, Block 4).

C) Voluntary Blood Donation

Voluntary blood donation should be encouraged. Volunteers are likely to be healthier and may not have high-risk behaviour that is associated with professional blood donors. The blood from a voluntary donor is likely to be of good quality.

D) Rational Use of Blood

Blood should be used carefully. It should be used only when it is essential. Minimum amount that is needed should be used.

E) Sterilization of Instruments

Equipment used for collection and for transfusion of blood should be properly sterilised. Health care providers need to be aware of such procedures.

Check Your Progress III

1. Describe any three issues related to transmission of HIV through Blood?

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2.5 INFORMATION ON BLOOD BANKS

"Blood is an essential component of the body which provides sustenance to life. There can be no greater service to the humanity than to offer one's blood to save the life of other fellow human-beings. At the same time blood, instead of saving life, can also lead to death of the person to whom the blood is given if the blood is contaminated. As a result of developments in medical science it is possible to preserve and store blood after it has been collected so that it can be available in case of need. There are blood banks which undertake the task of collecting, testing and storing the whole blood and its components and make the same available when needed. In view of dangers inherent in supply of contaminated blood it must be ensured that the blood that is available with the blood banks for use is healthy and free from infection."

This is the opening para of the Supreme Court judgement in *Common Cause Vs. Union of India & Others* (JT 1996 (1) S.C 38) delivered by Justice S.C Agrawal. This Writ Petition (Civil) No. 91 of 1992 under Article 32 of the Constitution of India was heard by Hon'ble Justice Sh. S.C Agrawal and Hon'ble Justice Sh. G.B Pattanaik and the judgement was delivered on 4-1-1996. The Writ Petition was filed by Sh. H.D Shourie on behalf of *Common Cause*, a registered Society that takes up public interest litigation earnestly.

Focus of Petition

The petitioners had highlighted the serious deficiencies and shortcomings in the matter of collection, storage and supply of blood through the various blood centers operating in the country. It was prayed by the petitioners to issue appropriate writs or directions to the Union of India, States and the Union Territories to ensure proper positive and concrete steps for obviating the malpractices, malfunctioning and other inadequacies of the blood banks all over the country. The Union of India, the States and the Union Territories were made Respondents to the Writ Petition. The petitioners had prayed that the respondents should initiate a time bound programme and place before the Court a specific programme of action to remedy the deficiencies in the operation of the blood banks.

Blood is treated as a drug under the Drugs and Cosmetics Act, 1940, for the purpose of regulating its collection, storage and supply. In the Drugs and Cosmetics Rules, 1945, made under the 1940 Act, provisions are made for equipment and supplies required for a blood bank in Part XII-B. These provisions were inserted vide notification on 24-6-1967. In this part requirements regarding equipment, blood collection supplies, canter equipment and emergency equipment for blood donor room as well as provisions for laboratory, general supplies, technical staff, accommodation for blood bank, label for whole blood and colour scheme for label etc were also made.

The Ferguson Study

In 1990 the Government of India had entrusted M/s AF Ferguson & Co., Management Consultancy Firm, with the study of blood banking system in the country.



The scope of the study was to:

- assess the status of Government, private, commercial and voluntary blood banks;
- recommend policy and procedural changes; and
- prepare a scheme for modernisation.

Status of Blood Banks

M/s AF Ferguson & Co. submitted its report to the Government in July 1990. According to this report out of the total number of 1018 blood banks in the country, 203 were commercial blood banks and the rest were controlled by the then Central Government, the State Governments, Private Hospitals and Voluntary Organizations. The volume of blood collected by the commercial blood banks was 4.7 lakhs units out of the total of 19.5 lakhs units by all blood banks. It was also reported that commercial blood banks were collecting blood mostly from professional donors while the other blood banks were collecting blood mostly from the relatives of the patients or from voluntary donors.

Deficiencies

The Ferguson Report highlights various deficiencies. It was stated that:

- (i) Out of the total number of 1018 blood banks as many as 616 are reported to be unlicensed. There are only 201 licensed commercial blood banks; the supply of blood by licensed commercial blood banks is only about 1/4 of the blood used in the hospitals of the country.

(ii) No medical check up is done on the blood sellers; their health status is not examined. The blood trade flourishes with poor people like unemployed, rickshaw pullers, and drug addicts selling their blood. Such blood sellers suffer from various infections and their haemoglobin is lower than the prescribed level. It has been reported that there are many persons who donate blood 5/6 times in a month; poverty makes them to do so at first but later it is reported to become like an addiction, the blood seller enjoying the dizziness due to the reduced supply.

(iii) It is a mandatory requirement to conduct tests on blood which is to be administered to a patient or to be issued to hospitals for transfusion. The blood so issued has to be free from HIV (AIDS), viral hepatitis, malaria, venereal diseases etc. It is reported that mandatory tests which are required to be done are rarely conducted. Most of the AIDS surveillance centers are not functioning efficiently and up to 85 per cent of blood collected in the country is not screened for HIV/AIDS. Under an action plan to screen blood for AIDS 37 blood testing centers were to be set up in 29 cities, but only 11 testing centers were functioning by July 1990, and training of technicians for these centers was lagging.

(iv) The blood banks presently thrive on bleeding 4000 to 5000 regular professional donors in 18-20 cities. The professional donors, which include many women are reported to be victims of ill health, low haemoglobin levels and many infections, and are bled at frequent intervals by the commercial blood banks.

(v) Storage facilities in the blood banks are far from satisfactory. The blood banks have necessarily to possess facilities like refrigerators exclusively for storage of blood with a specified range of temperature for ensuring safety of blood. In the existing blood banks many items of equipment remain unattended for years, electricity failures are frequent, generators are a rarity. This applies to not only to commercial blood banks but even to some of the Government hospitals. Many items of the basic equipment required for blood banks are not available and a good part of them do not have even adequate storage facilities.

(vi) Many of the blood banks are located in unhygienic environment and they collect and store blood in very unhygienic conditions.

(vii) In some places strong middlemen operate for the blood banks by arranging for donors. The middlemen dictate the charges to be paid and take heavy commission; the selection of donors disregards the level of health etc.

(viii) A large part of the professional donors are alcoholics or drug abusers, have indiscriminate sexual habits and are a high risk group for Hepatitis B and HIV/AIDS and are unfit to donate blood.

Trained professionals are generally not available in the blood banks. Most of the blood banks lack trained post-graduates at the helm; they have no donor organizers to bring voluntary donors; and many of them are manned by technical staff who do not have requisite qualifications of a Diploma in Medical Laboratory Technology. At present there is not even a course to provide post-graduate specialisation in the field of blood donation and transfusion as in developed countries. The Drug Control departments, which are expected to

ensure the appropriate functioning of the blood banks, do not themselves have specified and trained personnel.

In the storage of blood the basic and essential requirements of clean environments, etc. are ignored. Nexus is reported to be existing between the attending doctor of the patient and the commercial blood bank, with the former directing the patients to the latter, and the latter giving a percentage of the sale to the former.

Check Your Progress IV

1. According to the Ferguson Study what was the status of blood banks in the country at that time?

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2.6 GOVERNMENT ACTION ON FERGUSON REPORT

The Ferguson report only stated the facts that were widely known, but it got the Government machinery into action. In the Counter Affidavit filed by the Deputy Drugs Controller, Dr. Lalgudi Vaidyanathan Kannan, on behalf of the Union of India in the Supreme Court in reply to the Common Cause Writ Petition, it is stated that after the receipt of the Ferguson report, the Drugs Controller of India, by his letter dated 23-8-1990 asked all the State Drug Controllers to ensure that inspections are carried out in all the commercial banks and unlicensed Government blood banks. The State Drug Controllers are the licensing and enforcing authorities under the Act of 1940. A phased programme of inspection covering first the commercial/private blood banks was also suggested keeping in view the standards prescribed in the Act and the Rules.

It was also further suggested that the private/commercial blood banks should not be allowed to operate unless they fulfill all the requirements prescribed in the rules and each unit of blood is tested for blood transmissible diseases (Hepatitis, HIV, Syphilis etc) and that unlicensed blood banks are to be licensed only after ascertaining that they conform to the standards laid down under the Rules.

It was also suggested to the State Governments that the licenses of blood banks that do not comply with the provisions of the rules should be cancelled and the State Drug Controllers were asked to send the status reports of the blood banks in their respective blood banks. As per the information forwarded by 23 State

Governments/Union Territories, about 341 blood banks were unlicensed and most of them were run by the Red Cross Societies and Charitable Institutions.

During the pendency of the Writ Petition, action was taken to revise the Rules governing the licensing and operation of blood banks. Through the Drugs and Cosmetics (First Amendment) Rules, 1982, published in the Gazette of India vide Notification dated January 22, 1993, Part X-B had been inserted in the Rules and Part XII-B has been substituted.

In Part X-B (Rules 122-F to 122-f) provisions have been made prescribing the requirements for collection, storage, processing and distribution of the whole human blood, human blood components by blood banks and manufacture of blood products and for grant and for renewal of license for the operation of a blood bank/processing of human blood for components/manufacture blood products. Under the said provisions license can only be granted/renewed with the approval of the Central License Approving Authority viz. The Drugs Controller of India. Part XII-B contains provisions relating to space, equipment and supplies required for a Blood Bank.

Affidavit of NACO

In the Affidavit filed by the Additional Director, National AIDS Control Organization (NACO), it was stated that the Central Council of Health is the highest forum for policy frame work (in which State Health Ministers are members) and this Council has given guidelines in respect of Blood Bank and Transfusion Service. Its recommendations are as under:

"Blood being a vital input in the present day medicare services the acute shortage of which is hampering the effectiveness of our services the joint Conference recommends that urgent steps should be taken by the States/Union Transfusion Service. Its recommendations are as under:

The Steps are :

1. To build up adequate blood banking services at State/District level including provision of trained/qualified manpower. Necessary action should be initiated in right earnest for achieving the objective in view.
2. To educate and motivate people about blood donation on a voluntary basis.
3. To provide adequate encouragement to voluntary donors.
4. To enforce quality control of blood in all facets of collection, distribution and storage."

In the Affidavit filed by the NACO it was also stated that although the World Health Organization (WHO) has prescribed that nearly 40 lakhs units of blood are required for the country, the collection is only 19.5 lakhs units at present and therefore, it is not possible to ban professional donors at this stage unless the donation of blood by way of voluntary donation is increased.

In this affidavit it was further stated that most of the Government Blood Banks are lacking in man power, training and laboratory facilities to test blood for blood transmissible diseases and that the Government has provided funds to modernize the Government blood banks.

Objectives for Modernization

According to the above affidavit, the main objectives for modernization of the blood banks have been provided into long term objectives and medium term objectives which are given as under:

1. Long term objectives

- (a) Make available high quality blood and blood components in adequate quantity to all users;
- (b) Ensure wide usage of blood components and;
- (c) Expand voluntary and replacement donor base, so as to phase out professional blood donor.

2. Medium term objectives

- (a) To provide minimum possible facilities for blood collection, storage and testing in all Government Blood Banks;
- (b) To make available the trained manpower in all Government Blood Banks;
- (c) To ensure the awareness of clinicians and Blood Bank staff on the advantage of blood components;
- (d) To ensure the effective geographical coverage keeping in mind the different volumes of blood requirement in different cities and;
- (e) To increase public awareness about the risks in using blood from commercial Blood Banks and professional donors and the harmlessness of blood donation.

Court Committee

After perusing the draft schemes submitted by the parties it was felt by the Court that a committee should be formed to place suggestions before the Court that could be considered by it. Accordingly on 11-2-94 a Committee of the following persons was constituted to examine the matter and submit the report:

Additional Secretary, Ministry of Health holding the charge of Director,
NACO as Chairman.
Drug Controller of India
Mr. HD Shourie (The Petitioner)

The above committee felt that since the **Indian Red Cross Society** is involved to a considerable extent in blood banking operations and it has branches spread all over the country and it has capacity to further strengthen itself for looking after the various aspects of functioning of blood banks, it may be recognized as a nodal agency in the field of blood banking and blood transfusion technology in the country.

Indian Red Cross Society Expert Committee

Having regard to the said suggestions of the Court Committee the Indian Red Cross Society constituted an expert committee to examine the matter and

prepare a blue print. The report of the said committee dated April 15, 1995 has indicated the following fields in which measures are required to be taken:

Transmission of HIV
through Blood

1. "Building a powerful voluntary blood donation movement to augment supplies of safe quality blood and blood components";
2. Exercising economy by processing whole for blood components.
3. Introducing screening procedures to minimize the danger of transmissible diseases like AIDS, Hepatitis etc.;
4. Standardize technological procedures for rigid enforcement of quality control, and good manufacturing practices.
5. "Providing technical services for raising the standard of Blood Center operations and assistance for administrative, motivational and technical problems encountered."

Action Plan

The Indian Red Cross Society Expert Committee proposed an action plan in three parts: Immediate Plan, Short Term Plan and Long Term Plan, which are as follows:

Immediate Plan

1. To establish an administrative unit at the National headquarters under the charge of a project officer.
2. To identify and strengthen a minimum of 2 Red Cross blood centers for each State for augmenting the existing blood programme. Necessary inputs towards staff, equipment and consumables for development should be made available at once. Basic requirements to procure accreditation from DC (1) should be ensured.
3. Donor recruitment and intensification of donor motivation drive be taken up on priority basis. Involvement of media may be ensured through Information and Broadcasting Ministry.
4. A crash program for short-term training of medical officers, technicians and medical social workers, nurses of concerned centers may be undertaken. This distance learning programme prepared by the WHO may be helpful in updating the knowledge of technologists at the centers being strengthened.
5. In addition to the blood center strengthening programme, steps may be taken for planning and initiating action for the establishment of Regional blood centers at 16 metropolitan cities with 2 million or more population having many large medical super speciality institutions.

Each center will be expected to collect 150 to 200,000 units annually. These will be screened, processed and distributed as blood components to local hospital based centers against service charges. As the regional centers will supplement the blood supplies through the existing system it would help in weeding out the supply from paid blood sellers. Therefore, it is of paramount importance that top priority is given for the establishment of these centers.

Short Term Plan

1. Coordination of the blood programme of large medical colleges having more than 1000 beds and or collecting over 10,000 units.
2. Establishment of post graduate training centers at places where facilities for fulfilling of norms of the Medical Council of India exist. In the initial stages faculty support can be obtained from the department of pathology. Post graduate training can be started in at least 10 major cities. Training of paramedical workers can also be undertaken at these centers.
3. Coordination of all other voluntary organisations working for the promotion of the blood programme by the Red Cross Society would further help in achieving the target of donor recruitment with greater vigor and better evaluation.
4. A national workshop at the Red Cross headquarters may be organized for officers of all centers being strengthened and the representatives of regional centers to provide necessary guidance for uniform and standardized policies and practices.

Long Term Plan

To upgrade all other blood centres.

Establishment and upgradation of blood centers in areas where it does not exist.

Planning of more regional centers.

Establishment of Therapeutic centers of equipped software and reagents.

Establishment of tissue typing facilities for bone marrow and organ transplant.

After considering the said report of the Committee of experts set up by the Indian Red Cross Society, the Committee constituted by the Court submitted its final report which was filed along with the affidavit of Deputy Drugs Controller of India in the Directorate General of Health Services dated 26-10-95.

2.7 DIRECTION OF SUPREME COURT TO THE GOVERNMENT

Keeping in view of the report of the committee that was constituted by the Court and the report of the Committee of Experts set up by the Indian Red Cross Society and the programme that is being implemented by the NACO as well as the submissions of the learned counsel, the Court was of the view that suitable action should be taken by the Union Government as well as the Governments of the States and the Union Territories' Administration in accordance with the plan for immediate implementation as well as the plan for long term implementation suggested by the Committee constituted by the Court.

Certain important directions as given by the Hon'ble Supreme Court on the outcome of the public interest litigation can be summarised as follows:

1. The Government has to establish a National Council of Blood Transfusion as a registered society, having a wide representation from the Directorate General of Health Services, Drug Controller of India, Ministry of Finance, Indian Red Cross Society, private blood banks including Indian Association of Blood Banks, major medical and health institutions and NGOs active in the field of securing voluntary blood donations. Basic funds for the functioning of the Council shall be provided by the Government of India. The Council was also empowered to raise funds on its own.
2. The State Governments and the Union Territories were to establish State Councils, to be registered as societies, with wide representation as in the National Council. Funds to be provided by the State/UT Governments with the right to raise its own funds.
3. Programmes and activities of the Councils to cover entire range of services related to operation and requirements of blood banks including:
 - (i) launching of effective motivation campaigns through utilization of all media for stimulating voluntary blood donations;
 - (ii) launching programmes of blood donation in educational institutions; among the labour, industry and trade;
 - (iii) establishments and organisations of various services including civic bodies ;
 - (iv) training of personnel in relation to all operations of blood collection, storage and utilisation and separation of blood groups and proper labeling;
 - (v) proper storage and transport;
 - (vi) quality control and archiving system;
 - (vii) cross matching of blood between donors and recipients
 - (viii) separation and storage of components of blood; and
 - (ix) all the basic essentials of the blood banking.
4. The Council was to undertake training programmes for technical personnel in related fields.
5. The Council was to establish an Institution for conducting research in collection, processing, storage, distribution of blood and its components and manufacture of the blood products and other allied fields.
6. The Council was to take steps to start special Post-Graduate courses in the above fields in various medical colleges/ institutions.
7. To facilitate collection of funds the Govt. of India was to grant 100 per cent exemption from income tax to the donations made to the Councils.

8. To ensure licensing of all blood banks which are eligible, within one year and close the operations of the unlicensed banks.
9. To ensure the elimination of professional donors within a period of two years.
10. To enforce the provisions of the Drugs and Cosmetics Act & Rules.
11. To ensure that the Drug Inspectors are duly trained in blood banking operations and posted in adequate numbers to ensure periodic checks throughout the country.
12. To consider the advisability of enacting a separate legislation for regulating the blood banking system.

This judgement was delivered in January, 1996.

Check Your Progress V

1. List the immediate action plan proposed by Indian Red Cross Society Expert Committee.

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2.8 LET US SUM UP

In this unit, we started our discussion by describing the transmission of HIV through blood. HIV reproduces in CD₄ which circulates in the blood and other body fluids. Blood collected for transfusion contains these lymphocytes. HIV is not only present in the cell it is also present in the serum. Thus, introduction of blood and blood products from an infected person will transmit the infection to an uninfected person. Of all forms of transmission of HIV, blood transfusion is the most efficient one.

HIV transmission occurs through blood generally when the blood is transfused, through Intravenous drug abuse, dialysis and organ transplant. There are various issues involved in the transmission of HIV through blood. These issues are also discussed in this unit.

HIV transmission through blood can be prevented at two levels. One is the personal aspect like reducing high risk behaviour like use of fresh needles. The other is the control exercised by the Government on the blood banks.

2.9 KEY WORDS

- B-Cell** : A lymphocyte which matures in the bone marrow, and produces antibodies to pathogens.
- Carrier** : A person who appears well but is capable of transmitting an infection to another person. Carriers have no outward signs and symptoms of the disease they are carrying.
- Pathogen** : A living micro-organism or virus capable of producing a disease.
- Sero-positivity** : Synonymous with antibody positivity
- Haemophilia** : An inherited condition which mainly affects men. The condition involves a reduced capacity for the blood to clot due to a deficiency of Factor VIII

2.10 MODEL ANSWERS

Check Your Progress I

1. How HIV is transmitted through blood and blood products?

HIV is mainly transmitted through blood and blood products in the following ways:

(A) HIV Transmission through Intravenous Drug Use (IVDU)

Intravenous drug use acts as a source of transmission of HIV because drug users frequently share syringes and needles to inject drugs. These instruments are not sterile. Small volumes of contaminated blood remains inside previously used needles and syringes there by providing opportunities to transmit the virus via their blood contents. In the early years of the epidemic, studies found links between HIV drug users and male homosexuals who were already infected with HIV. The overlap of these two groups facilitated the introduction of HIV into drug using population and then to the sex partners of the drug users.

Rapid increase in prevalence of HIV in drug users in major urban areas from around the world were recorded in the late 1980s and early nineties. More details regarding relationship between HIV/AIDS/STDs and substance abuse is given in block-I of the Elective Course on HIV as well as the Elective Course on Alcohol, Drugs and HIV.

(B) Transmission through organ transplantation

... be transmitted through infected organs. HIV is found in the blood as well as the tissue of an infected organ. Before any organ is transplanted the donor has to be screened for HIV. In cadaver (removal of organs from brain of dead patients) transplantation, the donor has to be checked. This route of transmission is very rare in practice. Since an infected person's body fluids contain HIV it is essential to screening for HIV is carried in cases of organ transplantation of any kind such as kidney, bone marrow, eyes, skin semen etc.

Check Your Progress II

1. Write a brief note on professional blood donors.

Professional blood donors are persons who repeatedly donate blood to the blood banks for money. They are usually poor and unhealthy people. Many of them are found to be HIV carriers. Professional blood donors should be avoided at all costs. A medical test should be performed on them if it is still necessary to accept them as donors. The Supreme Court of India has banned professional blood donation in the country. However, these professionals continue their profession as there is dearth of blood donation in the country. We shall discuss more in detail about Blood Donation and Blood Banks later in this chapter.

Check Your Progress III

1. Describe any three issues related to transmission of HIV through Blood.

Testing of Blood

Testing of blood for HIV has been made mandatory in most of the countries. There is a law in India, which makes it mandatory to test all the blood that is used for transfusion. A list of Blood Testing Centres for HIV in India is given in your Supplementary Reading Book- I.

Voluntary Blood Donation

Voluntary blood donation should be encouraged. Volunteers are likely to be healthier and may not have high-risk behaviour that is associated with professional blood donors. The blood from a voluntary donor is likely to be of good quality.

Rational Use of Blood

Blood should be used carefully. It should be used only when it is essential. Minimal amount that is required should be used.

Check Your Progress IV

1. According to the Ferguson study what was the status of blood banks in the country?

M/s AF Ferguson & Co. submitted its report to the Government on July 1990. According to this report out of the total number of 1018 blood banks in the country then 203 were commercial blood banks and the rest were controlled by Central Government, the State Governments, Private Hospitals and Voluntary Organizations. The volume of blood collected by the commercial blood banks was 4.7 lakhs units out of the total of 19.5 lakhs units by all blood banks. It was also reported that commercial blood banks were collecting blood mostly from professional donors while the other blood banks were collecting blood mostly from the relatives of the patients or from voluntary donors.

Check Your Progress V

1. List the immediate action plan proposed by Indian Red Cross Society Expert Committee.

1. To establish an administrative unit at the national headquarters under the charge of a project officer.
2. To identify and strengthen a minimum of 2 Red Cross blood centers for each State to augment the existing blood programme. Necessary inputs towards staff, equipment and consumables for development should be made available at once. Basic requirements to procure accreditation from DC (1) should be ensured.
3. Donor recruitment and intensification of donor motivation drive be taken up on priority basis. Involvement of media may be ensured through Information and Broadcasting Ministry.

A crash program for short-term training of medical officers, technicians and medical social workers, nurses of concerned centers may be undertaken. This distance learning programme prepared by the WHO may be helpful in updating the knowledge of technologists at the centers being strengthened.

In addition to the blood center strengthening programme, steps may be taken for planning and initiating action for the establishment of Regional blood centers at 16 metropolitan cities with 2 or more million population having many large medical superspeciality institutions.

Each center will be expected to collect 150 to 200,000 units annually. These will be screened, processed and distributed as blood components to local hospital based centers against service charges. As the regional centers will supplement the blood supplies through the existing system it would help in weeding out the supply from paid blood sellers. Therefore, it is of paramount importance that top priority is given for the establishment of these centers with necessary infrastructure.

2.11 FURTHER READINGS

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UNIT 3 MOTHER TO CHILD TRANSMISSION OF HIV

Contents

- 3.0 Aims and Objectives
- 3.1 Introduction
- 3.2 Various Stages of Transmission
- 3.3 The Risks of Mother-to-Child Transmission
- 3.4 Issues Related to Mother-to-Child Transmission
- 3.5 Prevention Strategies
- 3.6 Let Us Sum Up
- 3.7 Key Words
- 3.8 Model Answer
- 3.9 Further Readings

3.0 AIMS AND OBJECTIVES

The aim of this unit is to provide awareness and knowledge related to transmission of HIV from a mother to her child. The unit also provides the present scenario about Mother to Child Transmission (MTCT) as well as discusses some of the ethical issues related to MTCT.

After reading this unit you will be able to:

- State the present scenario of mother to child transmission of HIV;
- Describe various means of mother to child transmission;
- Analyse the ethical issues involved with mother to child transmission and;
- Discuss various methods of prevention involved in mother to child transmission.

3.1 INTRODUCTION

Women, because of their social and sexual subordination are disproportionately affected by the epidemic. The inability of women to control the factors that place them at risk of HIV infection is compounded by the fact that many societies define the social and cultural identity of women primarily through their role as child-bearers and child-rearers.

So, whenever, we discuss mother-to-child-transmission, we have to look at the problem in a broader perspective and not in a compartmentalized way. Broader perspective includes role of husband, societal pressure, norms, values and above all her own rights over the sexual act as well as right over her body and family pressures.

Extent of HIV Infection Among Women of Child Bearing Age and Children

Currently, there are almost 14 million women of childbearing age throughout the world who are HIV positive. Among these women who are pregnant, the highest rates of infection have been reported from Sub-Saharan Africa. In urban centers in Southern Africa, HIV rates among pregnant women tested anonymously at antenatal clinics is between 20-30 per cent. Rates above 40 per cent to 59 per cent and even 70 per cent have been recorded in Botswana and parts of Zimbabwe. According to data from UNAIDS, there are very few places outside Sub-Saharan Africa in which the prevalence of HIV infection among pregnant women has reached 10 per cent.

Figures from UNAIDS also show that the risk of infection is increasing among women everywhere both in developed and developing countries alike. In a period of ten years from 1985 to 1995 the incidence increased among women in varying degrees. For example, in France, it increased from 12 per cent to 20 per cent. In Spain, it rose from 7 per cent to 19 per cent. In Brazil the proportion rose from just 1 per cent in 1984 to 25 per cent ten years later.

Furthermore, in the worst affected countries, the virus is spreading fast among young people below the age of 24 years. Studies sponsored by UNAIDS among the youth show that the incidence of HIV infection among girls is higher than among boys. In Kenya one in four girls was infected with HIV when compared to one in twenty five among boys. Similarly among the youth in Zambia it is in the ratio is 16:1 (girls : boys) and in Uganda it is 6:1.

Extent of Infection Among Children

In 1998, one in ten of all infected was a child, and the vast majority of them acquired the virus from their infected mothers. Africa has the highest prevalence of HIV-positive children. Though Africa accounts for only 10 per cent of the world's population, 90 per cent of the world's HIV infected children are found in Africa. This is largely a consequence of high fertility rates combined with very high levels of HIV infection among women of reproductive age group. However, the number of cases in India and Southeast Asia appears to be rising rapidly.

Over 5 million children below the age of 15 years have been infected with HIV since the AIDS epidemic began and more than 3.8 million of them have died of AIDS as of December, 1999. Today on a global scale, children are becoming infected at about the rate of one child every minute.

Consequence of High Level of Infection

The effects of the epidemic among young children are serious and far-reaching. AIDS threatens to reverse years of steady progress in child survival achieved through such measures as the promotion of breast feeding, immunization and oral rehydration. UNAIDS believes that by the year

2010, AIDS may have increased mortality of children under 5 years of age by more than 100 per cent in regions most affected by the virus. In a number of countries, AIDS is now the biggest single cause of child death. The trend is already clear. In Zimbabwe the death rates among infants in their first year of life increased from 30 to 60 per thousand between 1990 and 1996. The deaths among one to five years olds, (the age group in which the bulk of child AIDS deaths are concentrated) rose even more sharply. It rose from 8 to 20 per thousand during the same period.

Check Your Progress I

1. Briefly describe the extent of HIV infection among children.

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3.2 VARIOUS STAGES OF TRANSMISSION

HIV can be transmitted from mother to child in three ways. It can occur in the womb, at the time of delivery and also when the child is breast-fed.

Womb

Throughout the period of pregnancy, mother is capable of infecting the foetus. Foetus receives nutrition from the mother through the placenta (before birth). When the mother has a high viral concentration in the blood, some of the virus can pass from the mother to the foetus through the placenta. It is seen throughout the period of pregnancy. A small number of foetus get infected through this route.

At the Time of Birth

The lining of the birth canal (vagina) contains a high concentration of HIV. The baby may sustain minor cuts in the mucous membrane and in the skin during the process of birth. Hence, the baby can get infected. It has been shown that the maximum chance of infection of the foetus occurs during the time of delivery. About 30 per cent to 40 per cent of children born to HIV mothers become infected at the time of delivery.

Breast Milk

About 14 per cent of children who are breast-fed by HIV infected mothers will contract the infection. Hence, practices which change breast-feeding reduce HIV transmission.

Check Your Progress II

I. What are the three ways of HIV transmission from mother to child?

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3.3 THE RISK OF MOTHER-TO-CHILD TRANSMISSION (MTCT)

The rates of mother-to-child transmission of HIV under different circumstances are as follows:

- (i) Where no drugs are administered and the baby is breast fed by its HIV-positive mother the risk of infection generally is around 30-35 percent;
- (ii) Where no drugs are administered and the baby is not breast fed by its HIV-positive mother, the risk of infection is around 20 per cent;
- (iii) Where a one-month course of AZT is administered and the baby is not breast fed, the risk of infection is around 10 per cent and;
- (iv) Where a one-month short course of AZT is administered and the baby is breast fed by its HIV-positive mother, for upto six months, the risk of infection is about 18 per cent at that age.

Preliminary results from the PETRA study show that when two antiretrovirals, AZT and 3TC, drugs are administered at the time of labour and to mother and baby for one week following delivery, the risk of infection chance that the baby will be HIV infected at six weeks of life, with breast feeding if it is being breast fed by its mother is around 11 per cent. If the drugs are given for approximately one month from the 36th week of pregnancy, continued in labour and given for a further week after delivery - the chances of the baby being infected or risk of infection at six weeks of life, when the baby is being breast fed is around 9 per cent. Further follow up will show what the respective rates of infection are at 6, 12 and 18 months, if breast feeding is maintained. This will only be known when the data from follow-up of the PETRA trial are complete.

When one oral dose of Nevirapine is given to the mother, in labour and to the baby within three days of birth, the risk of infection at 3 months of life is about 13 per cent with breast-feeding. The risk at later ages, in infants that continue to breast feed, will be determined through follow up.



Apart from these variations, there is a great amount of variation between developed and developing countries. The rate is higher in developing countries than developed countries. Evidence suggests that the risk of transmission is increased when mother has a higher viral load (this is the case when a person is newly infected with HIV or is in an advanced stage of disease) or if the baby is highly exposed to the mother's infected body fluids during birth.

The difference in risk between developing and developed countries is largely due to feeding practices: breast feeding is more common and is usually practiced for a longer period in developing countries than in the industrialised or developed world. It is estimated that a child born uninfected to an HIV positive mother has a one in five chance of acquiring the virus from her milk if it is breast-fed. In places where breast feeding is the norm, this route may account for more than one-third of mother-to-child transmission.

3.4 ISSUES RELATED TO MOTHER-TO-CHILD TRANSMISSION

There are various issues related to mother-to-child transmission, which are still debatable. Some of the debatable issues are:

- 1) Whether HIV positive women should be encouraged to have a child or not?

- 2) Whether HIV-positive mothers should or should not breast feed their infants?
- 3) Should every person undergo HIV counseling and testing routinely?
- 4) Should HIV positive men and women marry among themselves or not?

We will discuss all these issues in detail. The purpose of the discussion here is not to give any judgement. Our aim here is to present both sides of the issue and leave the discussion to the people concerned.

1) Should HIV-positive women be encouraged to have children or not?

It is every woman's fundamental right to decide for herself, without coercion, whether she should have children or not. This is enshrined in the International Human Rights Conventions. It is the responsibility of the Government and health services to provide HIV-positive women and their partners with comprehensive information and education about the risks associated with child bearing as part of routine public information about HIV/AIDS. The health services should ensure that they have real choices of action and respect and support the decisions that they reach.

2) Whether HIV-positive mother be told to breast-feed her baby?

There are many reasons why such advice may not necessarily be appropriate and might indeed be dangerous. The cost of infant formula supplements is often beyond the means of poor families in developing countries, even when it is widely available. Besides, many people lack easy access to the knowledge, safe clean water and fuel needed to prepare replacement feeds safely or simply have no time to prepare them. If it is used incorrectly i.e. mixed with dirty, unsafe water, a breast milk substitute may lead to infection, malnutrition and even death. Breast-feeding suppresses ovulation and delays the return of a woman's fertility. A mother who does not breast-feed her baby loses the natural contraceptive effect and is at the increased risk of getting pregnant again too soon.

In August 1997, WHO, UNICEF and UNAIDS issued a joint policy Statement on HIV and infant feeding. They subsequently prepared guidelines to help national authorities, to implement the policy. These documents emphasize that it is the individual mother's right to decide how she will feed her child. Any attempt to influence her decision, no matter what the circumstances or motives, is an abuse of her human rights and freedom of choice. The responsibility of people who counsel HIV-positive women about infant feeding is to give them all the available information on the risks associated with breast-feeding. They should be educated about substitutes to breast feeding. They also have to discuss the feasibility, pros and cons of alternative feeding methods in the light of personal circumstances. They also have to give them appropriate support for the course of action they choose.

Breast feeding has been the corner stone of child health and survival strategies for the past two decades and has played a pivotal role in reducing infant

mortality rate in many countries. Even in the era of AIDS, breast-feeding remains the best possible nutrition for the great majority of babies. As against this there is another view. You may recall that the transmission of HIV through breast milk is about 14 percent. If the mother has received prophylaxis to prevent mother to child transmission, then it is illogical to recommend breast-feeding.

- 3) Whether each and every reproductive population should undergo confidential HIV counselling and testing or not is an ethical consideration. This is very much essential, as it becomes a global concern in terms of its magnitude and severity. It is very much needed for pregnant and married women and their male counterpart.

For pregnant women to take advantage of measures to protect their offspring from HIV infection they need to know whether or not they are infected. So voluntary counselling and testing services are an essential part of any programme for the prevention of mother-to-child transmission of HIV. Ideally, however, every one should have access to such services since there are clear advantages to know one's sero-status. People who know they are HIV infected are likely to be motivated to look after their health, perhaps with behaviour and life-style changes and to seek early medical attention for problems. They can take wise decisions about sexual practices, child bearing and infant feeding and take steps to protect partners who may still be infected. And those whose test results are negative can be counselled about how to protect themselves, their partners and their children from infection.

Furthermore, voluntary counselling and testing has an important role to play in unmasking the silent epidemic and reducing the hysteria of and fear surrounding AIDS. At present UNAIDS estimates that around 90 percent of people with HIV are unaware of their status. Efficient, widely accessible and user friendly testing services can help societies recognise and come to terms with the fact that there are many people living with HIV who show no outward signs. This in turn encourages commitment to prevention.

It is still common for women to be blamed for spreading sexually transmitted diseases, including HIV, despite the fact that very often they are infected by the husband or partner to whom they are entirely faithful. Voluntary counseling and testing that involves the partners of the pregnant women, where this is feasible and desired, can play a vital part in challenging this pervasive prejudice.

- 4) Whether HIV-positive men and women can marry among themselves or not is another debatable question. As far as right of a human being is concerned, HIV-positive men and women may marry among themselves. But there are certain other issues, which are associated with this. On such issue is whether they should go for child or not. Regarding the issue of going for a child is concerned, they should be discouraged from opting for pregnancy because both of them are likely to develop AIDS defining illness and meet an untimely death. In such a situation who will take care of the child. Further, the woman is more

likely to place herself in danger by choosing to conceive while, she is unwell with a deadly virus. Secondly, there is a high percentage of chance that the child will be HIV-positive. On moral grounds, knowing fully well the negative consequences, no one should not go for that.

Check Your Progress III

1. Explain briefly any two issues related to mother to child transmission.

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3.5 PREVENTION STRATEGIES

There are three complementary strategies for preventing mother-to-child transmission of HIV. They are:

1) The Protection of Girls and Women from HIV Infection

This will minimize the number of women of childbearing age who are carrying the virus. This strategy is sometimes referred to as "primary prevention". It involves promoting safe and responsible sexual behaviour in couples, providing them with knowledge about HIV/AIDS and how to prevent infection. It also means providing treatment programs for other sexually transmitted diseases (STDs), the presence of which increases the risk of HIV transmission as much as 6-10 fold. Steps have to be taken to deal with the cultural, legal and economic factors that make girls and women specially vulnerable to HIV infection by limiting their autonomy and power to protect themselves.

2) Provision of HIV Counselling and Testing

An integrated package of measures consisting of voluntary HIV counselling and testing. This is a secondary prevention measure on early detection.

3) Antiretroviral Prophylaxis

The provision of antiretroviral drugs for HIV-positive pregnant women (and sometimes their babies), counselling on infant feeding, and support for the feeding method(s) chosen by the mother. This package is often referred to as the antiretroviral drug strategy.

In cases where a mother knows she is HIV positive and gives birth without

refrain from breastfeeding, counting on the two-to-one chance that her baby has avoided infection in the womb or during child birth. But, if she chooses this course of action she should be made aware of the fact that she will lose the natural contraceptive effect of breast feeding and be at increased risk of becoming pregnant again unless she takes alternative precautions.

Other Prevention Methods

An infant who requires mother's milk should be given only its own mother's milk. There are hospitals in the country where human milk banks operate. Until and unless the milk collected in these milk banks are tested for HIV with the PCR, it will be risky to feed the child with such milk.

It is also the practice in some village communities and in joint families/ extended families to feed infant by any of the lactating mothers if the infant's mother is unable to do so after a section. In some cases, the mother may be away at work place(farm) and other lactating mothers may breast feed the child. In several cases, orphan infants whose mothers die during labour or soon after delivery are also breast fed by any of the lactating and willing woman around the household village. In all such cases, one should ensure the HIV status of the woman who might breast feed the child.

There are also possibilities of an HIV infected child infecting a woman who may breast feed it if in case there are cuts around the nipple(breast nipple). Therefore, people should be adequately informed about the need to know the HIV status of the such infants.

There are also drugs available which can reduce the chances for a foetus from getting infected. Therefore, HIV positive pregnant woman need to seek medical opinion and treatment under a qualified physician. It has been observed in several advanced countries that proper treatment can reduce the chances for foetus from getting infected from its HIV positive mother. The need of the hour is to educate the entire population about it, because support is necessary from the entire family.

Another important precaution to help an infant from being getting infected is to see that its HIV positive mother opts for a caesarean section instead of a normal delivery. A normal delivery can cause HIV transmission to the infant during its passage through the birth canal which is tight while, the baby's body is too delicate. Therefore, one should try every possible options available to help an infant from avoiding infection with HIV. More details on these issues are available from Block- I of the elective course on HIV.

3.6 LET US SUM UP

One of the cracks and crevasses of society's inequality is vulnerability and susceptibility of women towards HIV-virus. Women, because of their social and sexual subordination are disproportionately affected by the epidemic. In the next subsection we examined the extent of HIV infection. Currently, there are almost 14 million women of childbearing age throughout the world who are HIV positive. Among these women who are pregnant, the highest rates of infection have been reported from Sub-Saharan Africa. This wide extension of HIV has various repercussions. AIDS threatens to reverse years of steady progress in child survival achieved through such measures as the promotion of breast feeding, immunisation and oral rehydration. UNAIDS believes that by the year 2010, AIDS may have increased mortality of children under 5 years of

age by more than 100 per cent in regions most affected by the virus. In a growing number of countries, AIDS is now the biggest single cause of child death.

Mother-to-Child transmission occurs at three stages. These stages are- in the womb, at the time of birth and through breast-feeding. We discussed also how these transmissions occur at various stages. In this unit we also analyzed the rates of mother-to-child transmission of HIV under the different circumstances.

There are various issues related to mother-to-child transmission, which are still debatable. Some of the debatable issues are: whether HIV positive women should be encouraged to have a child or not; whether HIV-positive mothers should be or not to breast feed; if alternative feeding is available; whether each and every woman and man should undergo HIV counselling and testing or not; and whether HIV positive men and women should marry amongst themselves or not etc. At the end of the unit some of the preventive strategies were discussed very briefly.

3.7 KEY WORDS

Artificial insemination : The introduction of semen into the Vagina or Uterus to induce pregnancy by non-sexual means.

Fallopian Tubes : The fallopian tubes extend from the top of each side of the uterus. Each fallopian tube ends near an ovary.

Pre-natal : Existing or occurring before birth.

Caesarean Section : An operation for delivering a child by cutting through the wall of the abdomen.

3.8 MODEL ANSWERS

Check Your Progress I

1. Briefly describe the extent of HIV infection among children.

In 1998, one in ten of all newly infected was a child, and the vast majority of them acquired the virus from their infected mothers. Africa has the highest prevalence of HIV-positive children. Though Africa accounts for only 10 per cent of the world's population, 90 per cent of the world's HIV infected children are found in Africa. This is largely a consequence of high fertility rates combined with very high levels of HIV infection among women of reproductive age group. However, the number of cases in India and Southeast Asia appears to be rising rapidly.

Over 5 million children below the age of 15 years have been infected with HIV since the AIDS epidemic began and more than 3.8 million of them have died of AIDS as of December, 1999. Today on a global scale, children are becoming infected at about the rate of one child every minute.

Check Your Progress II

1. What are the three ways of HIV transmission from mother to child?

During pregnancy

Throughout the period of pregnancy, a mother is capable of infecting the foetus. Foetus receives nutrition from the mother through the placenta (before birth). When the mother has a high viral concentration in the blood, some of the virus can pass from the mother to the foetus through the placenta. It is seen throughout the period of pregnancy. A small number of foetus get infected through this route.

At the time of birth

The lining of the birth canal (vagina) contains a high concentration of HIV. The baby may sustain minor cuts in the mucous membrane and in the skin during the process of birth. Hence, the baby can get infected. It has been shown that the maximum chance of infection of the foetus occurs during the time of delivery. About 30 per cent to 40 per cent of children born to HIV mothers become infected at the time of delivery.

Breast milk

About 14 per cent of children who are breast-fed by HIV infected mothers will contract the infection. Hence, practices which change breast-feeding reduce HIV transmission.

Check Your Progress III

1. Explain briefly any two issues related to mother to child transmission.

1) **Should HIV-positive women be encouraged to have children or not?**

It is every woman's fundamental right to decide for herself, without coercion, whether she should have children or not. This is enshrined in the International Human Rights Conventions. It is the responsibility of the Government and health services to provide HIV-positive women and their partners with comprehensive information and education about the risks associated with child bearing as part of routine public information about HIV/AIDS. The health services should ensure that they have real choices of action and it will respect and support the decisions that they reach.

2) **Should HIV-positive mother be told to breast-feed her baby?**

There are many reasons why such advice may not necessarily be appropriate and might indeed be dangerous. The cost of infant formula is often beyond the means of poor families in developing countries, even when it is widely available. Besides, many people lack easy access to the knowledge, safe clean water and fuel needed to prepare replacement feeds safely or simply have no time to prepare them. If it is used incorrectly i.e. mixed with dirty, unsafe water, a breast milk substitute may lead to infection, malnutrition and even death. Breast-feeding suppresses ovulation and delays the return of a woman's fertility. A mother who does not breast-feed her baby loses the natural contraceptive effect and is at the increased risk of getting pregnant again too soon.

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Breast feeding has been the corner stone of child health and survival strategies for the past two decades and has played a pivotal role in reducing infant mortality rate in many countries. Even in the era of AIDS, breast-feeding remains the best possible nutrition for the great majority of babies. As against this there is another view. You may recall that the transmission of HIV through breast milk is about 14 percent. If the mother has received prophylaxis to prevent mother to child transmission, then it is illogical to recommend breast-feeding.

3.9 FURTHER READINGS

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UNIT 4 HIV TESTING AND ISSUES INVOLVED

Contents

- 4.0 Aims and Objectives
- 4.1 Introduction
- 4.2 HIV Virus and HIV Tests
- 4.3 Pre-test and Post-test Counselling
- 4.4 Types of Testing and Strategies
- 4.5 Let Us Sum Up
- 4.6 Key Words
- 4.7 Model Answers
- 4.8 Further Readings

4.0 AIMS AND OBJECTIVES

In the previous three units we have studied about the various routes of transmission of HIV from one person to another. It is however, essential that we also learn about the ways and means of finding out whether one is infected or not. Physicians across the world use certain established and approved ways of testing people to find out details about various diseases. Similarly, for HIV/AIDS too there are certain tests which will help us to identify the HIV status of a person. After studying this unit, you will able to:

- Understand how HIV can be detected in a human body;
- Understand the various types of tests used for detecting HIV;
- Know the importance of pre-test and post-test counselling; and
- Know the types of testing and strategies involved in HIV testing.

4.1 INTRODUCTION

The only way to confirm whether one has HIV or AIDS is to go for an HIV/AIDS test. Mere symptoms of the disease in a person alone is not enough to conclude that one is an AIDS patient. People who have exposed themselves to high risk behaviour or such situations may go for an HIV/AIDS test. However, such a person may have to seek the opinion of a counsellor, social worker, psychologist, physician or a family doctor.

There are various ways one can get infected. Similarly, all the body fluids also contain HIV virus. However, blood is usually used for HIV testing. It is mandatory for a hospital to seek the consent of a person for testing his/her blood for HIV. At the same time maintaining strict confidentiality regarding test result is very important because of the stigma and taboo attached to HIV/AIDS.

Let us try to learn details regarding HIV tests, testing procedure, need for pre-test and post-test counselling and testing strategies in this unit.

4.2 HIV VIRUS AND HIV TESTS

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Viruses are the smallest living beings known to man. Living matter consist of two nucleic acids known as DNA (Dixie Rio nucleic acid) and RNA (RBI nucleic acids). Viruses are an exception. They contain only a single nucleic acid. Human Immune Deficiency Virus (HIV) is an RNA virus. A protective coat covers the nucleic acid. It is made up of chemical substances that are called as glycoprotein/polyprotein. This cover is called as the envelope (eve). In the case of HIV the envelope consists of glycoprotein. The HIV also contains an enzyme known as the reverse transcriptase (pol). Reverse transcriptase synthesizes DNA from RNA. The genes that control these functions are known as gag pol and eve Genes.

If you recall your biology classes, you will remember that protein synthesis takes place in the cell. DNA present in the nucleus of the cell activates RNA. RNA assembles the amino acids to form proteins. Reverse transcriptase enzyme, that is present in the HIV, produces DNA from RNA. It goes one step backward in protein synthesis i.e. DNA from RNA. Hence it is called as a Retrovirus.

Reaction of the virus in the body

When a micro-organism enters the body, the body recognizes the proteins present in the micro-organism as a foreign protein. This foreign protein is known as the antigen. To neutralize this protein the body produces chemical substances. These substances are known as antibodies. Antibodies interact with the antigens to form complexes and they neutralize the antigens. The body takes about four to six weeks to form the antibodies against infecting micro-organisms. The same process takes place when a person becomes infected with HIV virus.



Detection of HIV infection

It is very difficult to grow (culture) the virus under laboratory conditions. In the laboratory the virus is grown in a suitable growth media. This process is called as viral culture. It takes about six weeks for the culture to become positive and it is costly. Hence, HIV virus is not cultured. A simple and an effective test is necessary to detect the presence of HIV in the body. We use the presence of antibodies against the HIV virus to detect its existence.

Window period

Once the virus enters the body, it starts to multiply. During this process the test does not detect the virus. The patient is highly infectious. After six to eight weeks the body produces antibodies. The tests become positive. This period when the patient has the infection and the test is negative is known as the "window period". Similar situation may occur in a terminally ill patient, when his body can not produce anti-bodies. The test will be negative while the patient will have the infection.

Types of test to detect Antibodies

To test for the antibodies, two different types of tests are used. They are the ELISA (Enzyme linked immuno sorbent assay) test and the Western Blot test.

(i) ELISA Test

ELISA is easy to perform and it is cost effective. It is also reliable and sensitive. The basic principle of the test is to detect the antibodies against HIV Virus that are present in the blood of an infected person.

Method

Micro plates with the viral antigens are used. Serum from the patient's blood is added to the viral antigens. If the serum contains antibodies against the virus, an antigen-antibody complex will occur. An antibody and a chemical are added to the test. Depending on the colour changes the reaction is reported as positive or negative.

Types of ELISA

Different types of ELISA are in use. They are based on the ways in which viral antigens are obtained. Viral antigens can be obtained by three different methods, namely, whole viral lysate, recombination DNA and by synthetic polypeptide.

(ii) Western Blot Test

This test is also based on the same principle. Viral antigens are layered on to a nitro cellulose paper. Patient's serum is placed at one end of the strip. The paper is charged with electricity for 24 hours. Antibodies move along the paper and interact with the antigens. Depending upon the molecular size the antigen-antibody complexes move to different areas. These patterns are compared with the standard pattern produced by the HIV. To declare the test, as positive antigen-antibody reactions should occur at all the three region i.e. gag, pol, and eve regions. If there is reaction only in one or two regions then the test is considered to have shown an indeterminate result. The test has to be repeated after six weeks.

Sensitivity and Specificity

What do sensitivity and specificity mean? Any test that is done to detect a disease does not always correctly detect the disease at all times. Similarly, it does not always rule out the disease. This is an inherent property of the test. Sometimes the test may be positive even when the person does not have the disease. This is known as a **false positive test**. Similarly, the test can be negative even when the patient does have the disease. This is known as a **false negative test**.

Sensitive Test

A sensitive test will detect all the cases that have a remote possibility of having the disease. It will detect all false positives. To use a test for screening for a disease it should be very sensitive. A sensitive test showing a negative result confirms the non-existence of the disease. Whereas a positive result will NOT confirm the diagnosis.

Specific Test

A specific test will detect all the cases that do NOT have the disease. If a test has a high specificity, then the presence of the disease is confirmed. The tests that are used to detect HIV should have a high sensitivity and high specificity. An ELISA test has a sensitivity of >99 per cent and a specificity of 95 per cent. A Western Blot Test has a sensitivity of 95 per cent and a specificity of >99 per cent.

A false positive ELISA may be due to liver disease, and recent influenza vaccination. We have to be careful while interpreting a test to detect HIV.

Check Your Progress I

1. What are the types of test used to detect HIV antibodies?

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13 PRE-TEST AND POST-TEST COUNSELLING

Need for Counselling

Conveying a positive HIV result to an affected person is a very serious matter. As you are already aware, a positive test result is like passing a death sentence on that person. It is also like passing a moral judgement on that person. As the commonest mode of acquiring this infection is through the sexual route, morality of the affected person is very often judged. There is stigma attached to his disease in the society. Hence, the test results may upset the patient.

A patient may have varied reactions to a positive test result. He may be shocked. He may not believe the report (denial). He may become anxious about his future, become scared, depressed or angry. Sometimes these reactions can have bad consequences, so that he/she may decide to end his life or become careless and spread the disease to other persons. A patient will have different coping mechanisms to counter the shock. He/she may like his/her family and



friends to know about the disease or he/she may like to hide the fact. Before the test is conducted the mind set of the patient has to be tuned such that he/she is able to cope up with the test result.

HIV disease can also be termed as a disease of behaviour. A person's behaviour puts him/her at risk to get infected. If the disease has to be controlled then a person's behaviour needs to be changed. To achieve all these objectives, a person has to be counselled.

Areas of Counselling

Counselling is the major tool that is used to help HIV infected patients to cope with their disease. It is also a continuous process. The three situations in which counselling is done are:

- 1) Before doing the test (pre-test)
- 2) After the test (post-test)
- 3) Crisis counseling. A person who is HIV positive will face many crises in life. He/she needs to be counselled during those times.

Pre-test counselling

Among all the types of counselling, pre-test counselling is the most important. It helps to establish a rapport between the patient and the counsellor. It also helps the counsellor to gauge the patient. It may be the only contact that a person will make with the health system and it may be the only opportunity to educate the patient about HIV. In the long run it will help the counsellor to build a rapport with the client.

Steps in pre-test counselling

a) Making the patient comfortable

It is essential to establish a good contact with the patient. During this process try to make the patient comfortable. Try to explore the patient's background like his/her occupation, family, educational attainments etc.

b) Reason for testing

It is essential to find the reason why that person seeks an HIV test. Many patients who are anxious will try to get the test done. It is also essential to inquire about the practices that make the person prone to get the infection (high-risk behaviour). Inquiries must be made about blood transfusions and IV drug abuse. Preliminary inquiries should be made about sexual practices. Sexual practice of a person is a very private and personal matter. Unless the patient trusts the counsellor, he/she will not reveal it. These inquiries should be made so that risk practices can be identified and the patient can be helped.

c) Concepts and misconceptions

Patients may already have some concepts of HIV/AIDS. Try to explore them. Many times they are wrong and misleading.

d) Clarifications about HIV and AIDS

Tell the patient about HIV and AIDS. It is essential for them to know the differences between being HIV positive and having AIDS. It is helpful to draw a line diagram of the natural history of HIV disease. This gives them the hope, that all is not lost and that they have some years of life left which can be used productively.

It is necessary also to tell the patients about HIV and what it does to the human body. Patients may not know about the immune system. To understand the immune system, simple examples from day to day life must be used. The practice of using security personnel to protect property can be very effectively used. The examples could be tailored to meet the occupation of the person. If the patient is a farmer then the example of protecting the crops can effectively be used. Ask the patient to imagine that he/she is guarding his/her field. Ask him/her as to what he/she will do if somebody tries to rob the crop or destroy the crop. Then ask the patient as to what will happen if the person becomes progressively blind, deaf and lame etc. in the process of fighting the enemy. Then tell him/her that similar thing occurs in the human body. The best example could be the one given in the Unit 2 of this block on *Bodies Defense System*.

To explain about the HIV in the body, examples of common symptoms and common diseases can be used. A normal person will experience symptoms of fever and loose stools for a few days (3-4 days). An HIV infected person who is asymptomatic will also suffer the same. When the person becomes symptomatic the duration of the disease will be longer i.e. 2-3 weeks. If the person develops AIDS, the symptoms will last for a longer time (1-2 months). Patients will have some knowledge of the symptoms of common diseases. Cough, sputum which contains blood, fever and weight loss are commonly seen in patients with pulmonary tuberculosis. You can use the patient's knowledge to illustrate tuberculosis in HIV infected patients.

e) Health education

Pre-test counselling may be the first and the only time when a person may come in contact with the health-care system. A physician must not miss this opportunity to educate the patient about the preventive aspects of the disease.

f) Clarify about the test

During the Pre-test counselling it is essential to tell the patient that ELISA test is a test for antibodies that are present in the body. A negative test will not rule out the disease. The test has to be repeated after a few weeks. You can explain details about the window period and the need for protecting self and others from getting infected.

g) Practicalities of the test

A person should also be told some practical details of the test like the cost, location of the laboratory and the time taken for obtaining the result. You have to find these details from the laboratory where you will send your patients for the test.

h) Coping mechanisms

As the counselling proceeds, you will be able to assess your patient better about the coping capability of the patient with bad news. This can become very valuable at the time of post-test counselling. It is also necessary to find out from the patient about the people to whom the results can be revealed.

i) Confidentiality

Assure the patient that the test result will be kept confidential and will not be revealed to any other person without his/her expressed consent. If the patient does not want his/her test to be revealed, then it should not be revealed to any unauthorized person. Find out the persons to whom he wishes to reveal the test result. Very often a close family member or a friend becomes the first choice of the patient. It is always better to motivate the patient to reveal his/her status to some one close to him/her.

j) Consent

Ideally, after this session of counselling, a written consent should be obtained. This often does not occur in practice. A return appointment for the test result should be made. The patient should be made to understand the need for a return visit even if there are chances that the result can be negative.

Post-test counselling (Negative)

When the patient comes for the results, he/she may get a negative result. If the result is negative, then the patient has to be reminded about the window period. If the patient has some high-risk behaviour, he/she must be asked to repeat the test after six months. He/she must also be told about the ways in which he/she can reduce the risk of acquiring the infection.

While talking about the negative test result, it should be explained that the test is for antibodies. A negative test does not rule out the disease. If there is a definite high-risk behaviour involved, the test has to be repeated.

Post-test Counselling (Positive)

a) Breaking the News

When the test is positive, the news should be broken gently to the patient after adequate counselling. You should be sure and definite about the result. Do not give a false hope to the patient by saying that he/she may need another confirmatory test. Give time for the patient to react to the news. Many patients will be shocked and will take time to react. They may manifest the various psychological reactions as already mentioned. As a counsellor, you need to support the patient through all these reactions. When the person accepts the diagnosis, you have to help him/her to face life.



b) Medical Plan

The patient may have medical problems. Try to access him/her to seek medical help. Not all hospitals will be willing to treat HIV patients. You as his/her counsellor will have to identify those hospitals and doctors who are willing to treat HIV patients. Do you know about the facilities available in your community? The supplementary reading material will help you to identify some of the health care institutions in your state or district.

c) Social Support

The patient may be worried about the social consequences of being infected. Every problem should be assessed and a solution should be found. Social problems may begin with the family. The patient may be afraid to tell his family. Family members may want to isolate the patient. The patient may shun other family members out of fear of infecting them. Similar fears may be faced in the work place. As you and the patient explore various possibilities you will be able to find solutions to these problems. Perhaps you may have to organize a meeting with his/her employers/colleagues or with the family to sort out these problems.

The patient may need help to organize his/her financial and legal affairs. Try to find out about various people or organizations that can help in these areas.

d) Plan for the Future

The patient may like to make a decision as to how he/she should be cared for at the time of terminal illness (advanced directives). Help him/her to make those decisions.

e) Reduction of high risk behaviour

The patient needs to know the ways in which he/she can reduce high-risk behaviour. He/she will be more receptive to avoiding those behaviours if he/she knows that he/she is positive. If the patient is a drug addict, try to find facilities that will help him/her to give up drug addiction. If that is not possible, try to get clean needles and syringes for their use (needle exchange programs). If a person has multiple sex partners as a risk factor, then try to advise him/her against that practice. Patient also needs to be told about the protective effects of condoms. Patients also have to be told about the correct use of condoms.

f) Networking

In your area, there may be groups of HIV infected people. They may be helped to organise themselves into a support group. Try to help the patient to become a part of that group. It helps the patient to know that many like him/her have the disease and they can support one another. Patients who suffer from HIV infection often seek spiritual solace. Try to identify various spiritual organisations in your areas and try to make these organisations help your patients.

g) Support the patient

Assure the patient that you will always be there to help at the hour of his/her need. This calls for total commitment from your part. You may have to give

him/her your contact address so that he/she can contact you at the time of need. Can you do all these things in a single session? Obviously, it is not possible to do so in a single session. Post-test counselling is a process that involves many sessions.

Crisis counselling

Patients may have acute problems that may threaten their social well being.

The parents may force the patient to marry. He/she needs counselling to face such a situation. Can you suggest solutions to this problem?

There are different ways of tackling this problem. He/she can inform the parents about his/her HIV positive status and its consequences. He/she may say that he/she is suffering from a serious disease and would like to avoid marriage. He/she may talk to his/her fiancée and tell him/her about the disease and marry him/her if he/she is willing. He/she may find an HIV positive patient and may marry his/her. These are some of the options that are available and being practised. All these possible options need to be discussed. The patient should decide the best option for his/her situation. After the best option is selected, a plan should be made to implement it. If he/she decides to tell his/her parents about the disease, then he/she should inform his/her family doctor to say the same. All these details have to be worked out. The patient should report back to you and tell you about the progress that he/she is making. This type of counselling is called crisis counselling. More details on counselling is given in Block II and Block III of the course on Communication and Counselling in HIV.

Groups to be tested

Who are the people who need to be tested for HIV?

Blood and blood products (and organ donors.) Since blood and blood-products can transmit the virus, all blood that is used for transfusion has to be tested.

Persons who donate organs need to be screened. People who donate their kidneys, when they are alive and people who donate organs when they die need to be screened for HIV. This is usually done at the time when organ donations are made.

High risk behaviour

People, who have a history of high-risk behaviour, need to be checked. People may have multiple sex-partners. Under this category, sex workers and their customers can be included. Men who are away from their families for a long period of time like truck drivers, migrant laborers, travelling salesmen and security personnel are likely to indulge in sex with unknown persons or with different partners and are at risk of contracting the disease. Men who have sex with other men are likely to get the infection and they need to be checked for the infection. Spouses of HIV infected patients are innocent victims of the disease. They also should be offered the test. National AIDS Control Organisation guidelines for AIDS should be followed. Some medical conditions may make the doctor think of HIV infection and an HIV test will be sought for by the doctor.

Consent

All testing that is done should be voluntary and with informed consent.

Informed consent means that the patient will have to undergo a pre-test counselling. No test should be done without a pre-test counselling. In practice, very often it is not done. This leads to lots of difficulties for the patients as well the health-care workers who subsequently have to deal with the patient. All clinical testing should be voluntary. The advantages of voluntary testing are many.

Advantages of pre-test counselling

If the patient gives an informed consent (pre-test), then we can expect that he/she is prepared to face the test results. He/she will trust you since he/she gives the consent. He/she has control-over his/her affairs. He/she will be more receptive to change his/her behaviour. Hence, the spread of the infection can be reduced to a great extent.

Check Your Progress II

1. What are the three situations in which counselling is done?

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4.4 TYPES OF TESTING AND STRATEGIES

Types of Testing

Various types of testing that are done include the following :

1. Voluntary testing
2. Surveillance and
3. Mandatory testing.

1. Voluntary Testing

This has already been described earlier in this unit. Here the patient gives an informed consent for testing voluntarily.

2. Surveillance

Sometimes it is essential to know the prevalence of disease in a community. This helps in planning for the health care of the community, as well as in finding effective control measures for the disease. Voluntary testing may not give the true picture. A method known as *Unlinked Anonymous* testing is used: In this method blood that is collected in the laboratories is used. After the test that has been requested is performed, a sample of the discarded blood is used for testing for HIV. This sample will not have any patient identification on it. i.e. patient's name or number will not be written on the sample. The

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person doing the test will not be able to identify the patient. Hence, it is called Unlinked Anonymous Test. Some of the hospitals conduct study among STD clinic attendees. In the STD clinics, blood is usually collected to test for syphilis or other STDs. After the test is done, remaining sample is sent to the surveillance centers without any patient identification. This survey gives an idea about the prevalence of HIV in high-risk groups. Similar study has been done on antenatal mothers to find the extent of risk involved in the community (low risk groups). Most of the reported cases of HIV in the country are based on such surveillance.

3. Mandatory Testing

HIV testing that is done compulsorily without any consent is known as *Mandatory Testing*. This method of testing is not recommended. It is against human rights and the fundamental rights of the individual. Testing against the will of the person leads to many problems. Patients will not come to the health care system if they know that they will be checked for HIV. The fear and stigma of the disease is enough to prevent from going to a hospital. Mandatory testing involves a huge expenditure for the health care system. It is not justified to spend huge amounts on a program that will not eradicate the disease. There is no situation that can justify doing an HIV test on a person compulsorily. Our country also follows this principle when dealing with Indian citizens. In some countries foreigners sometime need to get an HIV test done. Mandatory testing is done on all blood and blood products before they are transfused. Law requires this. A unit of blood is tested. An individual is not tested. The donor is not informed of the test. The blood that is collected is discarded. This is done because the recipient should always receive only uninfected blood.

The other situation where a mandatory testing can be done is among pregnant mothers. Now we have a definite treatment available for preventing the mother-to-child transmission. Hence, a mandatory testing will help to identify mothers who are at risk and provide them with prophylaxis.

Testing Strategies

Since HIV is such a serious disease, much care should be taken to make a diagnosis. You have already learnt about the sensitivity and the specificity of the various tests. Do you remember them? Emphasis should be laid on confidentiality. Considering all these facts, the World Health Organisation (WHO) formulated a testing strategy for testing HIV. The National AIDS Control Organisation (NACO) has adopted the same guidelines for India. It makes use of the ELISA test and the Western Blot test. Recollect these tests. Accordingly, WHO has three strategies?

Strategy I

Only a single ELISA test is done. This is used only for testing blood or blood products. A single positive ELISA is enough to discard the blood. The reason why this is done is to provide only safe and healthy blood to the patient who receives it. Even if there is a slight doubt, the blood is rejected. The donor is not informed about the result. Usually all blood banks use a single ELISA to screen their blood stores. This testing has eliminated blood transfusions as a means of transmitting HIV.

Strategy II

In this strategy two ELISA tests are done if a patient manifests clinical symptoms of AIDS. A sample of blood is tested by one particular method of ELISA. If the sample is found positive, then a second ELISA is repeated using a different method. If the sample is positive even with the second test, the patient is declared as positive. If the second test is negative it is reported as negative; some laboratories report it as indeterminate. If the test is being done for survey purposes, only strategy II is applied.

Strategy III

In this strategy three ELISA tests are done or two ELISA and a Western Blot test is done. It is done in patients who do not have any symptoms of AIDS illness. If the blood sample is positive to two ELISA tests, a Western Blot test is done. If all are positive then the patient is declared as positive. If you are working with HIV positive people, it is essential to know the type of tests that are being done in your laboratory. If the lab is not doing all the three tests, then you have to see that your patient's results are confirmed by another laboratory using a different method.

Confidentiality

Once a result is known, confidentiality has to be maintained. The lab should release all the results in a cover, which is marked as confidential. The result should not be released to friends and relatives. How does your lab release the reports? Your need to know in your locality how test results are treated by people involved in health care system.

Certain Situations of HIV testing

- a) Can an HIV test be done on a person before he/she is employed?
As already stated, no mandatory testing can be done. There is no occupation in which HIV can be spread to the co-workers through working conditions. The employers cannot refuse to offer employment or terminate the workers on the basis of HIV reports. Even if the employer is paying for the test, the employer should not be given the test result. An employee should not be tested even if the employer orders the test unless, the employee give consent for the testing.
- b) Should HIV test be made compulsory before marriage? In India arranged marriages are common. Many people have felt that an HIV test should be made compulsory for both the parties. Do you think it is right? It may be healthy to leave the choice to the partner whether to opt for an HIV test or not.

4.5 LET US SUM UP

In this unit we have gone through various issues related to HIV testing. This unit has outlined the structure of the HIV virus, reaction of the virus in the body and how to detect HIV infection. We have also studied about various HIV tests, the need for pre-test and post-test counselling and the types of HIV testing. Towards the end of the unit we also examined the strategies involved

in HIV testing and briefly discussed some of the situations where a demand for conducting HIV test can be made.

Check Your Progress III

Can an HIV test be done on a person before he/she is employed?

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4.6 KEY WORDS

ELISA : Enzyme -linked immunesorbent assay. This test is employed to detect the presence of HIV antibody. Blood is usually tested in ELISA.

VIRUS : An extremely small organism visible only through an electron microscope. Viruses cause a wide variety of diseases in humans.

4.7 MODEL ANSWERS

Check Your Progress I

1. What are the types of tests used to detect HIV antibodies?

To test for the antibodies, two different types of tests are used. They are the ELISA (Enzyme linked immuno sorbent assay) test and the Western Blot test.

i. ELISA Test

ELISA is easy to perform and it is cost effective. It is also reliable and sensitive. The basic principle of the test is to detect the antibodies against HIV Virus that are present in the blood of an infected person.

ii. Western Blot Test

Viral antigens are layered on to a nitro cellulose paper. Patient's serum is placed at one end of the strip. The paper is changed with electricity for 24 hours. Antibodies move along the paper and interact with the antigens. Depending upon the molecular size the antigen-antibody complexes move to different areas. These patterns are compared with the standard pattern produced by the HIV. To declare the test, as positive antigen-antibody reactions should occur at all the three regions i.e. gag, pol, and eve regions.

Check Your Progress II

1. What are the three situations in which counselling is done?

Counselling is the major tool that is used to help HIV infected patients to cope with their disease. It is also a continuous process. Various situations in which counselling is done are:

- 1) Before doing the test (pre-test)
- 2) After the test (post-test)
- 3) Crisis counselling. A person who is HIV positive will face many crises in life. He/she needs to be counselled during those times.

Check Your Progress III

1. Can an HIV test be done in a person before he/she is employed?

No mandatory testing can be done. There is no occupation in which HIV can be spread to the co-workers through working conditions. The employers cannot refuse to offer employment or terminate the workers on the basis of HIV reports. Even if the employer is paying for the test, the employer should not be given the test result. An employee should not be tested even if the employer orders the test unless, the employee consents for the testing.

4.8 FURTHER READINGS

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UNIT 5 MORAL ISSUES ON HIV TESTING

Contents

- 5.0 Aims and Objectives
- 5.1 Introduction
- 5.2 The Right to Autonomy of HIV/AIDS Patients
- 5.3 Implications of Universal Testing
- 5.4 Specific Groups
- 5.5 HIV Testing and Confidentiality
- 5.6 Let Us Sum Up
- 5.7 Key Words
- 5.8 Model Answers
- 5.9 Further Readings

5.0 AIMS AND OBJECTIVES.

In the block we have learned about the various routes of transmission of HIV as well as the what, why and how of HIV testing. Because HIV has much to do with the human beings, his/her dignity, conduct and behaviour pattern, it is essential that we discuss about the moral issues involved in HIV testing. After studying this unit, you will be able to :

- Understand the right to autonomy of HIV/AIDS patients;
- Implication of testing entire population;
- Issues pertaining to testing of specific groups and;
- Issues involved in maintaining confidentiality.

5.1 INTRODUCTION

HIV/AIDS epidemic progress differently in different situations. It is driven by individual behaviour which put people at risk of infection. Then behaviour may in turn be driven by poverty, by relationship between men and women or between old and young people, or cultural and religious norms that leave people with little control over their exposure to the virus. The social, economic and cultural situation that creates this kind of vulnerability to HIV infection have not been adequately studied or explained. Perhaps there is virtually little information available for different socio-cultural groups in India on the basic sexual and drug-taking behaviour and patterns of sexual networking that determine the virus spread through a population. Whatever may be the situation, there is much that we all can do to face the existing situation.

Many people belonging to various social groups in the country are found to be infected with the virus. Several infected people seek medication. At the same time there are several others who continue to suffer because of discrimination, stigmatisation and isolation due to the attitude of responsible service providers

as well as the widespread ignorance existing among the general population. Much of these behaviours can be changed if we learn about the ethical issues involved in HIV management and HIV testing.

In this unit we shall examine the moral issues involved in HIV testing. Unit 5 of the third block details us about the ethical issues with regard to HIV/AIDS management.

5.2 THE RIGHT TO AUTONOMY OF HIV/AIDS PATIENTS

Autonomy is a term derived from the Greek *autos* ("self") and *nomos* ("rule" "governance," or "law"). It means self-governance. It is a widely accepted principle in medical ethics that competent patient has the right to autonomy. Intelligence and freedom are the basis of autonomy. Therefore, any patient who enjoys the gift of intelligence and freedom is *competent* to decide for himself/herself and has a right to autonomous decisions.

HIV/AIDS patient if competent also enjoys this basic right of autonomy:

- The right to knowledge" and "the right to ignorance": with regard to understanding what is happening to them: the right to knowledge about their condition, if they so desire; the right not to know what is happening to them, if they do not want to know;
- The right to know and accept what is being done to them with regard to the diagnostic and therapeutic procedures;
- The right to give informed consent; and
- The right to enjoy confidentiality.

It is quite evident that this right is not an absolute right. The rights and freedom of another person limit it. In the context of the special nature of HIV/AIDS, let us see how the right to autonomy applies to the questions of testing for HIV, right to confidentiality, etc.

The Ethical Advantages of Testing

Let us start reviewing the ethical advantages of testing for HIV:

- a. Testing can tell the person tested whether he or she is carrying the virus or not. This may be useful to the individual in two ways: First it informs the individual of whether or not to expect the onset of a serious illness. A person can take adequate precautions and treatment of the illness. Second, it tells the person whether or not he or she is likely to transmit a lethal virus to another person by intimate contact. This is the ethics of right of knowledge.

No person welcomes the dreadful news that he/ she has a dreadful disease. People who oppose testing try to uphold the right to ignorance. It is true that the news that one is suffering from something that may lead to fatal illness is bound to be unwelcome. Enforcement of these rights tends to injure the second function i.e. to take precaution to infect others.

Second function often tends to override the right to ignorance. This right becomes relevant in relation to proposals for testing the blood supply, or for conducting anonymous surveys designed simply to establish the extent of the spread of the virus in the population.

- b. Testing can enable a medical professional to treat a person whose condition might otherwise be mis-diagnosed. It can enable medical professionals to take appropriate measures to guard against infections or if they get an injury while handling the patient. It can also enable the medical professional to discover whether others are at risk, in particular the spouse of a patient.
- c. It is hard to justify a right to remain ignorant, unless the desire to remain ignorant is combined with a willingness to behave as if one had been tested and the result was positive.

Principle of Autonomy and Testing

HIV testing should generally be undertaken only with the informed consent of the person being tested. This is done for two reasons: potential harms from testing, and respect for the autonomy of patients.

This, however, does not apply to the testing of donors of blood, organs, semen, or similar bodily products. Here the intention is to provide a safe blood or organ donation. Ideally in all cases of donations, ethical approach is that prospective donors should be informed before the blood or organ is collected that an HIV-related test will be conducted on the tissue and given adequate information about the nature and purpose of the test. Consent does not apply to testing that is performed as part of an anonymous HIV screening programme for epidemiological or research purposes.

General Principles for Testing: Voluntary or Mandatory

There are several general principles that should guide consideration of all testing proposals:

- First, the purpose of testing must be ethically acceptable. Treatment of the affected, protecting public health and preventing transmission of HIV are acceptable purposes. If the testing is done to deny services and express disapproval of certain groups then it is not ethical.
- Second, the proposed use of test results must contribute to the well being of the individual and the society.
- Third, the benefit to public health must warrant the extent of intrusion into personal liberties. This principle does not suggest that public health should be sacrificed in order to protect civil liberties, but only that an uncertain or minimal public health benefit should not be used to justify gross invasion of personal rights.

The Question of Compulsory Testing

There have been repeated calls, however, for mandatory or compulsory testing of the entire population or of certain groups of the population, such as: pregnant women, new-borns, prisoners, persons accused or convicted of sexual

assault, prostitutes, health-care workers and patients, eunanches and immigrants. Is it acceptable ethically?

Compulsory testing can be justified ethically in some situations. For example, when a health care provider is at risk for HIV infection because of the occurrence of needle stick injury or a mucosal splash it is acceptable to test the patient for HIV infection even if the patient refuses consent. When testing is performed without consent in accordance with the law, the patient should be given the customary pre-test counselling. As post exposure prophylaxis is available to an injured health worker, right of the injured worker over rides the autonomy of the patient.

Mandatory testing programmes have been used in combating other communicable and sexually transmitted diseases, such as tuberculosis and syphilis. The following are the conditions under which a mandatory testing programme is acceptable as defined by the World Health Organisation in 1928

Ten Conditions that Warrant Mandatory Testing Formulated by WHO in 1928

1. The condition being tested should be an important health problem;
2. There should be an accepted treatment for patients who test positive;
3. Facilities for diagnosis and treatment should be available;
4. There should be a recognisable latent or early symptomatic stage;
5. There should be a suitable test for examination;
6. The test should be acceptable to the population;
7. The natural history of the condition, including development from latent to declared disease, should be adequately understood;
8. There should be an agreed policy on whom to treat as patients;
9. The cost of case-finding (including diagnosis and treatment of patients diagnosed) should be economically balanced in relation to possible expenditure on medical care as a whole; and
10. Case-finding should be an ongoing process and not a once and for all project.

Though not all of these ten conditions are fulfilled in the case of HIV/AIDS world-wide, the opinions about HIV-antibody testing has varied widely.

- There are those who recommend screening for all the population: their arguments seem to be irrational and are not based on scientific facts.
- Others show interest in screening targeted groups: the problem then lies in the choice of the groups and in the motives of that choice, which are often subjective.
- Last, there are those who recommend voluntary screening: they defend both human rights and scientific inquiry.

Which of these approaches can be considered to be ethical?

Over the years, calls for mandatory HIV testing have never stopped. Motivated

by a mix of emotions and ideologies, they have re-echoed, citing new research findings and targeting different populations. Let us examine the question of mandatory testing and its merits and demerits further.

Check Your Progress I

1. What are the ethical advantages of testing for HIV?

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5.3 IMPLICATIONS OF UNIVERSAL TESTING

Early in the epidemic, it was recommended that the entire population be mandatorily tested for antibodies to HIV. A popular misconception was that widespread or even universal HIV testing could identify all who carry the virus so that they could be isolated and the uninfected majority could be secure from any risk of transmission. The fallacy of this approach is that:

- Even if universal testing could be carried out, it cannot detect HIV: false negatives (persons are HIV positive but the test is negative) and persons still in the latency period ("window period") when testing was performed will not be detected; repeat testing would be necessary to remedy those errors, and in the meantime those undetected might continue to spread the disease.
- There is a danger that the "uninfected" population would feel a sense of security and not pursue precautions against infections and are likely to be infected from patients who are in the window period.
- A universal or widespread testing programme does not represent a practicable approach because of the costs it would entail; and,
- The HIV-negative persons in the population are not in fact at risk from HIV-positive persons living in their midst. However, wide consensus emerged that it would be a mistake to enact laws requiring the entire population to submit to testing: Concerns for protecting public health, support this conclusion; just as concerns for protecting fundamental rights do.

Testing of "High-Risk Groups"

Recognising the problems raised by universal testing of the entire population, some have recommended that mandatory or compulsory testing be limited to members of the so-called "high-risk groups."

However, such proposals were rejected on the basis that HIV is an indiscriminate virus that does not infect people along group lines: **it is a high-risk activity, not identification with a group** that is decisive in the transmission of the virus. In addition, it was recognised that a mandatory testing programme aimed at the so-called "high-risk groups" would face obvious problems in identifying members of the targetted groups. Members belonging to the high-risk group may not access the health services. Finally, mandatory testing of these groups would have intensified the sense polarisation of "us" and "them" leading therefore to increasing discrimination towards "them" and giving "us" a false and potentially dangerous sense of security.

Testing Specific Populations

There are problems both with forced testing of the entire population and with testing of "high-risk groups." Some have called for more targeted mandatory testing programmes. One or more of the following factors seem to underlie the proposals for testing of certain groups:

- A perceived high risk of being HIV-positive;
- A perceived high risk of infecting others with HIV and;
- Attribution of culpability due to involvement in criminal activity, so that being required to undergo the test can be considered a just component of punishment.

For example, some argued that testing should be required among prisoners, arrested prostitutes and drug users, and those who attend sexually transmitted disease clinics and de-addiction centres. In this view, these groups are not only at a high risk of infection, but they also pose a serious risk to the health of the community and are likely to transmit the disease to innocent, healthy members of society. Each type of testing proposal raises a unique set of policy issues, and therefore it will be considered separately in section 6.4 below. For example, proposals to test all pregnant women raise different concerns and implications from proposals to test all prisoners.

Mandatory or compulsory testing, whether of the entire population or of specific groups, is generally opposed for the following reasons:

- Because of the potential for invasion of privacy and discrimination.
- Because of the stigmatisation and discrimination directed at HIV-infected people, individuals who believe they might be infected tend to go "underground" to escape mandatory testing. As a result, those at highest risk for HIV infection may not hear or heed education messages about AIDS prevention.
- Testing without informed consent damages the credibility of the health services and may discourage those requiring services from obtaining them.
- In any testing programme, there will be people who falsely test negative – for example, because of laboratory error or because they are infected but have not yet developed detectable antibodies to HIV. Thus, mandatory testing can never identify all HIV-infected people.

- Mandatory testing can create a false sense of security especially among people who are outside its scope and who use it as an excuse for not following more effective measures for protecting themselves and others from infection. Examples are health care workers who do not follow universal precautions when all hospital patients are tested, and clients of sex workers who do not use precautions when they believe that all prostitutes are being tested.
- Mandatory testing programmes are expensive, and divert resources from effective prevention measures.

International organisations have made similar statements. For example, the Council of Europe adopted a recommendation stating "in the absence of curative treatment, and in the view of the impossibility of imposing behaviour modification and the impracticability of restrictive measures, compulsory screening is unethical, ineffective, unnecessarily intrusive, discriminatory and counter-productive."¹ The Joint United Nations Programme on HIV/AIDS (UNAIDS), in its 1993 Policy on HIV Testing and Counselling, also expressed its opposition to mandatory testing stating "HIV testing without informed consent and confidentiality is a violation of human rights."

Finally, the International Guidelines on HIV/AIDS and Human Rights recommend that HIV testing only be performed with the specific informed consent of the individual tested, and that "exceptions to voluntary testing would need specific judicial authorisation, granted only after due evaluation of the important considerations involved in terms of privacy and liberty."²

This conclusion is consistent with WHO's Statement from the 1992 Consultation on Testing and Counselling for HIV Infection, which emphasises that "mandatory testing and other testing without informed consent has no place in AIDS prevention and control programmes."³ The Statement continues by saying:

'There are no benefits either to the individual or for public health arising from testing without informed consent that cannot be achieved by less intrusive means, such as voluntary testing and counselling.' Public health experience demonstrates that programmes that do not respect the rights and dignity of individuals are not effective. It is essential, therefore, to promote the voluntary co-operation of individuals rather than impose coercive measures upon them.

Check Your Progress II

1. Why mandatory testing for HIV is generally opposed?

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5.4 SPECIFIC GROUPS

Now, let us now briefly look the specific groups, which are often referred to as useful candidates for testing:

Pregnant Women

As with any other patient, pregnant women and women who are intending to conceive need to fully understand the advantages and disadvantages of HIV testing before deciding to undergo the test. The discovery of HIV -positive status has important implications for decisions to interrupt pregnancy, to take antiretroviral therapy to prevent mother to child transmission and to breastfeed the baby. These decisions are themselves mostly voluntary in nature.

Help must be given to meet the challenge of ensuring that all HIV-infected women who desire to continue a pregnancy are offered effective means to reduce the risk of HIV transmission to their babies. Ever since the discovery was made that administration anti-retroviral therapy, such as Zidovudine (AZT), significantly reduces the danger of HIV transmission from the mother to the child, the clamour for compulsory testing of pregnant women has increased. Ethically, however, the importance must be stressed of allowing women to make decisions about testing as well as AZT use in a non-coercive atmosphere and based on the balance of the benefits and potential risks of the regimen to herself and her child.

The right question is: How can we offer appropriate counselling to all women and engage them voluntarily to learn their HIV status? If they are HIV-positive, how do we ensure that they receive needed care for themselves and potential interventions to prevent transmission to their foetus and, finally, that they provide care for their infants? With appropriate resources given to education and health care, the desired goal of early identification and treatment of HIV-infected infants can be accomplished without mandatory new-born screening.

Newborns

Unlike programmes directed at offering voluntary HIV testing and counselling to all pregnant women that is coupled with voluntary treatment, the testing of new-borns does not have the benefit of substantially reducing the risk of transmission from mother to baby. The test is not effective in identifying the infection in the newly born. Since, new born babies acquire all antibodies of their mothers, test for HIV antibodies can be beneficial only after a child has reached 18 months or more.

Prisoners

It does not seem that there exists any public health or security justification for compulsory or mandatory HIV testing of prisoners, or for denying inmates with HIV/AIDS access to all activities available to the rest of the population. Rather, prisoners should be encouraged to voluntarily test for HIV, with their informed, specific consent, with pre- and post-test counselling, and with assurance about the confidentiality of test results. As do people outside prison, they should have access to a variety of voluntary, high-quality, bias-free testing options, including anonymous testing.



Sexual Offenders

Testing sexual offenders like rapists, by itself, may not best serve to assist victims of these offenders. The issue of compulsory testing of persons accused or convicted of sexual assault has often been characterised as being one of choosing between the accused's rights and victims' rights. However, an attempt to characterise the choice whether or not to require HIV antibody testing of accused persons as being either pro-woman or pro-criminal tends to obscure the real complexity of the issue and the tangible needs of the survivor. In so doing there is a danger of manipulating the survivor's understandable feelings of anger, frustration and fear in order to advance a position that ultimately will not help her.

In contrast to persons convicted of sexual assault, persons *accused* of sexual assault are innocent until proven guilty. Therefore, it is not at all clear how compulsory testing could even be legally performed on them. Not having been convicted, testing could not be imposed as part of the punishment of the accused person. Merely having been accused of sexual assault are unlikely sufficient grounds to establish such a threat.

There can be no question that persons convicted of sexual assault have committed a serious criminal offence – if compulsory testing could further some useful objectives for the survivor of the assault, it might be appropriate to regard the convicted person's claim to autonomy as appropriately of less weight.

However, as demonstrated above, compulsory testing and disclosure of the test result to the survivor of a sexual assault provide little (if any) benefit to the

survivor. Testing a person convicted of sexual assault cannot provide the survivor with useful information. At the time of conviction, she can find out whether she herself is HIV-positive by undergoing testing. If the test is performed during the window period, she will need to do a further test after six months especially if her previous test proved negative. In contrast, testing the offender would only provide her with information about the offender's HIV-status.

Commercial Sex Workers

Laws under which prostitutes may be required to refrain from specific conduct, undergo specified treatment or counselling, submit to supervision, undergo treatment while detained, or, if infected with HIV and therefore, detained, may be counterproductive. These compulsory measures will dissuade CSWs to come forward for voluntary testing for HIV infection. Moreover, clients are absolved of any irresponsibility for not using precautions because the effect of the legislation leads them to assume that working CSWs will be 'clean'. Rather than such measures, interventions are necessary that would give sex workers the means to protect themselves against HIV transmission and would empower them to use them. The use of condoms must be evaluated in this context. In the context of CSWs continuing in their life style, however, it can be considered as part of harm reduction efforts.

Health Care Workers

Should health-care providers be required to undergo compulsory testing for antibodies to HIV? If found positive, should they be excluded from practising, or required to disclose their HIV status to their patients as well as hospital



authorities? The most appropriate way to frame the question is to ask how best can patients be protected against real risks, while not overreacting and excluding competent and safe practitioners. In order to best protect physicians as well as patients, the emphasis needs to be on strict adherence to infection-control practices rather than on efforts to detect who is infected. HIV-positive health-care providers have saved and continue to save thousands of lives every year, and that excluding them from exercising their profession would endanger their patients' lives, and ruin the lives of thousands of dedicated medical professionals.

It does not seem to be befitting human dignity and international etiquette to screen all the foreign visitors to a country for HIV status. For one thing, their 'foreignness' does not pose any health hazard to any one as far as HIV is concerned. Regarding visitors who are proven to be HIV positive the individual circumstances of each case should be taken into account, weighing the costs against the benefits of allowing a particular person to immigrate or to visit, and take humanitarian concerns into account.

Regarding foreign students who are going to be on scholarships, it is a different matter. Conditions can and should exist for qualifying for such privileges and people remain free to apply for them.

Check Your Progress III

1. Should health care providers be required to undergo compulsory testing for HIV?

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5.5 HIV TESTING AND CONFIDENTIALITY

The right to confidentiality is one of the important rights of the patient. The information disclosed to a physician during the course of the relationship should be kept confidential by the physician. The doctor patient relationship should be confidential to the greatest possible degree. The patient should feel free to make a full disclosure of information to the physician in order that the physician may most effectively provide needed services. The patient should be able to make this disclosure with the knowledge that the physician will respect the confidential nature of the communication. The physician should not reveal confidential information without the expressed consent of the patient, unless required to do so by law.

The obligation to safeguard the patient's confidence is subject to certain exceptions which are ethically and legally justified because of overriding social considerations. Where a patient threatens to inflict serious bodily harm to another person or to him / herself and there is a reasonable probability that the patient may carry out the threat, the physician should take reasonable precautions for the protection of the intended victim; including notification of law enforcement authorities. If a physician knows that a HIV-positive individual is endangering a third party, the physician should, within the constraints of the law: (1) attempt to persuade the infected patient to cease endangering the third party; (2) if persuasion fails, notify authorities; and (3) if the authorities take no action, notify the endangered third party. Communicable diseases and suspected medico-legal cases, should be reported as required by law. These principles regarding confidentiality in general applies to HIV-related information as well. The International Guidelines on HIV/AIDS and Human Rights says:

“General confidentiality and privacy laws should be enacted. HIV-related information on individuals should be included within definitions of personal/ medical data subject to protection and should prohibit the unauthorised use and/ or publication of HIV-related information on individuals. Privacy legislation should enable an individual to see his or her own records and to request amendments to ensure that such information is accurate, relevant, complete and up to date. An independent agency should be established to redress breaches of confidentiality. Provision should be made for professional bodies to discipline cases of breaches of confidentiality as professional misconduct under codes of conduct.”

The confidentiality of the results of HIV testing must be maintained as much as possible and the limits of a patient's confidentiality should be known to the patient before consent is given.

Obligation to Report HIV Status

Generally speaking, when law necessitates reporting of both HIV and AIDS, it should be done anonymously: nominal reporting is not warranted either for surveillance or for partner notification purposes. Test providers, ethicists, public health professionals, technical experts and others have to develop a system that collects only the information necessary, using unique or coded identifiers that ensure privacy and confidentiality of the individual. If it is not done in a way that the confidentiality is protected, the studies are going to be totally biased because of the non-co-operation of the general public. This type of system exists in United Kingdom. Also the communication media has to exercise a lot of self-discipline in this matter. The inhuman persecution that followed careless reporting by the communication media of some HIV/AIDS patients in our country is well known. 'Do to others, as you would have them to do to you' has been the golden rule of ethics down the ages.

Partner Notification

When a married person is tested positive for HIV, should the medical professionals or authorities inform the partner about it? If the person is likely to infect the partner, certainly there is an obligation on the part of the medical

professionals to divulge the information to the partner. Convincing the person to share this information with the partner would be much more effective and conducive to prevent the spread of the disease. It would be a better policy to inform each person who requests HIV testing and counselling, under which circumstances the partner will have to be notified in case the test proves to be positive.

Effects of Breaching Confidentiality

While most agree that there are situations in which breaching confidentiality would be justified ethically, such breaches raise difficult questions: What will occur if it becomes generally known that clinicians breach confidentiality to protect third parties? Will patients cease to speak freely about their behaviour? Will the public health suffer as a consequence?

Here we are facing an extraordinary irony: the ethics of the clinical relationship, which usually favours strict confidentiality, appear to dictate a breach of confidentiality in the matter of partner notification, while the ethics of public health, which are usually less concerned with confidentiality, may dictate a stricter adherence to it.

It would be more beneficial to analyse the reasons why a client refuses to tell his or her sexual partner about his or her HIV-positivity. Working through of deep-rooted issues of rejection, abandonment, loneliness, and infidelity may be more effective for prevention of the spread of AIDS rather than police-like reporting practices.

Confidentiality of HIV Status on Autopsy (post mortem) Reports

In the same vein, it is clear that health care professionals have a serious duty to maintain the confidentiality of HIV status on post-mortem reports. Physicians who perform autopsies or who have access to autopsy information regarding a patient's HIV status should be familiar with state law governing: (a) the reporting of HIV and AIDS to public health authorities; (b) obligations to inform third parties who may be at risk for HIV infection through contact with an HIV-infected dead person; (c) other parties to whom reporting may be required like funeral directors, embalmers, etc. This includes reporting to organ or tissue procurement agencies if any parts of the decedent's body were taken for use in transplantation.

5.6 LET US SUM UP

In this unit we made an attempt to discuss a very important aspect with regard to the moral issues pertaining to testing for HIV/AIDS. The unit deeply analysed the right to autonomy of HIV/AIDS patients, the ethical advantages of testing for HIV, general principles for testing, the issues related to compulsory testing, implications for universal testing, testing of specific groups and HIV testing and confidentiality. This unit also dealt with certain pertinent issues like partner notification as well as confidentiality of HIV status on autopsy reports. All these issues are very important while dealing with issues relating to HIV/AIDS in any social setting as well as the medical setting in our country.

Check Your Progress IV

1. What do the International Guidelines on HIV/AIDS and Human Rights say regarding confidentiality on HIV related information?

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5.7 KEY WORDS

- Moral** : Concerned with goodness or badness of human character or behaviour or with the distinction between right and wrong.
- Ethics** : The Science of morals in human conduct.
- Infections** : A person is infectious, when he/she has been infected with a pathogen, like HIV, and is capable of transmitting that pathogen to another person.
- Sexuality** : The total of an individual's sexual make up. It includes inherited and acquired factors.
- Fidelity** : Refers to being faithful to one's chosen or given sexual partner and having sexual relationship only with that partner usually within marriage.

5.8 MODEL ANSWERS

Check Your Progress I

1. What are the ethical advantages of testing for HIV?
 - a. Testing can tell the person tested whether he or she is carrying the virus or not. This may be useful to the individual in two ways: first it informs the individual of whether or not to expect the onset of a serious illness. A person can take adequate precautions and treatment of the illness. Second, it tells the person whether or not he or she is likely to transmit a lethal virus to another person by intimate contact. This is the ethics of right to knowledge.

No person welcomes the dreaded news that he/she has a dreadful disease. People who oppose testing try to uphold the right to ignorance. It is true that the news that one is suffering from something that may lead to fatal illness is bound to be unwelcome. Enforcement of these rights tends to injure the second

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function i.e. to take precaution to infect others. Second function often tends to override the right to ignorance. This right becomes relevant in relation to proposals for testing the blood supply, or for conducting anonymous surveys designed simply to establish the extent of the spread of the virus in the population.

- b. Testing can enable a medical professional to treat a person whose condition might otherwise be misdiagnosed. It can enable medical professionals to take appropriate measures to guard against infections or if they get an injury while handling the patient. It can also enable the medical professional to discover whether others are at risk, in particular the spouse of a patient.
- c. It is hard to justify a right to remain ignorant, unless the desire to remain ignorant is combined with a willingness to behave as if one had been tested and the result was positive.

Check Your Progress II

- I. Why is mandatory testing for HIV generally opposed ?
Mandatory or compulsory testing, whether of the entire population or of specific groups, is generally opposed for the following reasons:
 - Due to the potential for invasion of privacy and discrimination.
 - Due to the stigmatisation and discrimination directed at HIV-infected people, individuals who believe they might be infected tend to go "underground" to escape mandatory testing. As a result, those at highest risk for HIV infection may not hear or heed education messages about AIDS prevention.
 - Testing without informed consent damages the credibility of the health services and may discourage those needing services from obtaining them.
 - In any testing programme, there will be people who falsely test negative – for example, because of laboratory error or because they are infected but have not yet developed detectable antibodies to HIV. Thus, mandatory testing can never identify all HIV-infected people.
 - Mandatory testing can create a false sense of security especially among people who are outside its scope and who use it as an excuse for not following more effective measures for protecting themselves and others from infection. Examples are health care workers who do not follow universal precautions when all hospital patients are tested, and clients of sex workers who do not use precautions when they believe that all prostitutes are being tested.
 - Mandatory testing programmes are expensive, and divert resources from effective prevention measures.

Check Your Progress III

1. Should health care providers be required to undergo compulsory testing for HIV?

The most appropriate way to frame the question is to ask how best can patients be protected against real risks, while not overreacting and excluding competent and safe practitioners. In order to best protect physicians as well as patients, the emphasis needs to be on strict adherence to infection-control practices rather than on efforts to detect who is infected. HIV-positive health-care providers have saved and continue to save thousands of lives every year, and that excluding them from exercising their profession would endanger their patients' lives, and ruin the lives of thousands of dedicated medical professionals.

Check Your Progress IV

1. What do the International Guidelines on HIV/AIDS and Human Rights say regarding confidentiality on HIV related information?

These principles regarding confidentiality in general applies to HIV-related information as well. The International Guidelines on HIV/AIDS and Human Rights says:

"General confidentiality and privacy laws should be enacted. HIV-related information on individuals should be included within definitions of personal/medical data subject to protection and should prohibit the unauthorised use and/or publication of HIV-related information on individuals. Privacy legislation should enable an individual to see his or her own records and to request amendments to ensure that such information is accurate, relevant, complete and up to date. An independent agency should be established to redress breaches of confidentiality. Provision should be made for professional bodies to discipline cases of breaches of confidentiality as professional misconduct under codes of conduct."

5.9 FURTHER READINGS

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Overall, Christine and Zion, William P. (1991 Eds.), *Perspectives on Aids. Ethical and Social Issues*. Oxford University Press, Ontario.

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Thomas Gracious, (2001). *HIV Education and Prevention : Looking Beyond the Present*, Shipra Publications, New Delhi.

NOTES :

- ¹ Recommendation No. R (89) 14 of the Committee of Ministers to Member States on the Ethical Issues of HIV Infection in the Health Care and Social Settings.
- ² HIV/AIDS and Human Rights – International Guidelines, recommendation 28(b).
- ³ WHO, resolution WHA 45.35, 14 May 1992.

NOTE



Block

3

**HIV/AIDS PREVENTION AND CONTROL :
SOCIO-ETHICAL ISSUES**

UNIT 1

**HIV/AIDS Prevention & Control :
Government Initiatives**

5

UNIT 2

**HIV/AIDS Prevention & Control :
Personal Aspects**

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UNIT 3

Continuum of Care

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UNIT 4

**Societal Influence on HIV/AIDS
Transmission and Prevention**

60

UNIT 5

HIV/AIDS and Ethical Issues

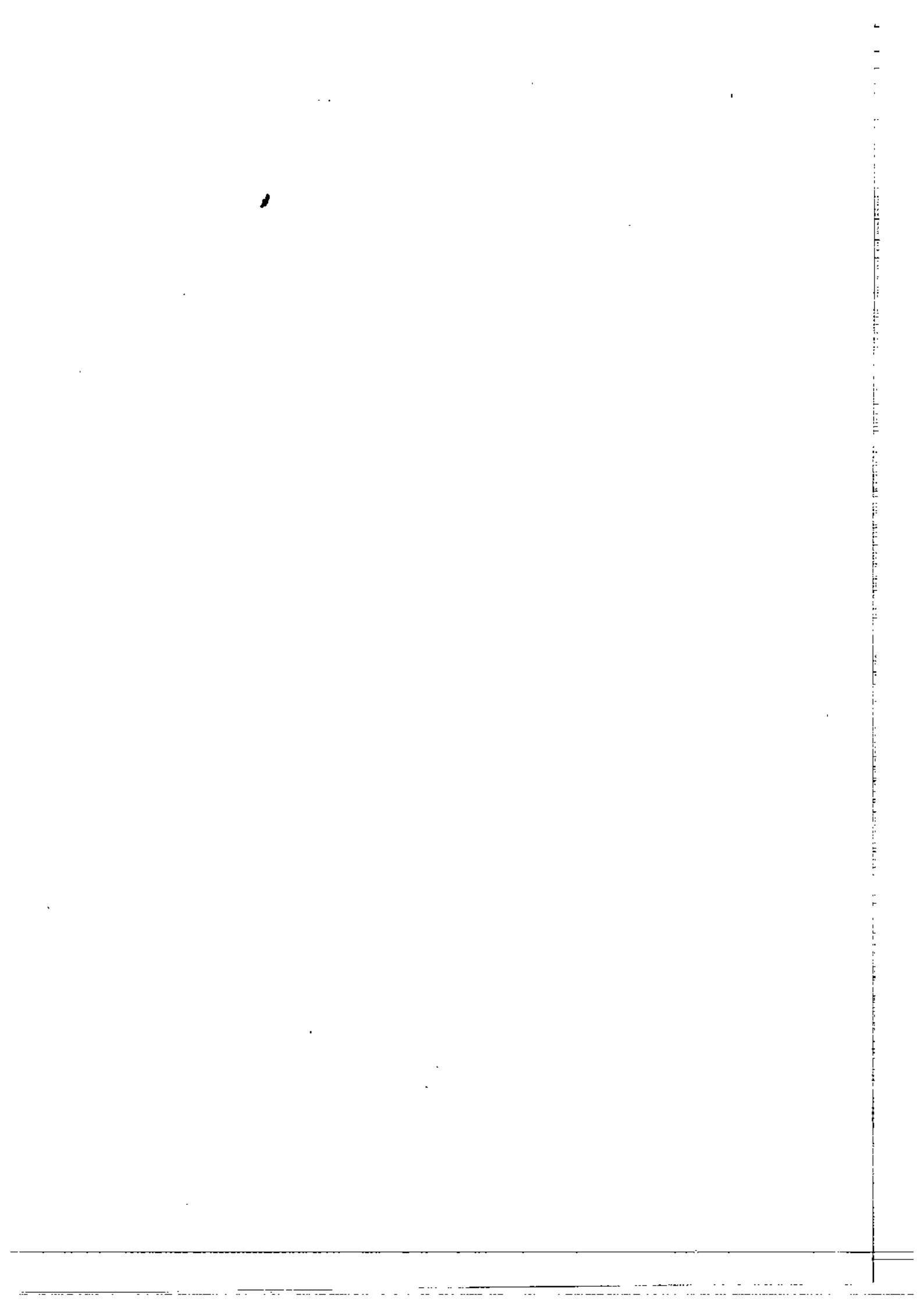
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INTRODUCTION TO BLOCK 3

Welcome to Block 3 of the Basic course on HIV/AIDS. In this Block you will find five units. All the five units deal with various aspects relating to HIV/AIDS prevention and control. Unit 1 is on 'HIV Prevention and Control : Government initiatives'. It describes the components of the National AIDS Control Programme and initiatives by NGOs and bilateral agencies for the prevention and control of HIV/AIDS. Unit 2 is on 'HIV/AIDS prevention and control: Personal aspects'. It talks about the need for prevention, the various modes of transmission and the precautions to be taken to avoid HIV transmission. The main emphasis of this unit is on behaviour modification. Unit 3 is on 'Continuum of Care'. The purpose of this unit is to provide you with an understanding about the concept of continuum of care with emphasis on home care and role of the family and the community in caring for the person living with HIV/AIDS. Unit 4 is on 'Societal influence on HIV/AIDS transmission and prevention'. This unit describes social root of behaviours which transmit HIV and identify the major points of macro-level societal interventions needed for HIV/AIDS control. Unit 5 examines 'HIV/AIDS and ethical issues' in the context of HIV infected people and their rights. This unit has tried to develop more constructive ways of dealing with people living with HIV/AIDS that leads to prevention of further contagion.

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The five units will give you an overview of the ways and means of HIV/AIDS prevention strategies and the guidelines for taking care of the infected while respecting them and enabling them to enjoy their rights.



UNIT 1 HIV/AIDS PREVENTION AND CONTROL : GOVERNMENT INITIATIVES

Contents

- 1.0 Aims and Objectives
- 1.1 Introduction
- 1.2 Initiatives by the Government of India
- 1.3 The Components of National AIDS Control Programme
- 1.4 Initiatives by the United Nations
- 1.5 Collaboration with Bilateral Donor Agencies
- 1.6 Let Us Sum Up
- 1.7 Key Words
- 1.8 Model Answers
- 1.9 Further Readings

1.0 AIMS AND OBJECTIVES

This unit aims at helping you to understand the various initiatives that have been under taken by the Government of India, Non-Governmental Organizations (NGOs) and the various bilateral agencies for the prevention and control of HIV/AIDS in India. After reading this you will be able to:

- State the initiatives taken by the Government of India for the control and prevention of HIV/AIDS in the country;
- Describe the components of the National AIDS Control Programme like the STD control programme, condom programme, blood safety programme, the IEC and social mobilisation programme;
- State the various initiatives taken by the Non-Government Organizations; and
- State the role of various bilateral agencies like UNAIDS, UNESCO, WHO, UNDP etc.

1.1 INTRODUCTION

The Human Immunodeficiency Virus (HIV) is continuously spreading its tentacles throughout the world. According to an estimate, by the year 1998, throughout the world, 11.7 million people have already lost their lives due to this disease. The HIV has more than doubled the adult-death rate in some countries and is the single largest cause of adult death in some countries. HIV/AIDS has been identified as one of the top ten killers throughout the world.

In the Indian sub-continent, the epidemic of HIV/AIDS is prevalent in all parts of the region. About half of the Indian population is in sexually active age i.e. 15-49 years. The number of AIDS cases have been consistently rising over the years.

Looking into the worsening situation of HIV/AIDS in the country, the Government of India has initiated an action plan. Let us talk about the measures and initiatives taken up by the Government for the prevention and control of HIV/AIDS.

1.2 INITIATIVES BY THE GOVERNMENT OF INDIA

Recognizing the seriousness of the problem, the Government of India initiated a series of important measures. A high-powered National AIDS Committee was constituted and the NACP were launched in 1987. The objectives of the NACP were to establish a comprehensive, multi-sectional programme for the prevention and control of HIV/AIDS in India. The main objectives were:

- Prevent HIV transmission,
- Decrease the morbidity and mortality associated with HIV infection, and
- Minimize the socio-economic impact resulting from HIV infection.

The Ministry of Health and Family Welfare constituted the National AIDS Committee in the year 1986. The Committee was formed with a view to bringing together various ministries, NGOs and private institutions for effective co-ordination in implementing the NACP. The committee oversees the performance of the programme, deliberates to form a policy and encourages multi sectoral collaborations. The committee is the highest decision making authority on policy matters. In the initial years, the focus of the programme was on blood screening for transfusion purpose and conducting surveillance activities in the epicenters of the epidemic.

National AIDS Control Organisation (NACO)

The NACO was established in India in 1992 as an executive body in the Ministry of Health and Family Welfare. The main functions of NACO are as follows:

- 1) To expedite sanction, approve procurement and to undertake and award contracts to private agencies.
- 2) The board allocates funds between programme components.
- 3) Forms the programme managerial teams and appointment of senior programme staff.
- 4) The board exercises all administrative and financial powers.

Figure I shows the organisational structure of the NACO.

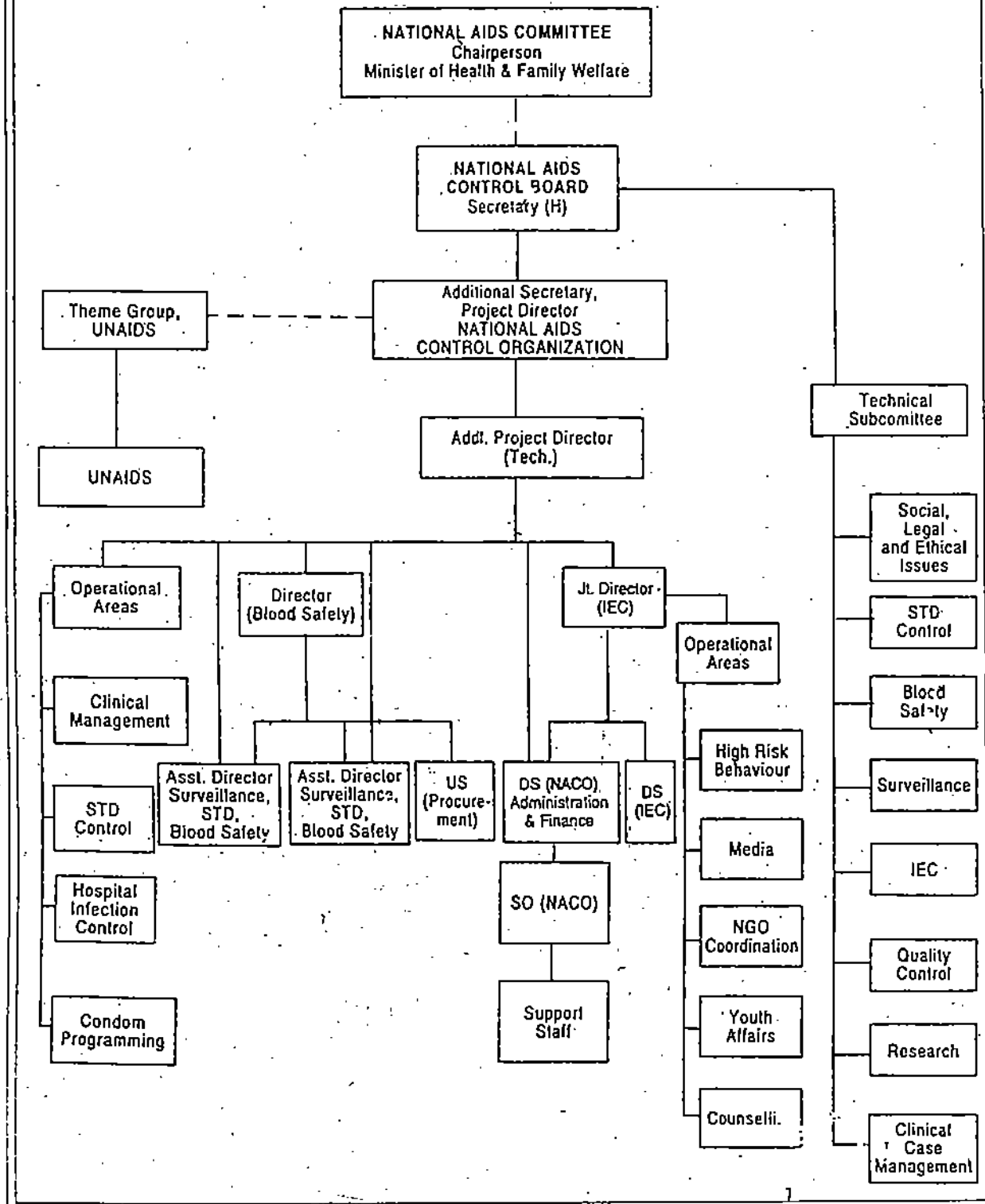
Initiatives at the State Level

To strengthen the HIV/AIDS control programme various steps have been initiated at the State level. Each State has a State AIDS Cell which is responsible for the implementation, supervision, intersectoral co-ordination, monitoring and evaluation of the programme in the State.

At the State level, an empowered committee has been constituted which takes the policy decisions for implementation of the HIV/AIDS control programme in the respective States and approve administrative and financial actions which otherwise would have been approved by the State Department of Finance.

To remove the bottlenecks faced by the State AIDS Cell in implementing the programme, each of the State Governments / Union territories constituted a registered society under the chairmanship of the Secretary Health. The successful functioning of these societies in Tamil Nadu and Pondicherry led the Government to advise other States to initiate societies for implementation of NACP. Now

ORGANISATIONAL STRUCTURE OF THE NATIONAL AIDS CONTROL ORGANISATION



every State has a State AIDS Society registered under the Societies Registration Act, 1860. This is in place of the State AIDS Cell.

Check Your Progress I

1. What are the main functions of NACO?

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1.3 THE COMPONENTS OF NATIONAL AIDS CONTROL PROGRAMME

Let us now briefly discuss the programmes which are being run under the NACP.

1.3.1 STD Control Programme

Before Independence, a National STD Control programme was started in 1946. This programme was brought under the purview of NACO in the year 1992. The importance of treatment and control of Sexually Transmitted Diseases (STDs) in relation to HIV infection was recognized by NACO. Increasing evidence suggests that STD significantly enhances the acquisition and transmission of HIV.

The predominant mode of transmission of both HIV infection and other STDs is through the sexual route, other routes of transmission being both blood and blood products, donated organs and tissues, and by infected women to their newborn. Many of the measures of preventing the sexual transmission of HIV are the same as for prevention of STDs.

STD clinical services are an important access point for persons at high risk for both HIV and STD, not only for diagnosis and treatment, but also for health education, counselling and prevention. Trends in STD incidence and prevalence can be useful indicators for change in sexual behaviour and make it easy to monitor the trends in HIV sero-prevalence and thus valuable for determining the impact of HIV/AIDS control programme. The STD control programme has two major objectives:

- i) Reduction STD cases and thereby control HIV transmission by minimizing the risk factors and;
- ii) Prevention of the short term as well as long term morbidity and mortality due to STD.

Policy on Control of HIV/STD

The Ministry of Health and Family Welfare has adopted a policy to integrated

STD control into the existing health care system, both in the public and private sector. Special emphasis is being placed on the integration of comprehensive STD management at the primary health care level to provide non-stigmatized services with greater accessibility and acceptability to the patients while maintaining the confidentiality and privacy of the patients.

The policy strategy also emphasises the co-operation and collaboration with the private sector as well as NGOs for the control of STDs.

The strategies for control of STD in India are:

1. Adequate and effective programme management.
2. Promote Information, Education, Communication and social mobilisation (IEC) activities for prevention and transmission of STDs and HIV infection.
3. Adequate arrangement for comprehensive case management including diagnosis, treatment, individual counselling, partner notification and screening for other diseases.
4. Creating facilities for diagnosis and treatment of asymptomatic infections through the method of case finding and screening. **The following major actions have been taken along the lines suggested in the strategies:**
 - Training of health care workers in both public and private sector in comprehensive STD case management.
 - Development of appropriate laboratory services for the diagnosis of STD.
 - Conduct of Microbiological, Socio-behavioural and Operation research.
 - Surveillance to follow the epidemiological situation, monitor and evaluate the on-going STD control programme.

There is a full unit on STDs in the elective course on HIV/AIDS which gives details about Sexually Transmitted Diseases.

Condom Programming

In India almost 75 per cent HIV infections occur due to unprotected and multi-partner sexual contacts. This type of transmission can be prevented to some extent by consistent use of good quality condoms. Keeping these views in mind, the condom programme was initiated all over the country. The objective of the condom programme is to ensure easy access to good quality, affordable and acceptable condoms.

Strategies

The strategies for the Condom Program are as follows:

- Making provision for technical assistance to companies to manufacture condoms in conformity with the international specifications laid down by the WHO and to improve the quality assurance system.
- Strengthening of the existing social marketing structure in the Department of Family Welfare with a view to fulfilling the needs and requirements of the AIDS control programme.

- Introducing an exclusive social marketing scheme of condom promotion for NACO.
- Strengthening the management ability of NGOs that promote and distribute condoms for STD/HIV prevention and to more effectively plan, coordinate, monitor and evaluate their activities.
- Collaborating with the existing IEC programme of the Department of Family Welfare for promoting the use of condoms for achieving the dual purpose of averting conception as well as protecting from STD/HIV.
- Supporting and strengthening the Indian Council of Medical Research (ICMR) and population Research Centres for undertaking research studies on all matters related to the use of condoms and increasing their use particularly among high risk groups.

Social marketing has been accepted as the most-effective strategy for condom promotion in the country. This strategy not only helps to increase the acceptability but also provides easy access to the users while improving the sustainability of condom provision. The emphasis has shifted to increase the social marketing of condoms as a priced item but at a subsidized rate.

To make condoms easily available to regular visitors to brothels, vending machines on a pilot basis has been installed in the States of Punjab, Haryana and Chandigarh and in the cities of Mumbai and Pune. The Department of Health and Family Welfare is testing prototypes from manufacturers.

Table 1.1

Distribution of condoms through various channels from 1993 to 1998

Scheme	1993-94	1994-95	1995-96	1996-97	1997-98
Free Distribution	914.00	916.52	875.00	720.29	676.01
Social Marketing	218.24	146.10	162.92	263.25	324.43
Commercial Sales	155.52	154.92	199.33	239.35	203.81
Total	1287.76	1217.54	1237.25	1222.89	1204.25

Source: Department of Family Welfare, Government of India.

1.3.3 Blood Safety Programme

There is no other fluid, which can substitute for blood in the human body. In the case of transfusion of infected blood, it is almost sure that such blood can cause transmittable diseases like hepatitis, syphilis, malaria and can spread HIV/AIDS. Blood safety is an integral part of the National AIDS Control Programme.

The objective of the Blood Safety Programme is to ensure easily accessible, adequate supply of safe and quality blood and blood components for all irrespective of economic or social status.

Strategies

The Strategic Plan under NACO lays down the following strategies:

- Strengthening the National Blood Transfusion Services
- Ensuring safety of blood products

- Developing facilities for the production of components
- Strengthening quality control of blood and blood products
- Undertaking research on blood transfusion services, operations to improve safety, efficacy and supply
- Developing and strengthening of effective management, monitoring and evaluation of blood transfusion.

Thrust Areas

(i) Establishment of HIV Testing Facilities

To screen blood, 154 zonal blood-testing centres have been established to provide linkages with other blood banks affiliated to public, private and voluntary sectors. These zonal centres receive the blood sample and after testing, report the results to the blood banks the same day.

(ii) Support for Testing for other Blood Transmittable Diseases

NACO is providing assistance to the centres for the purchase of necessary equipments and kits for screening of the blood. Testing of every unit of blood is mandatory for detecting infections for various diseases.

(iii) Modernization of Blood Banks

Several steps have been initiated to ensure safe blood by modernization and strengthening of all licensed blood banks. NACO provides financial support for blood bank equipment, contingency and purchase of consumables, chemicals and reagents.

During the 7th and 8th Plans, 815 blood banks have been modernized and it is proposed to modernize all the existing public sector blood banks and support at least one licensed blood bank in each district of every state.

(iv) Appropriate Clinical Use of Blood

For the purpose of reducing the wasteful use of blood, NACO has set up 40 component separation units all over the country. The doctors and technicians working in these labs have been duly trained. A national guideline for appropriate use of blood has been widely circulated. One Plasma Fraction Centre has been setup at KEM Hospital, Mumbai and additional units are proposed to be set up at Delhi, Chennai and Calcutta.

(v) Training and Personal Development

There is an acute shortage of trained personnel to work in the blood banks. Also, due to the non-availability of specialized training programmes, the required skilled manpower is not available. The Government has identified 10 regional training centres for conducting short term training courses for in-service training personnel.

Existing blood banks in medical colleges need to be upgraded. They can act as Departments of Transfusion Medicine. These departments can then provide training to train personnel in transfusion medicine.

The Supreme Court Judgement on Blood Transfusion Services

The Supreme Court of India directed the Union of India and the State Governments to take a number of steps towards revamping the entire Blood Transfusion Services addressing the various critical areas. Some of the major directives of the Supreme Court are:

- To establish forthwith a National Council of Blood Transfusion at the Central, State and Union Territory level, as a society registered under societies Act-1860 with funds provided by the Central as well as respective State and UT Governments and also to empower the councils to raise funds from outside sources.
- To license all blood banks.
- To stop the professional blood donating system.
- To secure a grant of 100 per cent exemption from Income Tax to the donations either made to National or State Blood Donation Councils.
- To consider the advisability of enacting a separate legislation for regulating the collection, processing, storage, distribution and operation of blood banks in the country.

As a follow-up to the directives of the Supreme Court, the Government of India has taken the following initiatives:

- (a) National Blood Transfusion Council and State Blood Transfusion Councils have been formed and have started functioning.
- (b) Licenses have been issued to 1233 Blood Banks and no unlicensed blood banks are permitted to provide blood transfusion services.
- (c) Professional blood donations have been completely banned with effect from January 1, 1998.
- (d) Permission has been granted to provide 100 per cent exemption of Income Tax for the donation either to National or State Blood Transfusion Councils.
- (e) Suitable revisions in the Drugs and Cosmetic Rules are under the process.

More details are available in Block II of the Basic Course on HIV where we discuss transmission of HIV through blood.

Information, Education, Communication and Social Mobilisation (IEC)

The Human Immunodeficiency Virus (HIV) spreads through unprotected sex with multiple partners, transfusions of unscreened blood, contaminated needles/syringes and from an infected woman to her child during pregnancy, childbirth or breastfeeding. Once the HIV infection is established, individuals are infected for life and will probably succumb to serious opportunistic infections caused by the weakening of their immune system. HIV transmission is the result of certain human activities, which allow the virus to pass from person to person.

With the help of Information, Education and Communication (IEC) people can be motivated to adopt and maintain healthy practices and life styles. This will protect them from acquiring infections and ill health. IEC is useful in educating the public by removing misconceptions and ignorance.

NACO has given top priority to the IEC campaign. These programmes have been integrated in various components of the AIDS control such as STD services, condom programming and blood safety etc.

IEC Strategy

In 1994, a comprehensive IEC strategy was prepared and operationalized both at the State/UT and National Levels. The IEC department of NACO provides

basic information pertaining to HIV/AIDS, prepares policy decisions and broad guidelines on IEC strategies. It also develops publicity materials and distributes it to the States, NGOs, media and to all concerned agencies/individuals.

The objectives of the IEC Strategy in NACP are

- (i) To raise awareness, improve knowledge and understanding among the general population about AIDS infection and STD, routes of transmission and method of prevention.
- (ii) To promote desirable practices such as avoiding multipartner sex, condom use, sterilization of needles/syringes and voluntary donation of blood.
- (iii) To mobilize all sectors of society to integrate messages and programmes on AIDS into their existing activities.
- (iv) To train health workers in AIDS communication and coping strategies.
- (v) To create a supportive environment for the care and rehabilitation of persons with HIV/AIDS.

Components of the IEC Strategies

The IEC strategic plan has the following components:

(1) Use of Mass Media

Multimedia Awareness Campaign

A massive media campaign was launched by NACO in 1996 through well-designed materials. Posters, pamphlets, booklets, newspaper advertisements, film clippings, TV spots, Radio spots, wall paintings and cinema slides were prepared in English, Hindi and 11 other regional languages.

Electronic Media

Regular TV spots and messages on radio are being telecast/broadcast along with press advertisements since 1994. The Song and Drama Division of Government of India has been involved in the AIDS awareness campaign. The Directorate of Field Publicity has participated in the campaign. All its 260 units located countrywide have conducted several programmes such as seminars, debate/essay and quiz competitions and film shows for AIDS awareness. The Press Information Bureau of the Government of India has organized, a number of programmes to sensitize the regional press on the issue of HIV/AIDS.

Private Radio Channel

The Times FM channel was involved by the NACO since 1994. In their programme, information on AIDS was interspersed with popular songs. An interactive component was added by answering the queries of the listeners by the experts. The programme was broadcast in Hindi and two regional languages.

National AIDS Telephone Helpline

A toll free National AIDS Telephone Helpline has been set up to provide access to information and counselling on HIV/AIDS related issues. This service maintains the confidentiality of the callers and helps in clearing doubts freely. This helpline has been successfully operating in Delhi, Chandigarh and Hyderabad and will soon start its services in most of the State Capitals.

Print Media

The IEC department in NACO has prepared several packages of materials aimed

at various groups. Outreach workers, health workers and peer educators working in Government as well as Non-Governmental Organizations use these packages.

Nehru Yuvak Kendras

700 Centres of Nehru Yuvak Kendras has been financially supported for spreading messages about family life education, responsible attitude to sex and sex options among the rural youth.. Special workshops have been held with the NYKs working in the North-East to integrate HIV/AIDS/STDs components in their existing programmes. A Countrywide Perspective Plan for Non-student Youth has been prepared and accepted , in which HIV/AIDS related issues have been incorporated.

Cultural Reach Projects

The Department of Youth Affairs has organised a number of multimedia workshops and cultural programmes by using rural art forms like puppetry, magic, Qawali, Nautanki folkdance and music etc., to disseminate information on HIV/AIDS in the rural areas of country, through outreach activities of National Services Scheme (NSS) and University Talk AIDS programmes. Over 70 artists participated in these cultural programmes.

University Talk AIDS

For quite a long time it has been debated over whether sex education should be imparted to students. However, with the problem of drug abuse, teen age sex, teenage pregnancies and the likely spread of HIV infection it was thought to be necessary to introduce education for the students youth on prevention behaviour and related health care needs. The Department of Youth Affairs took a leading role and implemented a pioneering programme entitled "University Talk AIDS".

This programme was launched in 1991 and implemented by the NSS with the financial assistance of WHO and technical assistance from NACO. The programme was aimed at reaching all the University and 10+2 level higher secondary schools. Along with a Training Manual in English language (translated into various regional languages), several IEC materials were produced for disseminating information to students.

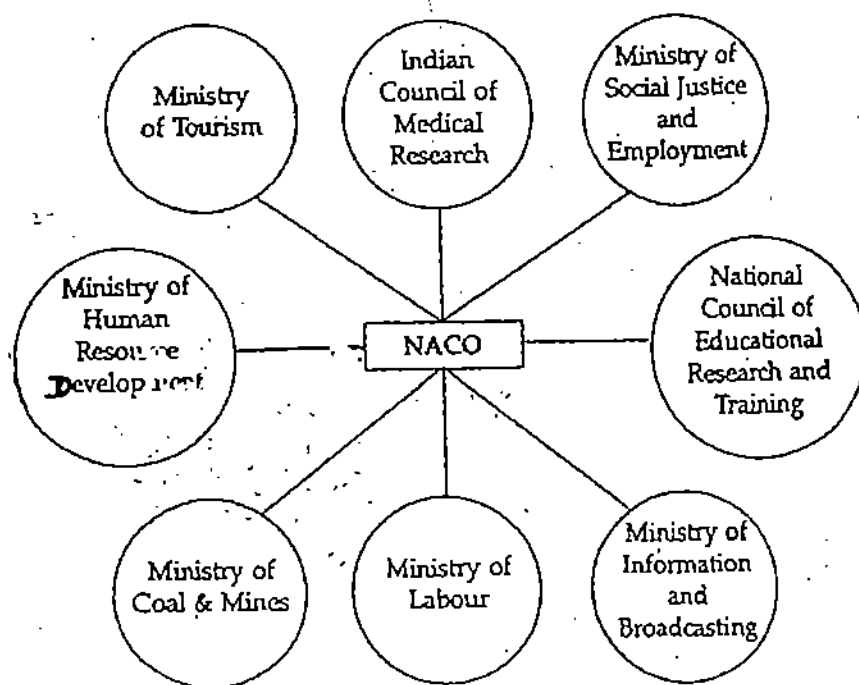
Industry and Corporate Groups

Several meetings and workshops have been organised with a number of prominent corporate associations such as Federation of Indian Chamber of Commerce and Industry (FICCI), the Confederation of Indian Industries (CII) and the Bengal Chamber of Commerce. NACO and WHO has supported CII in developing an advocacy and option package for work place AIDS education.

Inter-ministerial support

HIV/AIDS cannot be fought independently. If unchecked it can achieve an epidemic proportion within a short span of time. The NACO cannot counter this disease alone. Close collaboration and effective co-ordination among Central and State governments, various government departments, educational institutions, local bodies and partnerships with NGOs are therefore needed for preventing and controlling HIV/AIDS in India. A multi-sectoral committee has been constituted.

It has representation from various ministries and departments that may have any links with NACO and its programmes.



INTERSECTORAL NETWORKING

Non-Governmental Organisation Collaboration

The NGOs are playing a very important role in the development process of the country. They occupy a unique place as they have a direct involvement with the community. Some of the NGOs have developed expertise and have the necessary infrastructure to carry out such activities including health programmes. The collaboration and participation of the NGOs and Private Voluntary Organizations (PVOs) are welcomed by the NACO.

Targetted Interventions

All over the world, it has been commonly found that there are some particular groups of people, who can be easily identified as practicing certain behaviour which can be termed as risky in the context of HIV/AIDS epidemic. These groups, because of their behavioural attributes, are more prone not only to contracting the infection more quickly but also to transmitting and spreading the disease in a very short period. However, this is not to deny that others are less risky or cannot spread the disease. In fact the disease has been found to be spreading to the general population as well.

One of the ways of controlling the disease from further spreading is thought to be to carry out direct intervention programmes among these groups through multi pronged strategies, beginning from awareness generation and counselling to providing health care support, treatment for STDs and care and support services for those already infected. Because of these reasons, NACO is encouraging targetted intervention programmes with the help of many a well intended NGO.

The basic purpose of the Targetted Intervention programmes is to reduce the rate of transmission among the high risk behaviour practicing population. In order to plan for implementation of this programme NACO envolved the following objective:

Objective

The objective of targetted intervention is to reduce HIV transmission among population groups at higher risk of HIV infection; by bringing change in behaviour through health promotion and education, and the provision of appropriate facilities and services

Need for Integrated Targetted Intervention

In order to cover individuals practicing high risk behaviour and to promote behaviour change, it is necessary to provide IEC, Condom promotion, STD treatment and counselling services in an integrated manner through reach out approach to target groups. Any one element will not have as much impact as an integrated approach. An integrated approach to reaching truck drivers or commercial sex workers, for example, would necessitate availability of condoms, health education, STD services and counselling in non-stigmatized setting, multi sectoral collaboration involving Government, NGOs, research institutions and private organisations for the success of such an approach.

Care and Support

HIV/AIDS is not merely a condition of ill-health, but a situation of great economic, social and psychological upheaval for individuals, families and communities. From the health care point of view, the existing services are not only inadequate but also very often inappropriate to provide care and support to those who are already affected. The health care services, therefore need to be completely reoriented. Health care workers must develop special skills for taking care of those living with HIV/AIDS. Not only the health care workers but the families and the communities are to be mobilised and trained to help the affected and their families as well as support the orphans of AIDS victims. In order to reduce the impact of HIV/AIDS and build a system of providing care NACO has prepared a plan of action with the following objectives:

Objectives

- To provide appropriate counselling services where needed, to reduce the social and psychological impact of the AIDS epidemic and for prevention of the spread of HIV infection.
- To ensure that health care workers are adequately trained to provide good quality care to patients with HIV and AIDS, and such care is not jeopardized by misconceptions and undue fear.
- To ensure support for community based care programmes and easy access to good quality services for those in need of such services.
- To ensure that all AIDS patients receive proper care/treatment inside and outside the clinical setting with respect for their rights and dignity.

For the accomplishment of the above objectives, NACO has planned for coordinated effort by the Government, the private sector and the NGOS.

1. What are the thrust areas for the blood safety programme?

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1.4 INITIATIVES BY THE UNITED NATIONS

Different agencies of the United Nations have been actively collaborating with the Government of India on different aspects of HIV/AIDS prevention and control in India. Let us discuss UNAIDS, one of the most important agencies responsible for coordinating the work of various U.N. bodies for the prevention and control of HIV/AIDS in the world.

UNAIDS

To address the challenges posed by the HIV epidemic, the United Nations took the first step by drawing six organisations together in a joint co-sponsored programme—the Joint United Nations Programme on HIV/AIDS (UNAIDS). UNAIDS is the leading advocate for worldwide action against HIV/AIDS. The global mission of UNAIDS is to:

- (1) Prevent the spread of HIV.
- (2) Provide care and support for those infected and affected by the disease.
- (3) Reduce the vulnerability of individuals and communities to HIV/AIDS.
- (4) Alleviate the socio-economic and human impact of the epidemic.

The goal of UNAIDS is to catalyse, strengthen and orchestrate the unique expertise, resources and networks of influence that each of these organizations offer. These co-sponsors work together with UNAIDS to outreach through strategic alliances with other United Nation agencies, national governments, corporation, media, religious organizations, community based groups, regional and country networks of people living with HIV/AIDS and other non governmental organizations.

The UNAIDS Co-sponsors

Working singly, jointly and with the UNAIDS Secretariat, the seven cosponsoring organizations of UNAIDS offer countries a broad range of experience, effort and resources of relevance to fight against the epidemic. The seven co-sponsoring organizations are UNICEF, UNDP, UNFPA, UNDCP, UNESCO, WHO and World Bank. A brief discussion about the work performed by each UN agency in the area of HIV/AIDS is given below.

The United Nations Children's Fund (UNICEF)

UNICEF mobilizes the moral and material support of governments, organizations and individuals worldwide in a partnership committed to giving children a first call

on society's resources in both good times and bad. A decentralized operational agency, UNICEF works with governments and NGOs to improve the lives of children, youth and women. The epidemic is having a significant impact on adolescents. It is both a period of increased risk and a window of opportunity to develop the skills, attitudes and behaviour needed to prevent HIV infection in adulthood. UNICEF's priority programme areas in HIV/AIDS include youth health, school AIDS education, communications, assistance to children and families affected by AIDS, and the prevention of mother-to-child HIV transmission.

The United Nations Development Programme (UNDP)

UNDP supports countries in strengthening and expanding their capacity to respond to the development implications of the HIV/AIDS epidemic. UNDP emphasizes support to initiatives which catalyse community and national mobilization; create a supportive ethical, legal and human rights framework; are gender sensitive; empower people to take charge of their own well being, drawing on local resources and building on local knowledge and values; and fostering an enabling political, economic and social environment. UNDP is responsible for assisting the Secretary-General in strengthening the Resident Coordinator system through which the UN Theme Groups on HIV/AIDS operate.

United Nations Population Fund (UNFPA)

The mandate of UNFPA is to build the knowledge and capacity to respond to needs in population and family planning. Reproductive health is a major focus of UNFPA support and includes family planning and sexual health, of which HIV prevention is an integral component. In its reproductive health activities, UNFPA gives special attention to adolescent, to information, education and communication; and to the training of service providers. Among other things, UNFPA brings to UNAIDS a network of country-level offices which support national reproductive health programmes, its expertise in reproductive health promotion and service delivery, with a special focus on the needs of women, and its experience in logistics management of contraceptives, including condoms.

United Nations Drug Control Programme (UNDCP)

UNDCP which became an UNAIDS co-sponsor in April 1999, is responsible for coordinating and providing effective leadership for all United Nations drug control activities. Because HIV spreads through drug use, both via shared injection equipment and as a result of the disinhibiting effects of drugs on sexual behaviour, international drug control is a vital tool for HIV prevention. In this context UNDCP is active in supporting HIV/AIDS prevention programmes and including prevention in its own programmes to reduce the demand for illicit drugs. Youth and high-risk groups are of particular concern.

United Nations Educational, Scientific and Cultural Organisation (UNESCO)

UNESCO is to foster international cooperation in intellectual activities designed to promote human rights, to help establish a just and lasting peace, and to further the general welfare of mankind. Thus, the ethical imperative is central to UNESCO's mandate. In its fields of competence-education, science, culture and communication-UNESCO can bring the vast network of institutions with which it collaborates into the fight against AIDS.

World Health Organisation (WHO)

WHO is the directing and coordinating authority on international health work. In 1986, WHO established the Special Programme on AIDS, later renamed the Global Programmes on AIDS, which was dismantled in 1996 with the creation of UNAIDS. Through WHO's new initiative on HIV/AIDS and Sexually Transmitted Infections (STIs), the Organization contributes by providing countries with expertise in areas relevant to the health sector. These areas include: strengthening HIV and STD prevention (particularly for those vulnerable and/or at increased risk); ensuring safe blood supplies; surveillance of HIV, AIDS and STDs; developing health policies and standards; planning of integrated services; caring for people with STIs, HIV or AIDS; and evaluating STI/HIV policies and programmes.

World Bank

The mandate of the World Bank is to alleviate poverty and improve the quality of life. HIV/AIDS entails an enormous loss of human and economic resources and poses a substantial threat to the economic and social growth of many nations in the developing world. Between 1986 and early 1999, the Bank disbursed over US\$750 million for more than 75 HIV/AIDS projects worldwide. Most of these resources were provided on highly concessional terms through the International Development Association. In its policy dialogue with borrowing countries, the Bank stresses that the epidemic is a development priority and highlights the need for top-level political commitment, systematic health sector reforms, human rights protection, and a range of multi-sectoral reforms to help reduce the factors contributing to HIV spread. Whenever possible, other co-sponsors or members of the UNAIDS Secretariat provide technical assistance to Bank-assisted activities.

Check Your Progress III

List the goal mission of UNAIDS.

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5 COLLABORATION WITH BILATERAL DONOR AGENCIES

Let us now discuss some of the major contributions made by the other bilateral agencies in India for the prevention and control of HIV/AIDS.

USAID Agency for International Development (USAID)

USAID has provided 10 million US Dollars for implementing NGO based HIV/AIDS prevention and control activities in Tamil Nadu. This project commenced in February, 1995. The initial support is for a period of seven years. The

activities funded by this project-mainly focus on development of IES systems and condom promotion.

Norwegian Agency for Development(NORAD)

In addition to extensive support to NGO activities throughout the country, NORAD has contributed financial support for HIV/AIDS intervention programme in the red light-areas of Calcutta. This is being coordinated by All India Institute of Hygiene and Public Health, Calcutta. A contribution of US 500,000 Dollars was also provided for conducting National Physicians Training Programme, conducted by Christian Medical Association of India in collaboration with NACO and WHO.

Department for International Development (DFID)

The DFID is providing financial support of 1.5 million pound sterling for the "Sexual Health Project" in West-Bengal for a period of three years. The focal objective of this programme is to implement STD/HIV prevention and control programmes and develop IEC techniques.

DFID is also supporting a national IEC/STD project as well as Truck Drivers Intervention Project. The institution also provides support for the Pilot Project sexual health in Gujarat, Kerala, Orissa and Andhra Pradesh.

European Community (EC)

For STD prevention activities by NGOs in a number of states, the European Community has earmarked 500,000 ECU, which will be channeled through a Nodal agency viz. Voluntary Health Association of India.

1.6 LET US SUM UP

In this lesson you have learnt about the growing concern towards HIV/AIDS in the Indian subcontinent. The Government of India launched the National AIDS Control Programme in 1992 and the objectives of the program were to establish a comprehensive multi-sectoral programme for the prevention and control of HIV/AIDS in India, to prevent transmission, to decrease morbidity and mortality associated with HIV infection and to minimize the socio-economic impact resulting from HIV infection. The main components of the National AIDS Control Programme are STD Control Programme, Condom Programme, and Blood Safety Programme. The Information, Education, Communication and Social Mobilisation is a comprehensive strategy to fight HIV/AIDS problem in India. The various components of the IEC strategies include use of mass media which contains the various branches like electronic media, Radio, Print etc. In this unit we also discussed about targetted interventions and care and support components of NACP.

Various initiatives have been taken by the bilateral agencies like UNESCO, UNAIDS, UNDP, UNFPA, UNDCP and WHO. Other than these agencies collaboration with the various bilateral donor agencies like USAID, NORAD, DFID and EC have also been worked out.

Check Your Progress IV

1. List four names of bilateral donor agencies operating in India for HIV/AIDS work.

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1.7 KEY WORDS

- NACO** : National AIDS Control Organization
IEC : Information, Education and Communication
Blood Count : The number of red and white blood cells in the bloodstream
Risk groups : A group of individuals sharing a common behaviour or characteristic placing them at a risk for HIV infection that is higher than that of the general population.

1.8 MODEL ANSWERS

Check Your Progress I

1. What are the main functions of NACO?

The main functions of NACO are:

- i. To expedite sanction, approve procurement and to undertake and award contracts to private agencies.
- ii. The board allocates funds between programme components.
- iii. Forms the programme managerial teams and appointment of senior programme staff.
- iv. The board exercises all administrative and financial powers.

Check Your Progress II

1. What are the thrust areas for blood safety programme?

The thrust areas for blood safety programmes are as follows:

(i) Establishment of HIV Testing Facilities

To screen the blood, 154 zonal blood-testing centres have been established to provide linkages with other blood banks affiliated to public, private and voluntary sector. These zonal centres receive the blood sample and after testing, report the results to the blood banks the same day.

(ii) Support for Testing for other Blood Transmissible disease

NACO is providing assistance to the centres for the purchase of necessary equipments and kits for screening of the blood. Testing of every unit of blood is mandatory for detecting infections for various diseases.

(iii) Modernization of Blood Banks

Several steps have been initiated to ensure safe blood by modernization and strengthening of all licensed blood banks. NACO provides financial support for blood bank equipment, contingency and purchase of consumables, chemicals and reagents.

During the 7th and 8th plan, 815 blood banks have been modernized and it is proposed to modernize all the existing public sector blood banks and support at least one licensed blood bank in each district of every state.

(iv) Appropriate Clinical Use of Blood

For the purpose of reducing the wasteful use of blood, NACO has set up 40 component separation units all over the country. The doctors and technicians working in these labs have been duly trained. A national guideline for appropriate use of blood has been widely circulated. One Plasma Fraction Centre has been setup at KEM Hospital, Mumbai and additional units are proposed to be set up at Delhi, Chennai and Calcutta.

(v) Training and Personal Development

There is an acute shortage of trained personnel to work in the blood banks. Also due to the non-availability of specialized training programme, the required skilled manpower is not available. The Government has identified 10 regional training centres for conducting short term training courses for in-service training personnel

Check Your Progress III

- I List the goal mission of UNAIDS.
The global mission of UNAIDS is to:
 - i. Prevent the spread of HIV.
 - ii. Provide care and support for those infected and affected by the disease.
 - iii. Reduce the vulnerability of individuals and communities to HIV/AIDS.
 - iv. Alleviate the socio-economic and human impact of the epidemic.

The goal of UNAIDS is to catalyse, strengthen and orchestrate the unique expertise, resources and networks of influence that each of these organizations offer. These co-sponsors work together with UNAIDS to outreach through strategic alliances with other United Nation agencies, national governments, corporations, media, religious organizations, community based groups, regional and country networks of people living with HIV/AIDS and other non governmental organizations.

Check Your Progress IV

- I List four names of bilateral donor agencies operating in India for HIV/AIDS work.
 - i) USAID
 - ii) NORAD
 - iii) DFID
 - iv) EC

1.9 FURTHER READINGS

1. NACO (1999). Country Scenario 1997-98, NACO, New Delhi.
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UNIT 2 HIV/AIDS PREVENTION AND CONTROL : PERSONAL ASPECT

Contents

- 2.0 Aims and Objectives
- 2.1 Introduction
- 2.2 Need and Importance of Prevention
- 2.3 Prevention of Sexual Transmission
- 2.4 Prevention of Transmission Through Blood and Blood Products
- 2.5 Prevention of Transmission from Mother to Child
- 2.6 Universal Precautions for HIV Prevention
- 2.7 Let Us Sum Up
- 2.8 Key Words
- 2.9 Model Answers
- 2.10 Further Readings

2.0 AIMS AND OBJECTIVES

The aim of this unit is to help you to understand the importance of HIV/AIDS prevention as far as individuals from every walk of life are concerned. The lesson will also focus on the three modes of transmission and the steps to be taken for prevention at the personal level i.e. by the individual. After reading this lesson you will be able to:

1. State the need for prevention;
2. State the various modes of transmission and the precautions required to be taken for prevention;
3. Describe how modification of the individual's behaviour can prevent the spread of HIV/AIDS; and
4. Understand the universal precautions for preventing of HIV/AIDS.

2.1 INTRODUCTION

In the previous block you read about the various modes/routes of transmission of HIV in detail. Understanding the process of passing on of HIV from one person to another will enable a person to protect himself/herself from this killer disease. This self knowledge will also help us in planning and implementing programmes for the prevention and control of HIV/AIDS among individuals, groups and communities.

The most effective HIV/AIDS prevention programme is the one that involves the behaviour modification of a person. Education for prevention is the only strategy that can reduce the AIDS epidemic. During the year 1998, almost six million people all over the world became infected with HIV, including over half a million children. By the end of year 2000, over 35 million people worldwide were probably living with HIV.

2.2 NEED AND IMPORTANCE OF PREVENTION

There is an age old saying, "prevention is better than cure". There has always been this understanding that if the routes of transmission are known it should be checked or preliminary precautions should be taken so that there is no further spread. HIV/AIDS is a disease, which spread and took the shape of a calamity because of the undesirable behaviour of the humans. As the cause of the spread and its precautionary measures are known this disease can be checked from spreading further.

There is no known cure for HIV/AIDS as yet. Therefore, once infected, sooner or later, the person will die of HIV/AIDS defining illness. At present, we have no vaccine which can prevent us from getting infected. Doctors and medical scientists all over the world have tried to study the disease. They continue to do research to discover drugs (medicines) that can cure the AIDS disease. They are also trying to develop a vaccine, which can prevent people from getting infected. But all these efforts have not produced any satisfactory result.

The HIV/AIDS disease has been in existence for almost two decades. Perhaps no other virus has undergone so much research as the HIV virus. Yet we have not achieved any breakthrough. Therefore the only solution available for the prevention and control of this disease is proper awareness. This awareness should reach everyone all across the country. There is a need to consciously develop a well designed HIV/AIDS education programme. Such a programme will aim at providing accurate and complete information on various aspects surrounding the AIDS disease. It will also aim at removing myths, misinformation and misconceptions about HIV/AIDS.

Education for Prevention

Prevention of further HIV infection is the only tool that is available with us to control this pandemic. Everyone has a right to information. Proper Education about HIV/AIDS will help people protect themselves and others from infection by HIV. Education is the only medicine available in the world to contain the HIV epidemic. All preventive education programmes should offer much more than just information. While sharing information, they should also include the exploration of values and aim at development and practice of skills.

To educate people about HIV/AIDS/STDs, it is first necessary to overcome denial. Almost every country in the world, which has been faced with the problem of HIV infection, has first reacted by denial of the facts. This is true of many States even in India. In fact, there is an attempt by some people to hide the extent of the problem. Until we acknowledge the existence of the problem, changing risk behaviour of potential target groups will not be possible.

The Need of the Hour

What we require today is to contain the further spread of HIV/AIDS/STDs. We also need to take care of those who are ill with HIV infection. Rehabilitation of the victims of HIV faced with social isolation is of utmost importance. Therefore, let us briefly discuss some of the preventive measures keeping in mind the routes of HIV transmission and the potential target groups described in previous units.

2.3 PREVENTION OF SEXUAL TRANSMISSION

Prostitutes and the female population as a whole should not be seen as a commodity available for sexual pleasure. Our tradition, our culture, our social norms, our religions, our philosophy and our value system do not propagate misuse or abuse of human beings. Every human being is created with a purpose and order. And let us also remember that through the birth of every child, God is telling us that "He is not fed up of human beings." Without a woman, a man is incomplete. Similarly, without a man, a woman is incomplete. The religious scriptures clearly state from the beginning of creation, "God made them male and female. For this reason, a man shall leave his father and mother and be joined to his wife, and the two shall become one flesh. So they are no longer two, but one flesh. Therefore what God has joined together, let no one separate." If we remain faithful to our spouse and avoid sex outside marriage, transmission of HIV through heterosexual activities can be prevented.

Same Sex Activities

It is a fact that some people are also involved in same sex relationships. It is known that the sexual activities carried out by people involved in same sex relationships are high-risk activities. Apart from oral and anal sex, people are also involved in sex with animals. These are all unhygienic activities. They also downgrade the dignity of human beings. It is certainly not healthy for a society to promote such activities.

It is true that there are vices in every society. For example kleptomania is an undesirable activity. It is a crime before society. At the same time, we also know that it is a psychological sickness. Therefore, instead of condemnation, we have to approach the problem with understanding. Similarly, due to one or another reason, a person may be motivated or attracted towards the same sex. The family background and social environment in which one has grown up can certainly influence a person to develop such inclinations. Such persons need understanding and help from every quarter – family, friends, society, religion, as well as emotional and psychological support. Instead, it can be disastrous to encourage a person to develop and maintain unhealthy practices, which have already become threats to our society.

HIV and Eunuchs

Our society is known for sheltering and promoting the third sex- the eunuchs. Very little research has been conducted on this group in India. But they are a large population consisting of over a million eunuchs. However, available information shows that very few - not even one per cent eunuchs are born eunuchs in the country. There are exceptions. People do come into the world as blind, deaf, dumb, mentally retarded etc. Similarly, a very small percentage is also born without proper organs.

Somehow, our culture permitted the eunuchs to have their own organised life. This has prompted them to make additions to their population. When born eunuchs are very limited, the best source is to catch and castrate young boys and young men. Thousands of such castrations take place every year in India. Since many of these castrations are done outside medical environment, most of the castrated males die of infection. One estimate shows that about 75 per cent of

the castrated persons die of infection.

The eunuchs are held in high regard by some sections of our society. It is a known fact that eunuchs provide sexual satisfaction to those who have normal sex organs. They are reported to be providing anal and oral sex to their customers. They also keep in captivity young girls, in brothels run by them. Therefore, it is a matter of great concern in India to consider the possibility of HIV transmission through the activities of eunuchs.

Parents and teachers must caution their children and students about the dangers involved in interacting with eunuchs and strangers.

Sperm Donation and HIV

Sperm donation and artificial insemination are practices that are the product of modern science and technology. With the advent of HIV, one should be extremely careful while seeking medical intervention for such practices.

Pre-marital Sex

Sexual activities among adolescents, street children, drug addicts, prisoners and persons in armed forces have no formal sanction of our Indian society. Our society permits sex only within marriage.

Studies in India indicate that about 16 to 20 per cent adolescents engage in pre-marital sexual activities. This shows the extent of risk behaviour existing among the young people. It includes a sizeable population of children living in the streets.

Prisoners and HIV

Prisoners have a high prevalence of HIV infection and AIDS. HIV infection rates among this group are difficult to determine accurately due to various reasons. Intravenous drug use and homosexuality are the predominant risk behaviours commonly found in prisons. According to the Indian Penal Code sodomy is prohibited in the country. Using this clause as a shield, even distribution of condom among prisoners is not permitted. A country like Israel permits the spouse of the prisoners to visit him/her once a week so that they are able to continue the monogamous relationship and avoid same sex relationship. But in India we have to evolve a suitable strategy to create awareness among policy makers keeping in mind our socio-cultural and religious values.

Behaviour Modification

The safest and surest way to avoid HIV is to mend one's behaviour in terms of sexual activities. It is unfortunate that whatever is being supplied in terms of information dissemination in our country advocates only one message—use condoms to have sexual intercourse. Where are our traditional, cultural, social and religious values which always gave us one and only one message: "No sex before marriage—have sex after marriage; that too only with one's own spouse". If we are faithful to ourselves, then we don't need a condom to protect ourselves against HIV/AIDS/STDs. If we remain faithful to our spouse, there is no question of getting infected with HIV. The old saying.... "History repeats itself" seems to be proving true in this regard. It is man who thought and developed social and behavioural norms in the society in terms of family life, marriage, and sexual

restriction. The advancement of science and technology and propagation of the "freedom theory" have overpowered the societal norms giving way to vulgarity. Now man has once again been shown his place and his limitations by the AIDS pandemic.

Studies across the globe show that over 75 per cent of HIV transmission takes place through sexual activities. Certainly these sexual relations occur outside marriage. Therefore, it is high time that everyone involving or intending to involve in sex outside marriage needs to modify his/her behaviour to avoid getting infected with HIV. Whatever be the occasion, one should avoid sex outside marriage if one wants to avoid risking one's own life. A woman is somebody's mother, sister, daughter or wife. Similarly a man is somebody's father, husband, brother or son. Let this thought remind people every time they want to be involved in sex with a person outside marriage.

Condom Use

The present policy to promote condom use in India, as if it is the only method to prevent HIV/AIDS has met with stiff resistance. This was an idea borrowed from foreign countries where sexual freedom is an accepted norm of the society. It has proved wrong in the Indian context - a society which has not accepted the theory of 'freedom of sex' outside marriage. As a result, all efforts to bring about awareness and proposals for AIDS and sex education have met with strong opposition. In fact most parents and teachers disagree with the very idea. One of the possible reasons is that the policy makers almost ignored the feelings of the people.

Studies across the world indicate that infection with HIV among people who use the condom while involving in sex outside marriage is rather limited. HIV transmission, despite condom use, is rarely attributable to a failure of the condom itself and is more often attributable to their incorrect use. Three principal types of condom failure occur: breakage, leakage and improper use. Each of these types of failures can be minimized by the following techniques.

- Use a new condom for each act of intercourse
- Use latex condoms only
- Use only fresh condoms.
- Use a lubricant or pre-lubricated condoms.
- A proper condom should have a tip, bubble or nipple at the end to collect semen.
- A condom should be worn as instructed on the product. It should not be unrolled until placed on the head of the penis.
- Condoms that feel gritty or gummy should not be used. This indicates that the latex may have deteriorated.
- The condom should be held at the base of the penis immediately after ejaculation to prevent the condom from slipping while withdrawing the penis.
- The spermicide nonoxynol-9 should not be used alone for HIV protection. When used with a condom, it may increase the protection afforded by the condom. Nonoxynol-9 is an ingredient found in many spermicidal

contraceptive agents. It acts as a contraceptive by disrupting spermatozoa via its detergent characteristics. The observation that this commonly used spermicide also inhibited the growth of HIV in laboratory settings led to frequent recommendations advocating its use as a means of reducing the likelihood of transmitting HIV during sexual intercourse.

For those involved in prostitution, same sex relationship, and those who want to risk their lives by indulging in sex outside marriage, condoms may be useful to some extent as recommended by experts on the subject.

HIV Prevention Through Sexual Activities

The best ways to prevent the spread of HIV through sexual activities are:

- Practice abstinence before marriage
- Have sex only with your uninfected and faithful spouse.
- Educate yourself and your family members about HIV/AIDS; how it is spread and how to avoid it.
- Do not involve in sexual activities with homosexuals, strangers, prostitutes etc.
- Educate yourself about moral values and the teachings of your religion.
- Seek guidance from your parents, teachers and elders in your family.
- Experimenting sex with anyone outside the marriage even for once can infect you with HIV.
- Do not blindly believe that the condom gives you full protection against HIV/AIDS. In fact it has not shown 100 per cent safety against birth control. We in India have very poor quality condoms which are very unreliable. Do not trust a condom and put your life in danger.
- Live in dignity. Have respect for the opposite sex. Nobody stops you from mingling with the opposite sex or making friend. It is worth waiting till marriage to have sex.
- If you wish to have an uninfected virgin as your spouse, the same may be the desire by your spouse/would be spouse. Therefore, if you want someone to wait for you, you should also wait for some one to share all you have.
- Life will be thrilling, meaningful and joyful, if you can take care of yourself for some more time.

Check Your Progress I

1. What are the best ways to prevent HIV through sexual activities?

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2.4 PREVENTION OF TRANSMISSION THROUGH BLOOD AND BLOOD PRODUCTS

Needles And Surgical Instruments

Transmission of HIV from one person to another is possible through the use of un-sterilized needles, syringes and other skin-piercing instruments like surgical equipment.

In procedures involving surgical instruments, the instrument should be properly sterilized. If it is possible to use disposable instruments like disposable syringes and needles they should be used. The disposable instruments should be properly discarded.

Therefore, you should be careful in getting an injection from a hospital or health clinic. Carry a fresh disposable needle. That is the best way to avoid infection. Or you must ask the nurse or doctor whether the needle is a fresh and sterile one before they use it to inject you. One should ensure that a dentist takes adequate precaution when providing dental care and treatment to his/her clients.

HIV/AIDS is passed on to a person through blood transfusion with contaminated blood. A person can also get HIV through tissue and organ transplant. Anaemic persons, people requiring surgery and thalassemia persons usually need blood transfusions. All these are routes for HIV to cross over to an uninfected person. Therefore, ensure that every unit of blood is screened for HIV before transmission.

While visiting a barber for a shave, carry a fresh blade, or ask the barber to use a fresh blade. While getting your own or your relative's ears or nose pierced, please ensure that a fresh and sterilized instrument is used. This is applicable for tattooing as well.

Hemophiliacs And HIV

Hemophiliacs were found to be a principal group at the risk for HIV/AIDS. As discussed earlier this group is at a higher risk to encounter a blood-borne pathogen because of the frequent blood transfusions and use of clotting factor. In 1989 the Medical and Scientific Advisory Council of the National Hemophilia Foundation (USA) released revised guidelines for therapy of hemophilia in order to reduce the transmission of HIV. The major recommendations were:

- Factor VIII products are heated for 10 hours at 60 degree C, or are detergent-solvent treated, or are monoclonal antibody purified, or are heated in suspension in organic media, or are dry heated at high temperatures.
- Viral-attenuated factor IX concentrate be treated with the methods described above for patients with factor IX deficiency.
- Fresh frozen plasma, a blood product containing clotting proteins, be used in factor IX deficiency with mild to moderate factor deficiency.
- Desmopressin (DDAVP), a synthetic hormone that improves clotting, should be used when possible with mild to moderate Hemophilia type A.
- Persons with Von Willebrand's Disease (a different form of factor VIII

clotting disorder) should be treated with DDAVP or cryoprecipitate from carefully tested donors. Patients with severe disease should receive processed factor VIII

- Bleeding episodes should continue to be treated with appropriate clotting factor.

Therefore, you must make sure before blood, tissue and any organ is required to be transfused or transplanted that the HIV status of the person donating the same is verified. Blood supplied from any blood bank including that of the Red Cross Society should be tested for HIV. Do not accept blood from a professional blood donor. Many professional blood donors in India are found to be infected with HIV.

Sperm Donation and HIV

The practice of sperm donation and artificial insemination are high-risk activities. It can infect the recipient with HIV. It is also an activity not permitted by most religions. In India, many communities do not approve of this practice. It also has wider implications for the child born through the unnatural way. Therefore, it is always better to avoid such acts for healthy and peaceful living.

We should always remember one thing. God has a plan for each one, each couple and each family. It is better to abide by His decision rather than challenging Him through human ways. Therefore let us try to live a life according to God's plan.

Injecting Drug Users

HIV/AIDS virus can be passed on to an uninfected person from injecting drug abusers. Needle sharing is a common practice among drug addicts. We already have thousands of HIV victims especially in the North-eastern states who have been infected through sharing needles.

Drug addicts also indulge in a lot of sexual activities. Through these sexual activities, these addicts can easily pass on the virus to their partners - either spouse or another person. It can also lead to the birth of an HIV infected baby. All these are undesirable activities, which are not approved by our families, religion and society. Therefore, let us try to prevent these unhealthy practices for the well being of all of us. For those, who cannot manage, use of fresh needle is recommended. They should avoid needle sharing in anyway.

The efforts to reduce HIV transmission in drug users include implementing educational programs that explains the risks inherent in using contaminated equipment, replacing used syringes, legalizing syringe sales, providing antiseptics to treat needles before their use, implementing methadone maintenance programs, and providing primary drug treatment to wean the individual from his or her habit. No single approach is uniformly effective and the relative values of each of these different procedures are under evaluation.

Check Your Progress II

1. What are the guidelines for therapy of Hemophilia in order to reduce transmission of HIV?

2.5 PREVENTION OF TRANSMISSION FROM MOTHER TO CHILD

Transmission from mother to child occurs through three ways. These ways are (a) during pregnancy (b) during the process of delivery and , (c) through breast feeding.

- a) It is a fact that HIV can pass from an infected mother to her child during pregnancy, during child birth or shortly after birth through breast milk. Transmission from an infected mother to her unborn child is estimated to be about 75 per cent of all paediatric AIDS cases. Among children born to HIV positive mothers, about 25 to 30 per cent are found to become infected with HIV although all the children show antibodies to HIV soon after birth.
- b) Mother to child transmission occurs most during the process of delivery. Many interventions like avoiding instrumental deliveries, early tying of the cord and early bathing of the child can prevent mother to child transmission. Caesarian sections definitely decrease the spread of the infection during labour.
- c) One must always go for available information on the risks associated with breast-feeding and HIV transmission. About 14 per cent of children get infected through breast-feeding. It should be a well thought out and joint decision by the parents to decide for artificial feeding that can replace breast-feeding for the child.

Medical intervention can prevent mother to child transmission to some extent. In 1994 researchers in France and the United States reported the results of a collaborative study on mother-to-child transmission of HIV. The scientists found that when the antiretroviral drug zidovudine (AZT or ZDV) is given to HIV-positive women orally five times daily from the 14th week of pregnancy onwards and intravenously during labour and administered to their infants for six weeks after birth, the risk of transmission of HIV to the child is reduced by over two-thirds. The ACTG076 regimen is now offered routinely to HIV-positive women the industrialized world. However the regimen is costly, long and complicated to administer. There are different regimens using AZT, which are less complicated and there are new anti retroviral drugs that reduce the transmission even further. Consult the local physician (specialist) on the regimen that is used in your area. Other preventive measures include:

- An HIV positive mother should not consider opting for motherhood.
- If at all an HIV positive woman wants to conceive, she must seek counselling. It is essential that she also seek the opinion of her religious leaders who can guide her towards an appropriate decision.
- If a pregnant woman discovers that she is HIV positive, she may not opt for an abortion. She must seek medical opinion as well as the opinion of her religious leaders. However, she can and she must opt for a caesarian section. This will prevent the child from getting infected during childbirth.
- An HIV positive mother also should not breast feed her baby. HIV can be passed on to the child from breast milk.
- Even though WHO recommends HIV positive women in third world countries to breast feed their babies, this recommendation should be followed by HIV positive mothers in India who are below poverty line to who are unable to provide alternate healthy food to their infants. At least 50 per cent of our people are above the poverty line. The HIV positive mothers falling in this group may not breast feed their children and thus infect their babies.

We should be cautious about reading literature on HIV prevention imported from other countries. We should also be careful while reading material copied from western literature. There can be misleading messages. For example:

- We in India have very few single parents (particularly mothers). There are a few exceptions—these are mostly the sex workers.
- Women involved in lesbian activities hardly seek motherhood. Such a phenomena can hardly be found in India.
- Similarly, HIV positive women in India hardly opt for motherhood. There are no such documented cases so far.

As mentioned in the beginning of this unit, education about HIV/AIDS/STDs and a good understanding of their various aspects can go a long way to prevent and control HIV. The best way to contain the virus is to be faithful to one's religion, spouse and family. Let us follow the ways of God and nature and let us not become victims of HIV through our foolishness.

Check Your Progress III

1. What are the prevention measures for mother-to-child transmission of HIV?

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2.6 UNIVERSAL PRECAUTIONS FOR HIV PREVENTION

Until now we have studied the three direct methods through which there is a high possibility of getting infected by the virus. Universal precautions consist of a set of

2.8 KEY WORDS

- Immunity** : The condition of a living organism, whereby it resists and overcomes infection and disease.
- Hemophilia** : An inherited condition which mainly affects men. The condition involves a reduced capacity of the blood to clot due to a deficiency of Factor VIII.
- Antiretroviral** : A drug active against retro-viruses, usually HIV. Antiretrovirals used in humans include ZDV, DD1, DDC etc.

2.9 MODEL ANSWERS

Check Your Progress I

What are the best ways to prevent HIV through sexual activities?

The best ways to prevent the spread of HIV through sexual activities are:

- Practice abstinence before marriage
- Have sex only with your uninfected and faithful spouse.
- Educate yourself and your family members about HIV/AIDS; how it is spread and how to avoid it.
- Do not involve in sexual activities with homosexuals, strangers, prostitutes etc.
- Educate yourself about moral values and the teachings of your religion.
- Seek guidance from your parents, teachers and elders in your family.
- Experimenting sex with anyone outside the marriage even for once can infect you with HIV.
- Do not blindly believe that the condom gives you full protection against HIV/AIDS. In fact it has not shown 100 per cent safety against birth control. We in India have very poor quality condoms which are very unreliable. Do not trust a condom and put your life in danger.
- Live in dignity. Have respect for the opposite sex. Nobody stops you from mingling with the opposite sex or making friendship. It is worth waiting till marriage to have sex.
- If you wish to have an uninfected virgin as your spouse, the same may be the desire of your spouse/would be spouse. Therefore, if you want someone to wait for you, you should also wait for some one to share all you have.
- Life will be thrilling, meaningful and joyful, if you can take care of yourself for some more time.

Check Your Progress II

2. What are the guidelines for therapy of Hemophilia in order to reduce transmission of HIV?

Hemophiliacs were found to be a principal group at the risk for HIV/AIDS. This group is at a higher risk to encounter a blood-borne pathogen because of the frequent blood transfusions and use of clotting factor. In 1989 the Medical and Scientific Advisory Council of the National Hemophilia Foundation (USA) released revised guidelines for therapy of hemophilia in order to reduce the transmission of HIV. The major recommendations were:

- Factor VIII products are heated for 10 hours at 60 degree C, or are detergent-solvent treated, or are monoclonal antibody purified, or are heated in suspension in organic media, or are dry heated at high temperatures.
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- Fresh frozen plasma, a blood product containing clotting proteins, be used in factor IX deficiency with mild to moderate factor deficiency.
- Desmopressin (DDAVP), a synthetic hormone that improves clotting, should be used when possible with mild to moderate Hemophilia type A.
- Persons with Von Willebrand's Disease (a different form of factor VIII clotting disorder) should be treated with DDAVP or cryoprecipitate from carefully tested donors. Patients with severe disease should receive processed factor VIII
- Bleeding episodes should continue to be treated with appropriate clotting factor.

Check Your Progress III

1. What are the prevention measures for mother to child transmission of HIV?

A Medical intervention can prevent mother to child transmission to some extent. In 1994 researchers in France and the United States reported the results of a collaborative study on Mother to child transmission of HIV. The scientists found that when the antiretroviral drug zidovudine (AZT or ZDV) is given to HIV-positive women orally five times daily from the 14th week of pregnancy onwards, and intravenously during labour and administered to their infants for six weeks after birth, the risk of transmission of HIV to the child is reduced by over two-thirds. The ACTG076 regimen is now offered routinely to HIV-positive women in the industrialized world. However the regimen is costly, long and complicated to administer. There are different regimens using AZT, which are less complicated and there are new anti retroviral drugs that reduce the transmission even further. Consult the local physician (specialist) on the regimen that is used in your area.

Other preventive measures include:

- An HIV positive mother should not consider opting for motherhood.
- If at all an HIV positive woman wants to conceive, she must seek counselling. It is essential that she also seek the opinion of her religious leaders who can guide her towards an appropriate decision.
- If a pregnant woman discovers that she is HIV positive, she may not opt for an abortion. She must seek medical opinion as well as opinion of her

religious leaders. However, she can and she must opt for a cesarian section. This will prevent the child from getting infected during childbirth.

- An HIV positive mother also should not breast feed her baby. HIV can pass on to the child from breast milk.
- Even though WHO recommends HIV positive women in third world countries to breast feed their babies, this recommendation should be followed by HIV positive mothers in India who are below poverty line and who are unable to provide alternate healthy food to their infants. At least 50 per cent of our people are above the poverty line. The HIV positive mothers falling in this group may not breast feed their children and thus infect their babies.

Check Your Progress IV

1. What are the Universal Precautions to be followed for preventing HIV transmission?
 1. Handwashing with soap and water between each patient contact. Hands should always be washed before and after contact with patients. Hands should always be washed even when gloves are worn. If you accidentally touch blood or other bodily fluids, thoroughly wash hands.
 2. Use of disposable gloves if body fluids are contacted and double gloves during surgical procedures. Those with open skin lesions should not perform procedures if they are exposed to body fluids.
 3. Wearing of gowns when clothes may be exposed to body fluids.
 4. Wearing of masks and eyewear when performing procedures that may splash the worker with body fluids.
 5. Sharp instruments should be disposed of in puncture-resistant containers immediately after use. Needles should be disposed of immediately after use without recapping. Disposal containers should be placed in all areas where sharp objects are used.

2.10 FURTHER READINGS

1. Frumkin, Lyn and Leonard, John (1994). Questions and Answers on AIDS, PMIC, Los Angeles.
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UNIT 3 CONTINUUM OF CARE

Contents

- 3.0 Aims and Objectives
- 3.1 Introduction
- 3.2 Continuum of Care
- 3.3 Home Care
- 3.4 Hospital Care
- 3.5 Hospice Care
- 3.6 Let Us Sum Up
- 3.7 Key Words
- 3.8 Model Answers
- 3.9 Further Readings

3.0 AIMS AND OBJECTIVES

The purpose of this unit is to provide you with an understanding about the concept of continuum of care with emphasis on home care and the role of the family and the community in caring for the person living with HIV. It is meant to assist you to understand the need for continuity of care for people living with HIV. It also helps the learner to understand the different components involved in continuum of care: day care, home care, hospital care and hospice care. It details the various aspects that are essential for such care. The unit aims to discuss the necessity of having such care available to those in need in our country.

3.1 INTRODUCTION

The need for care is often not apparent, either to the patient or the health providers, immediately after infection with HIV. A reason for this is the slow progression from asymptomatic HIV infection to AIDS. A long time may elapse between first infection, the development of symptoms, and awareness, with serious implications for HIV prevention as well as for care. Another reason is the common belief that since there is no cure for HIV, is there a need for treatment?

One of the considerations is the fact that most people tend to delay appropriate treatment by primarily trying to cure themselves and later visiting traditional healers and quacks as the disease progresses. As patients realize or are diagnosed with HIV, they tend to bypass nearby health services because of the fear of recognition, potential stigma, discrimination and lack of confidentiality.

3.2 CONTINUUM OF CARE

Often for the person and the family, economic problems may be more important than the HIV infection. Thus it is important to see 'needs' in terms of people's own definitions and priorities. The essence of 'comprehensive care across a continuum' provides a unique opportunity to respond to a wide range of needs. For care to be comprehensive, it must contain a wide range of support services, which need not be met by a single institution or individual. Instead networking

with existing services available or capable of being developed within a community are essential.

Comprehensive care must include referrals between home or community and the hospital and vice versa. Continuum of care must include a dynamic set of support services, starting within the community that the person and the family can access. At the minimum, it should include *clinical management* (early diagnosis, including testing, rational treatment and follow up care); *nursing care*, to promote and maintain hygiene and nutrition, and *palliative care and health education* to home carers including observance of universal precautions; *counselling* (psychosocial and spiritual support, including stress and anxiety reduction, promoting good quality of life and risk reduction to prevent new infections; and *social support* (information, referral services including legal services).

In short continuum of care is the process of providing a wide range of services to the patient in order to help him/her to cope with his/her deteriorating health. An programme on 'Continuum of Care' involves day care, home care, hospital care and hospice care.

Table 3.1
Profile of the various components involved in a continuum of care programme

Day Care	Home Care	Hospital Care	Hospice Care
Simple treatment: Counselling Testing Preventive education Clinical examination Early diagnosis of opportunistic infections	Training: Common symptoms Maintain nutrition Supervision Guidance Link to systems Psychosocial support Help with bathing, dressing, studies, cooking, shopping	Diagnosis: Laboratory facilities, invasive investigations Treatment of opportunistic infections, other HIV related infections Acute nursing care Surgery Counselling Preventive education	Chronic illnesses: Terminal care Psychosocial support Maintain hygiene & Nutrition Spiritual needs
Dispensary staff: organizations: PHC staff Counsellors Physio physiotherapist Volunteers	Family/ Friends: Neighbours Social workers NGOs Community Doctors Nurses & Health Care Workers Nutritionist	Hospital staff: Health care workers Volunteers Doctors Nurses Counsellors Physiotherapist Nutritionist	Social NGOs Community Volunteers Family Friends Doctors Nutritionist Spiritual leaders

3.3 HOME CARE

Home care refers to any form of care given to sick people in their own homes. It involves the things that people might do to take care of himself or herself or the care given to them by the family or health care worker at home. Care includes physical as well psychosocial activities.

caregivers

The term 'family' refers to the person/people in the home who have the main responsibility for caring for the sick person at home. This person may be a blood relative, relative by marriage (e.g. spouse), a friend or partner, a neighbour or some other person.

Reasons for Home Based Care

Good basic care can be given successfully in the home. There is a support system to provide care e.g., family, spouse and friends. The health care worker can provide teaching and support to the caregiver. The patients prefer to spend the terminal phase of their illness at home. Sick people are comfortable in their own homes and communities, with their families and friends around. Home care can reduce the burden on hospitals. It is usually less expensive for families to care for someone at home.

Management of Common HIV Related Symptoms in the Home**Fever**

When a person's body temperature is too high, it means the person has a fever. Fever is not a disease in itself but a sign that something is wrong in the body. It may indicate one of many illnesses. The causes of fever may include HIV-related opportunistic infections such as tuberculosis, endemic diseases such as malaria and HIV infection itself. High fever can be dangerous especially in small children. As a symptom, fever can make anyone extremely uncomfortable.

What to do at home

Use a thermometer to check the person's temperature. If a thermometer is unavailable then place the back of your hand on the person's forehead and the back of the other hand on your own forehead. If the person has a fever, his/her forehead will be warmer than yours.

It is important to lower the temperature as quickly as possible to prevent further complications.

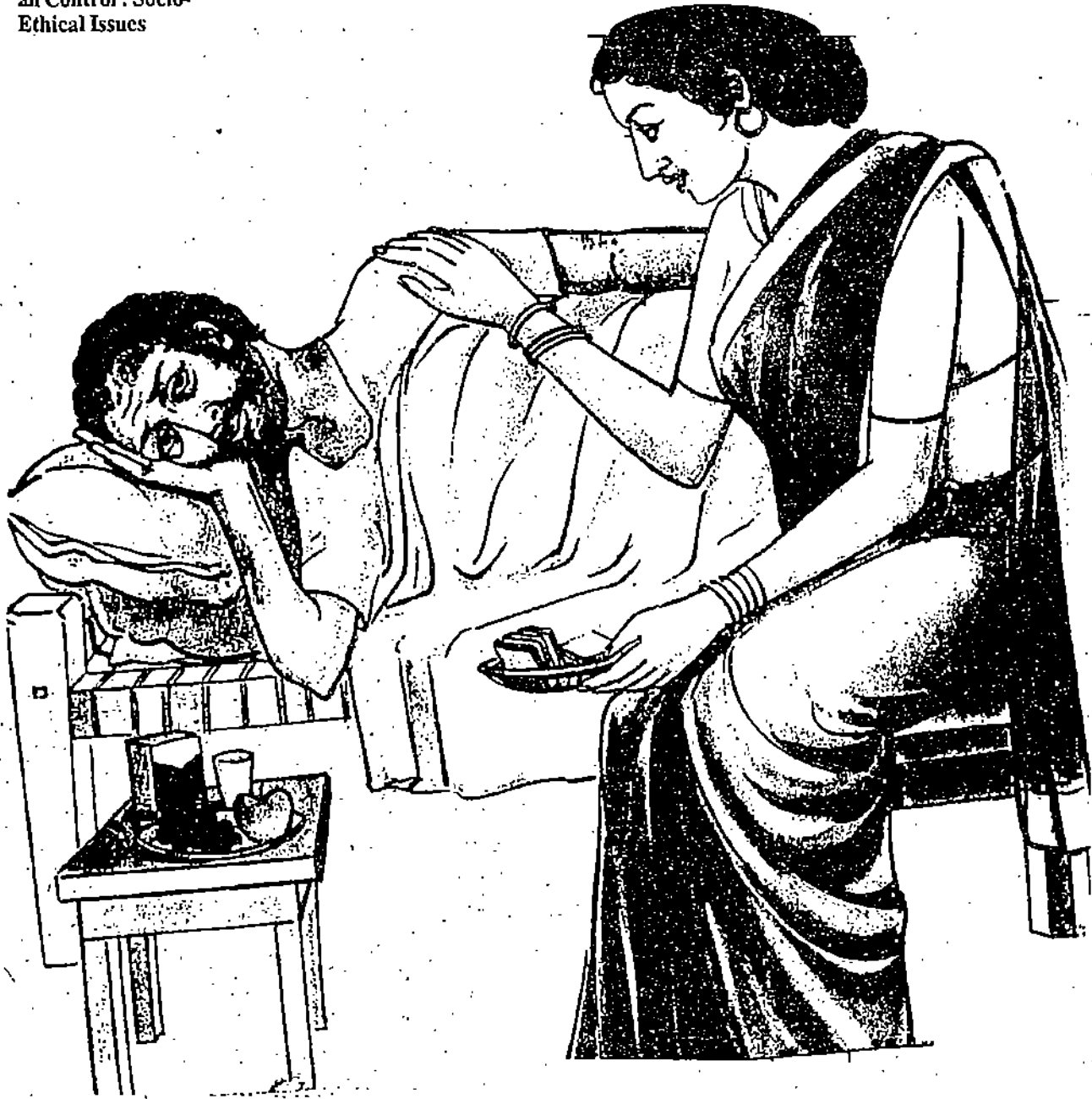
Remove unnecessary clothing from the body and ensure the circulation of cool and fresh air. If possible, cool the skin especially the forehead with cool water sponges. In between bathing and cooling the skin, the skin must be kept dry and clean. Lotions or powders can be used to prevent rashes and sores, and broken areas on the skin.

A person with fever loses a lot of fluid which may make them feel worse and can cause dehydration. Provide plenty and frequent intake of fluids-water, weak tea, juice etc.

Use medicines that reduce fever. For e.g. antipyretics like aspirin or paracetamol can be taken every eight hours. For children the dose is lower and depends on the size (weight) or age. It is necessary to discuss details earlier with the regular doctor or health workers.

When to seek help

It is essential for the person having fever to seek help.
If there is continued high fever despite taking the above measures.



- If they have fever with chills and rigors (shivers).
- If the fever continues for a long time or is accompanied by coughing and weight loss
- If the fever is accompanied by symptoms such as stiff neck, severe pain, confusion, unconsciousness, eyes turning yellow in colour and sudden severe diarrhoea. Patient with convulsions should be referred to a hospital
- A pregnant lady or a lady who has recently delivered or an infant has to be referred to a hospital.

2) Diarrhoea

Diarrhoea is very common in people with HIV infection or AIDS. The stools may be clear and watery. When the stools contain mucus and blood, it is called dysentery. At times it is accompanied by abdominal cramps and vomiting. A person has diarrhoea if he/she passes three or more loose or watery stools in a

day.

There are two types of diarrhoea; Acute diarrhoea, which lasts for less than two weeks and persistent diarrhoea, which lasts more than two weeks. The most common causes of diarrhoea in PWHA are: Intestinal infections from food or water; opportunistic infections related to HIV/AIDS, and side effects of some medicines especially the new antiretroviral therapy (ART).

It is important to treat diarrhoea immediately as it can lead to dehydration and malnutrition. Dehydration occurs faster in infants and young children, in hot climates and in people who have fever. Malnutrition may occur as some people may erroneously think that they should not eat when having diarrhoea.

What to do at home

The person and the family must ensure that they drink clean water. Water should be boiled to kill all the germs. It is ideal is to allow the water to boil for more than 10 minutes after it starts bubbling. The source of water should be safe, protected from animals, people washing clothes, bathing and from latrines. Water should be collected and stored in a clean and covered container and a clean long ladle should be used to draw water from it. Clean drinking water must be used when brushing teeth.

Food must be freshly prepared and cooked well especially meat. Raw foods must be properly washed and stored well to prevent contamination of disease causing organisms. Previously cooked food must be stored safely and reheated thoroughly at high temperature.

Maintaining clean hands is extremely important. People should wash their hands with soap and water before and after eating food as well as handling food.

Three rules for treating diarrhoea in the home: (suitable for anyone with diarrhoea)

i. **Drink more fluids than usual.** Drink as much of fluid as possible. If not thirsty, the person may have to force himself or herself to eat. Placing a glass of water at the bedside may help to remind the person to sip it every 5-10 minutes. It is extremely important to restore lost water and salts after each loose stool. It is preferable to have food-based fluids which are present in the house which normally contain some salt. e.g. (salted) rice water, buttermilk, vegetable soup or both. Fresh clean water, coconut juice and unsweetened fruit juice is also effective. Avoid sweetened aerated drinks, juices, teas, and coffees as they draw the water out of the body and the diarrhoea and dehydration can worsen.

ii. **Continue to eat normal diet.** Fluids taken in cannot replace the need for food. It is important for the person to eat even if they do not have appetite, to prevent malnutrition. Nutrients in the food are essential for a person to stay strong and prevent weight loss. Remind them that a strong person can resist illness better. If unable to eat, the person must take in small amounts of nutritious and easily digestible food frequently. A person may prefer small amounts of food that are easily digestible. Food can be taken every three to four hours, about six times a day. Eat mixes of cereal and locally available beans, meat or fish. Dairy products, eggs and bananas are also suitable. Avoid high-fiber foods such as fruit or vegetable peels, and whole grain cereals as they are hard to digest. An extra

meal a day, after the diarrhoea is gone, will help to regain any weight loss.

iii. **Recognise and treat dehydration early.** Signs of dehydration are: feeling thirsty, feeling irritable or lazy, skin going back slowly when pinched, dryness of lips and mouth, and sunken eyes.

Oral rehydration solution (ORS) that is easily available may be used. Instructions are given on the packet and must be followed properly. The family must remember to use cooled boiled water to mix with the contents of the ORS packet. The mixture must be stored well and kept covered after use. The leftover solution should be thrown away after 24 hours.

Along with diarrhoeal problems, other problems may also appear like: (i) **Skin irritation in the rectal area.** To prevent or treat sore or broken skin the sick person or caretaker must: Clean the rectal area gently with clean water after each bowel movement and pat dry. Apply a lotion/vaseline to help relieve the discomfort and protect the skin. Sit in warm water containing a little pinch of salt three or four times a day; this may also relieve the discomfort. (ii) **Haemorrhoids (piles).** A weakening of the walls and blood vessels of the rectum causes haemorrhoids. They can develop after a long period of diarrhoea. The tissues around the rectum become sore and itchy. The blood vessels may become very tender and may bleed; small amounts of blood may be noticed in the stools or while cleaning the rectal area.

It is important that the person must relax and not strain during bowel movements. In addition to the above recommendations cited for skin irritation, paracetamol can also be taken to relieve the pain.

Help a person with diarrhoea who cannot move out of the bed: use a bedpan or some suitable plastic or metal container. Ensure that it is not too high and can be easily slipped under the person in bed. Empty the contents as frequently as possible. Do not use the container for any other purpose. Change wet and soiled bedding immediately to prevent damage to the skin. If the person is ill for a long period of time this will also prevent getting bedsores. Soiled linen and clothes must be kept separate from the rest of the household laundry. Hold the unstained part of the linen, rinse out the stains and wash it with soap and water. Warm water is more effective. Dry it in the sun.

Cleanliness and hygiene are of utmost importance as they can prevent other infections as well as prevent others in the household from picking up an infection from soiled linen or unclean food or water.

Seek help when the person is at risk of dehydration and no measures have helped or has a fever. If the person is not getting better with home care, seek hospital care as early as possible.

3) Skin Problems

Skin problems are common in people with HIV/AIDS. They unfortunately tend to be chronic. Rashes, itching skin, painful sores, increased dryness, slow healing of wounds, boils and abscesses are the common ones. Some of the causes are yeast infections (e.g. thrush, candidiasis), fungal infections (e.g. ringworm), bacterial infections (e.g. pneumonia), shingles (e.g. herpes zoster), infected

scabies, poor hygiene, allergic reactions to medications or skin irritants, bed sores (e.g. from lying in one position in bed), eczema, Kaposi's Sarcoma (KS) etc.

What to do at home:

Clean the skin frequently with soap and water and keep it dry. This will prevent the most common problems. As most skin problems involve the sensation of itching, encourage the person not to scratch any skin lesion or sore. Scratching the itching skin can make it worse by breaking the skin or by introducing or spreading infection. Keep fingernails short, always. This is especially necessary in the case of infants, young children and people who are in confused mental states. Rubbing the skin with the flat of the fingers or palm and gentle slapping can give some relief. In addition, calamine lotion can also be soothing. Apply liquid paraffin to prevent dryness of skin. If there is a wound, dressing needs to be done daily or as instructed by the doctor.

Care must be taken to keep the skin or wound always clean. Also the caregiver must observe universal precautions to prevent infections i.e. infections from the patient to the caregiver and vice versa.

When to seek help

- If the person's condition deteriorates and is accompanied by redness or fever (indicating infection)
- If the wound has a bad odour, pus oozes from it and the skin around turns black forming into a blister, (this may be gangrene which is a dangerous condition).
- If there is an allergic reaction to a medicine.
- If the skin infection or wound does not respond to treatment. medical care must be sought quickly.

4) Mouth And Throat Problems

Soreness in the mouth usually accompanied by white patches on the tongue is a common symptom in people with HIV/AIDS. Sometimes it progresses into the throat and esophagus, causing painful swallowing thus interfering with eating and drinking. Other associated problems are blisters and sores on the lips, and dental problems. The following diseases could be the cause of these problems:

i) Thrush

Thrush is a fungal infection that causes small white patches on the insides of the mouth and tongue. If the white plaques scrape off with a brush or a fingernail it is probably thrush.

ii) Herpes Simplex

Herpes simplex presents as painful single or multiple sores or blisters that appear on the lips or mouth. It is a sign of immune-deficiency. The patient must consult a doctor urgently for appropriate treatment.

iii) Hairy Leukoplakia

It may look like thrush however it does not cause pain and commonly causes vertical ridges on the edges of the tongue. It does not make a person uncomfortable nor does it interfere with eating. There is no specific treatment for this condition.

Apart from these health problems related to malnutrition, dental problems and cancer like Kaposi's Sarcoma could also affect the mouth and the throat.

What to do at home

Encourage a healthy diet and vitamin supplements as poor nutrition can cause and worsen existing problems. Prevent problems by regular rinsing with warm salt water or with a mouthwash solution after eating and between meals.

Gentle hints for dealing with a sore mouth

Eat soft foods rather than hard or crunchy food.

Eat bland, not spicy food.

Use a straw for having liquids and soups to prevent touching the sore parts with the food or spoon.

Cold food, drinks or ice may help numb the mouth and relieve discomfort.

Avoid sweet food as it allows for increased growth of fungi.

It is important to prevent oral thrush from spreading to the throat or oesophagus. Apply 3-4 drops of antifungal oral suspensions three or four times a day. Maintain proper oral hygiene by cleaning the mouth at least twice a day. If it still persists, systemic medications are available for fungal infections. Oral thrush can alter the tastes and lead to loss of appetite or being painful or giving difficulty in swallowing. This can be avoided by encouraging the patient to carefully follow the treatment instructions given.

5) Dental Problems

If the person presents dental problems, care should be taken to explain to the patients about dental hygiene and the need for regular visits to the dentist.

What to do at home

Oral hygiene is extremely important. Thorough cleaning of the teeth and gums, preferably after each meal is essential. Also many people with HIV suffer from inflammation of the gums, tooth abscesses and infection and so regular oral cleansing is very important. In case of toothaches, a pain reliever like aspirin or paracetamol can be taken. Chewing cloves may also help.

When to seek help

The person or the family must visit a health care worker if the person is unable to drink or swallow properly. If a person has a severe tooth infection with fever, swelling, pus, etc. a dentist should be consulted.

6) Cough and Difficulty in Breathing

Respiratory problems are common in people living with HIV/AIDS and can be quite serious. The most common symptoms that the person and family need to watch for are chronic cough, shortness of breath, chest pain and increased production of sputum (mucus). *The most common causes include: colds and flu, bronchitis, pneumocystis carinii pneumonia (PCP), and tuberculosis.*

What to do at home

The person can be helped to reduce respiratory problems by: frequently turning in bed, and sitting up as it helps the lungs to drain; lying with pillows under the head, or the head of the bed raised up; leaning forward while in sitting position with elbows resting on the knees or a low table, and massages or gentle patting

on the back of the chest over the lungs as this also allows drainage of the lungs.

Tightly holding the area, which hurts the most while coughing, with a hand or pillow; coughing and clearing the lungs at least four times a day even if it is painful as it helps to clear up the accumulated sputum and disease-causing bacteria; drinking a lot of water and taking hot water vaporizers to loosen the sputum and ease the pain of coughing; sipping warm tea with sugar or honey which soothes the throat; taking a cough suppressant at night to avoid the cough from disturbing the person's sleep; taking a paracetamol to relieve the pain, ventilating the room and home frequently to allow for free movement of fresh air are some other helping activities.

The person must remember to cover the mouth with the hand or a clean cloth while coughing to prevent spreading the infection to others. Bacteria or infectious agents present in the sick person's sputum can be passed on through air, especially when coughing.

When to seek help

The family must observe the person for the following signs and symptoms and if they are present the patient should be referred to a hospital:

- 1) Onset of fever or change in the regular fever pattern of the person
- 2) Blood in the sputum
- 3) A sudden or rapid worsening in ability to breathe or catch their breath after normal activity
- 4) A change in the colour of sputum from clear to grey, yellow or green
- 5) Severe pain in the chest

For children particularly under five, respiratory problems can be very serious and they should be taken to the health care worker for immediate attention if they breathe with difficulty or there are noises from the chest or if they breathe faster than usual; are unable to drink because of breathing difficulty; develop cyanosis (bluish colour of lips or skin) and feel abnormally sleepy or have difficulty in keeping away.

7) Nausea and Vomiting

Nausea and vomiting can be a serious problem for people with HIV/AIDS. These symptoms may be caused by side effects of medications, infections e.g. oral thrush, stomach or intestinal problems, and HIV infection itself. In some people, these symptoms are very short-lived, and may pass away without treatment or with minimum treatment. With some it may become chronic or long lasting and become a part of daily life.

What to do at home

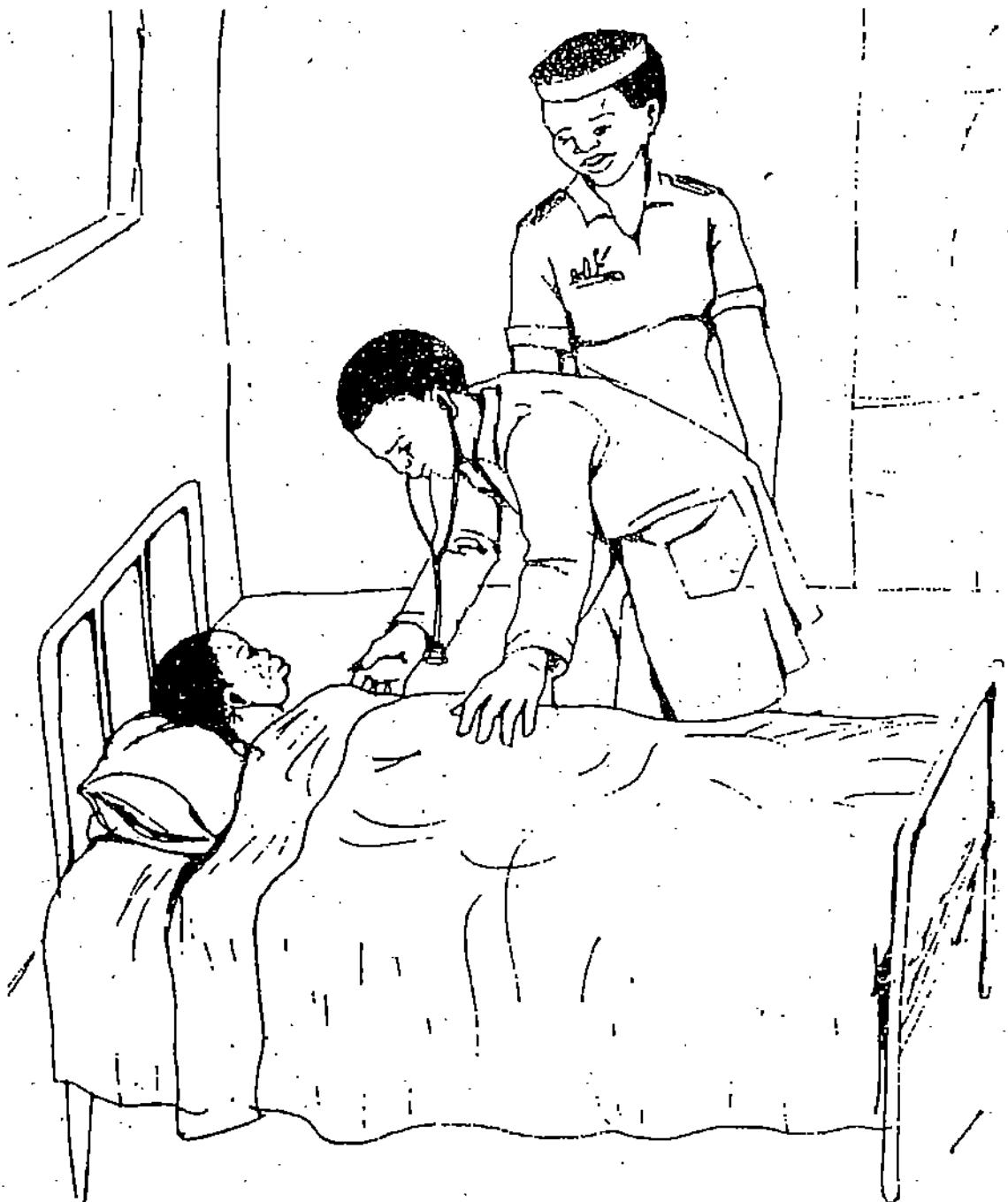
The person or family can help the patient to reduce the discomfort that comes about with nausea and vomiting through various measures. Medications are easily available to stop or reduce the vomiting for e.g. antiemetics. Initially do not eat any food or drink any fluids for one or two hours. Prevent dehydration (see section on diarrhea)-Gradually commence drinking clean water, ORS or weak tea in small quantities.

Increase the intake of fluids every hour. The patient may not like to drink anything and may have to be forced to drink in order to make up for what he/she has lost. As nausea decreases, commence intake of other foods like dry, plain food such as bread, rice etc. Freshen the mouth, as it will help in taking away the foul smell and taste caused by vomiting. Rinse it with a dilute mouthwash or lemon water rinse.

Keep away from smells and odors that trigger off the feeling of nausea like some cooking smells, medicines, etc. Cool compresses applied to the forehead will help the person to relax and feel comfortable. Clean up the vomit and freshen up the room to make it smell clean and nice. You can use a detergent with a mild scent.

When to seek help

The person must be encouraged to visit a doctor if the vomiting occurs repeatedly and the person is in danger of becoming severely dehydrated; if the vomiting lasts for more than 24 hours and is accompanied by pain in the abdomen.



vere headache, the person persists with fever as well, and the vomit contains food.

Anxiety and Depression

The problem and possible causes of anxiety and depression could be because of the prospect of an HIV test or a confirmatory test; prospect of a CD cell count; viral load test; a forthcoming physical examination or some illness within the family.

Anxiety

Anxiety is a feeling of nervousness, fear or dread of the unknown. It manifests in several symptoms; physical and mental. Some symptoms are lack of appetite, sweating, feeling faint, insomnia, feeling very worried, a feeling of being out of control, difficulty in concentrating, feeling very irritable or confused.

Depression

Depression is a feeling of sadness and hopelessness. This may be due to loss of ability in usual activities or loss of physical appearance. These may manifest due to lack of energy, poor concentration, sleep disorders, isolating oneself and irritability. Care needs to be taken to prevent the person from harming himself/herself (suicidal feelings) and others.

What to do at home

Different people belonging to different cultures differ in their ability to cope with anxiety and depression. Usually, in the Indian context, the elderly and religious provide such support to their own. HIV being a social problem, cultural differences are notable, to the extent of communities being unsupportive in reaching out to the affected person and family. Thus families are often left to tend themselves.

People need to express their thoughts and feelings to help them overcome anxiety and depression. Gently encourage them to go through the stages of grief by encouraging them to talk and then listen to them. It helps to talk to someone who has been through the coping process previously. The contact with peers can be a great support and inspiration. Encourage sick people and family members to learn how to relax. This includes both physical and mental relaxing activities that are extremely helpful.

When to seek help

If the family or the person believes that the anxiety or depression is severe enough that so the patient may commit suicide, or harm himself/herself or harm someone else, a psychiatrist needs to be consulted.

Pain

Pain may be physiological or psychological. Causes of pain are several and include immobility, infections such as herpes zoster, swelling of the extremities, headache alone or associated with meningitis or encephalitis, and nerve problems. Emotional causes may be due to depression and anxiety, side effects of medicines, and perhaps due to cancer.

What to do at home

The family needs to reassure the person and support them, as the pain can be highly stressful and frightening. Regular breathing or relaxation exercises may help a person to relax and release tension built up due to the pain. Distractions and amusements can help people to reduce their attention on their pain and comfort them. The person should be helped to sit or sleep in positions that will reduce painful movement. If the person is unable to move unaided they should be helped to change position frequently. This will not only prevent soreness but also ease the pain from lying in a particular position. Medications like analgesics can also help to soothe the pain.

When to seek help

If the pain does not get reduced with mild medications or if it is prolonged then the person must seek the help of a health care worker.

10) Tiredness and Weakness

Fatigue can be the result of HIV infection or related illnesses, particularly respiratory illnesses. It could also be due to poor nutrition, anemia and depression. Or it could be due to a different cause unrelated to HIV.

What to do at home

The person needs to take frequent rest periods off and on during the day. The family needs to find out what sort of help is needed by the person and accordingly offer such support. The person may feel low at having to ask someone else for help. Family support and reassurance will help them feel comfortable about accepting help from others. By making people know how they can help, it avoids the problem of having too many people doing the same thing.

Activities of daily living (ADL) should be undertaken to ensure maximum comfort and ease, and minimise pain. The family helps in offering support and care for the person. Safety precautions are necessary if the person requires it especially if the person is going out or if they are going to be at home alone. For example: move loose or dangerous objects out of the way; assist the person when walking or provide a walking stick or cane; and try not to leave the person alone for long periods.

When to seek help

If the patient's condition deteriorates to include other symptoms like high fever, headache or severe pain the person needs to be attended to by a health care worker quickly.

11) Mental Confusion and Dementia

HIV affects the cerebrospinal fluid along with the rest of the cells of the human body. This can lead to differences in the mental condition of the person living with HIV/AIDS. HIV related illnesses might also lead to some mental problems. Similarly side effects of some medications or severe depression may lead to dementias as well. *The mental problems may include:*

1. The inability to think clearly which is a major mental problem. The person may be seen as not able to concentrate properly or be forgetful of tasks.

2. Behavioural changes. The person may appear to be irritable, disinterested or unpredictable have coordination problems or failing strength. The person may start misplacing objects, dropping them, have slowness in movements or have shakiness.

What to do at home

Distraction helps to involve the person in some other task. Details of a task must be explained in small steps to avoid confusion. Music helps to release aggressiveness and assists in soothing and relaxing the person. Quietness and serene atmospheres are preferred to noisy ones. This may be difficult if there are children at home, but as far as possible the room must not add to the mental confusion of the person. Encourage the person to do small things that are mechanical, easy and not stressful. Allow the person to know that you are there if needed.

When to seek help

A confused and aggressive person can be very difficult to manage at home. At times the family may be unable to manage at home and may need the help of a health care worker. The health care worker will be able to offer help or provide treatment which is at least sufficient enough to relieve the person from discomfort. The person will need immediate attention if the condition deteriorates and is associated with high fever, headache and difficulty in breathing.

Check Your Progress I

1. Briefly describe the three rules for treating diarrhoea in the home.

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3.4 HOSPITAL CARE

HIV infection is a chronic illness, progressing over several years and at a rate that is different for every infected individual. Experience has shown that progression of HIV infection may be slowed down or retarded with appropriate follow up care, use of prophylactic treatments, active treatment of opportunistic infections, etc. Therefore continuity of care is an essential component of all aspects of HIV/AIDS care. Coordination of care can be done through an interdisciplinary approach to case management or a multidisciplinary care model.

An interdisciplinary approach allows for effective communication and shared decision making within the team. Care providers from various disciplines join forces with one another and treat the person as a whole.

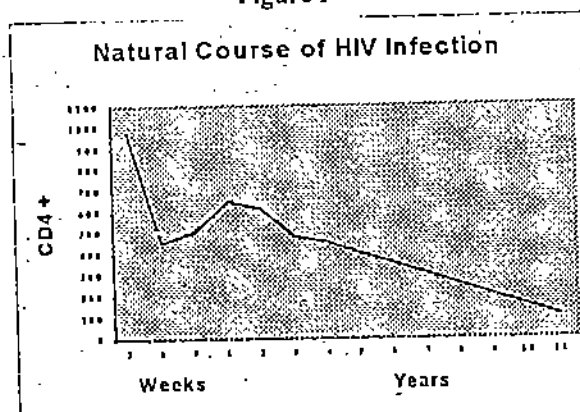
Another method of ensuring care along a continuum is through the multidisciplinary care model. In a multidisciplinary care system, care providers from various disciplines provide care and treatment specific to their clinical expertise. This kind of treatment occurs in isolation of other disciplines. Thus the person may receive specialized care and treatment according to the particular condition.

An interdisciplinary care team may include. Physicians, nurses, attendants, home care co-ordinators, a community physician, specialists in pediatrics, gynecologists, counsellors, pharmacists, physiotherapists, volunteers, administrative personnel, educationists, spiritual leaders, nutritionists, food service providers, other service providers e.g. a driver for transporting the patients, the patient and the family.

Whatever the type of approach in a hospital, finding a doctor and hospital that is HIV friendly and supportive is most important. Patients have reported neglect and discrimination by health care workers at the hospitals. With increased awareness and consciousness of maintaining universal precautions for all, this fear among health care professionals is being gradually reduced. However, much more needs to be done in the area.

Often, the family is not able to attend to the requirements of the patient at home. Or the person's condition may become so severe that they are unable to manage at home. In these cases, active medical care and treatment are required. Such cases may include care and treatment at the hospital and at home.

Figure 1



It is important to remember that drugs alone cannot help improve anyone's condition. Looking after one's health with proper nutrition and rest, practising safer sex and avoiding reinfection (of HIV and other infections) enhances the body's capacity to cope with HIV. Through counselling at the hospital, doctors are able to discuss not only the physical aspects of the illness and treatment but also the social, sexual, financial or legal issues connected to it.

Opportunistic Infections

Pathogens have the opportunity to grow and multiply in a body, which has a weak immune system, thereby causing illness. These illnesses are called Opportunistic Infections. These are the most common AIDS-related illnesses seen. Some common ones are Tuberculosis, Pneumocystis Carinii Pneumonia commonly called PCP, Candida Albicans commonly known as thrush, Cytomegalovirus

(CMV) which affects the eye, and Herpes Simplex and Herpes Zoster caused by the herpes virus.

Cancers

The most common cancers associated with AIDS are Kaposi's Sarcoma (KS) and certain kind of lymphomas. An increase in the number of cervical cancer in HIV-infected women has also been reported.

Neurological Complications

Neurological complications in people with AIDS may result from opportunistic infections, cancers, HIV infection itself or other metabolic states related to illness. The toxic effects of various drugs and treatments may also affect the nervous system.

Wasting Syndrome

Involuntary weight loss, or wasting, is one of the most common manifestations of HIV infection. It can occur at any stage of HIV infection but is usually most severe in the later stages of illness. Although it is difficult to reverse, many people with HIV infection have been able to reduce weight loss or have gained weight.

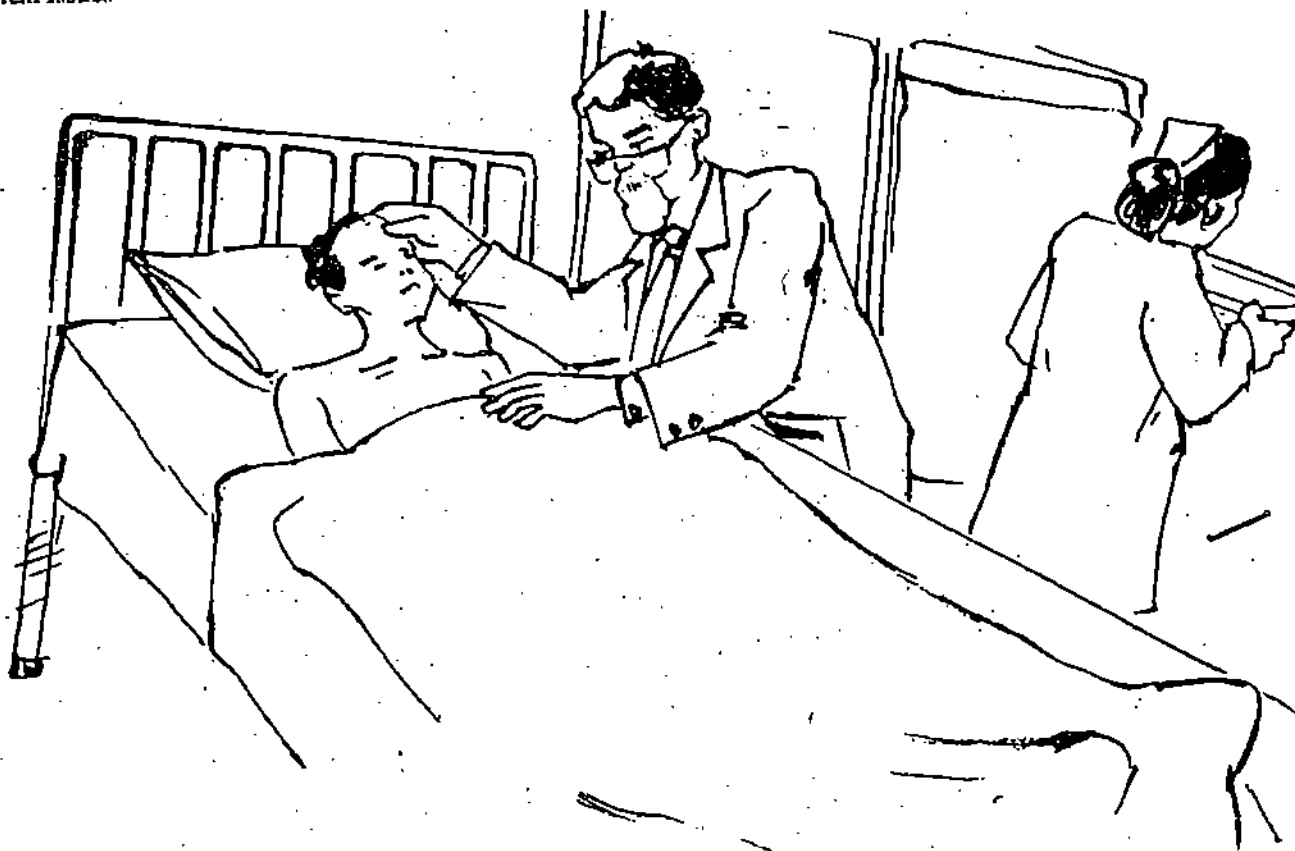
HIV-related Problems in Women

In recent years, the rate of infection in women has grown (and continues to grow affecting infants as well) at alarming rates. Women with HIV are just as likely to contract opportunistic infections as men. The most common gynecological conditions observed are pelvic inflammatory disease and vaginal fungal infections.

It is crucial for the patient to visit the doctor for the above conditions as quickly as possible. The patient may require hospital care for a brief check-up, diagnosis, and treatment and he can visit the out patient department (OPD) or the patient may require treatment at the hospital for an entire day and may be admitted into the day care center. At times, the patient may require extensive treatment and so may need in-patient care for several days.

Discharge from Hospital

Leaving hospital is called 'being discharged'. The patient will require a hospital sheet stating he/she is discharged. This may be done when the patient is deemed well enough to go home or if there is nothing else that can be done for the patient at the hospital and the best treatment is at home. At times, the patient may want to be discharged or the family members may want to have the patient discharged for various reasons. Under these circumstances, the doctor may issue a discharge sheet stating, 'discharged against medical advice'. At the time of discharge, the doctor is required to fill out a prescription for the patient. When the doctor or health professional prescribes treatment for the patient, it is important for the patient and the caregivers to follow the prescribed dosage schedule as closely as possible. They need to understand how much of the treatment they need to take and when. Also, possible side effects need to be discussed and whether it can interact with any other treatments. Thus the doctor must be informed of any other medications, allopathic, ayurvedic or homeopathic which may be taken by the patient. The health care workers also need to explain to the patient and the primary care givers the exact care that is required at home.²



Check Your Progress II

1. What are the precautions to be taken when an HIV patient has to be discharged from a hospital ?

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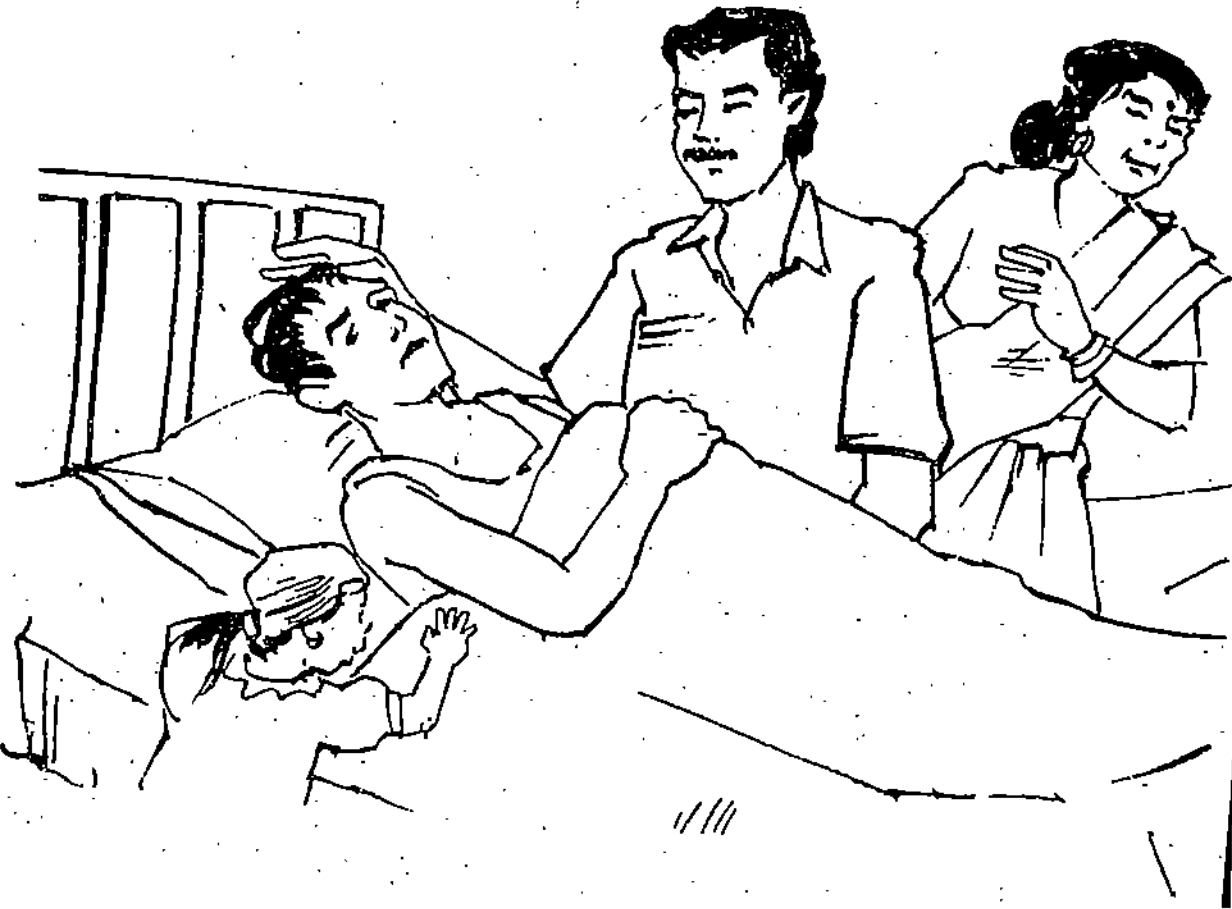
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3.5 HOSPICE CARE

Hospice comes from the Latin word 'hospes', which also refers to other English words like hospitality, hospitable, host, hostess, hospital, hostel and hotel-all associated with ideas of caring for people with kindness and generosity. Hospice is a very old concept, meaning a place of sanctuary for religious pilgrims, travelers, the poor, the sick and the dying. Originally, a hospice and a hospital were the same place. With the rise in curative powers of medicine, the ideas of cure and care became separate. The medical world became increasingly focused on curing disease and often people who were dying were seen as a shameful admission of failure. The disease became more important than the patient and patient's wishes were not considered important. The idea of hospice has undergone a renaissance in reaction to these attitudes.

The use of the word *hospice* refers not only to an organisation of people devoted to caring for the dying but also to the philosophy of care that values quality of life of the patient until death. It is a philosophy that puts the patient at the center and in control of his or her own life and care.

A hospice is essentially a home away from home, wherein the person may come in to receive active medical treatment with the help of other in-patients and families. It is also a place for recreational activities, other forms of treatment like relaxation therapies, yoga, meditation and acupuncture. It can be both residential where the person becomes an in-patient or community based wherein the person can engage in day activities of the hospice. It serves as a therapeutic center for the person and the family.



There are various reasons for having a hospice available for people in need. For some it can be a beautiful place to rest during painful and stressful times, allowing others to support, and rendering this support and care to others who are in need. For others, it may seem a reflection of what has been lost; it can make them desolate and unwanted by their family and community. Needless to say, it is thus of grave importance to make the person make their own decisions. At anytime that they want to leave the hospice, they should be made comfortable to do so. Of course for health reasons, the team might be unwilling to discharge a patient but it is important for the medical team to know that the person needs to make their own choices. Also in the Indian context, hospices may be mistaken for dumping grounds and so patients may perceive the entire situation differently.

Also residence at the hospice is impossible for a long length of time and space is needed for others who require help.

The term *palliative care* is often used to describe the broad type of health care that a hospice provides for those who are dying. Palliative Care provides suitable treatment to the patient when cure is not possible. It does not only alleviate symptoms, it helps a patient psychologically, spiritually, physically and socially. For more information on palliative care, please refer the unit on Palliative Care from Block 2, Unit 4 of the elective course on HIV/AIDS.

As new treatments are available, AIDS is no longer seen as a terminal diagnosis but rather as a chronic condition that reduces life expectancy. We all hope that there will be a cure. Still hospices are required to look after the special needs of those living with AIDS. (Below are some strengths, weaknesses, opportunities and threats of a hospice.)

Table 3.2

Hospice Care of Patients with AIDS

STRENGTHS

More relaxed atmosphere than hospital
Reduces fear of admission when required
Supervised medication
Allows respite for the family
Less expensive than the hospital

WEAKNESSES

Less medical supervision than the hospital
Possible delay in emergency treatment
Possible risks of cross infection

OPPORTUNITIES

Continuity of care between home/hospice
To train care attendants
Education to reduce fear and prejudice
Encourage a caring, sharing community

THREATS

Resistance from traditionalists
Dilutes professional experience

Basic to hospice care is the principle of holistic care. The care team extends beyond the primary team to include a variety of professionals, including physiotherapist, occupational therapist, etc.

Reasons for Hospice Care

The person who is dying must be part of all the decisions regarding care. You can find out about their physical or emotional state and discuss what can be done for them.

There are various reasons why one may require hospice admission. In case of supervised medication and treatment, there is need for a medical person to be present. As we saw in the section on home care, very often the family is unable to attend to the care needs of the person. Or the person may have been ill for a long duration of time. This may result in gradual burnout of caregivers that can lead to severe physiological and psychological problems for themselves as well as the patient. To prevent such things from happening, hospice care is recommended to alleviate the stress of the caregivers and to provide maximum comfort to the patient.

Many people living with HIV may worry about a time when their health will deteriorate, that they will be unable to function as well as before and provide services for themselves. Some may have seen a spouse, close friend or neighbour pass through the last stages of infection and may anticipate the pain and grief, which may leave a desolate picture in their minds. Alternatives to regular hospital care are needed in such situations.

Who provides such care?

People with an understanding of the disease, experience in treatment and a compassion for helping others can provide hospice care. Health care professionals who have special skills and experience, counsellors, social workers and volunteers are important in providing hospice care. In addition, family members, friends, spiritual leaders and other people living with HIV may be interested in joining the hospice team.

Check Your Progress III

1. Briefly list the strengths, weaknesses, opportunities and threats of a hospice.

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3.6 LET US SUM UP

In this unit we have discussed the need for continuity of care and support for those living with HIV/AIDS. The unit deals with various aspects of care i.e. day care, home care, hospital care and hospice care.

Continuum of care is the process of providing a wide range of services to the patient in order to help him/her to cope with his/her deteriorating health. Most of the care that an HIV/AIDS patient requires can be given at home. Therefore under home care, details for the management of common HIV related symptoms in the home have been discussed. Some of them include fever, diarrhoea, skin problems, mouth and throat problems, dental problem, cough and difficulty in breathing, nausea and vomiting, anxiety and depression, pain, tiredness and weakness and mental confusion and dementia. Some information on opportunistic infections provided in this unit is really useful.

3.7 KEY WORDS

- Haemorrhoid** : Swollen veins at or near the anus.
- Convulsion** : Violent irregular motion of a limb or limbs or the body caused by involuntary contraction of muscles.
- Hospice** : The use of the word hospice refers not only to an organization of people devoted to caring for the dying but also to the philosophy of care that values quality of life of the patient until death.

UNIT 4 SOCIETAL INFLUENCES ON HIV/ AIDS TRANSMISSION AND PREVENTION

Contents

- 4.0 Aims and Objective
- 4.1 Introduction
- 4.2 Societal Influence on Sexual Behaviour Patterns
- 4.3 Impact of Shift in Traditional Economy
- 4.4 HIV and Socio-economic Situation in India
- 4.5 Role of Medical System in Promoting HIV Transmission
- 4.6 Let Us Sum Up
- 4.7 Key Words
- 4.8 Model Answers
- 4.9 Further Readings

4.0 AIMS AND OBJECTIVES

This unit aims at introducing you to the social determinants of behaviour patterns and practices that facilitate HIV transmission and the societal dimensions of HIV/AIDS prevention.

After completing this unit you will be able to:

- Describe the importance of social roots of behaviors which transmit HIV;
- Identify major economic, social and cultural conditions promoting HIV-transmitting behaviours; and
- Identify the major points of macro-level societal interventions needed for HIV/AIDS control.

4.1 INTRODUCTION

Every individual, whether child, youth or adult or a medical professional apparently adopts a certain behaviour of his/her own free will. They are under social influences of the family, the community and the larger society (regional, national and international) of which they have been a part from the time of their birth. The HIV transmitting activities are such that there is some degree of 'risky' behaviour in all societies. Some societal factors lead to increase in HIV-transmitting behaviours while others may reduce the HIV transmission. Hence, they determine the extent of HIV transmission in a population. Preventing the spread of HIV can therefore be done on a large scale by strengthening the latter and countering the former. For instance in India where data shows that people engage in multiple partner sex-outside marriage, prevention strategies must be targeted at making that form of behaviour safe from HIV. But just as important, or may be even more, is the task of *ensuring* that the majority do not change behaviours to adopt 'risky' practices. For both, we must understand what decides behaviour patterns, the social influences that influence their behavior patterns and how they act.

TABLE 4.1
REPORTED AIDS CASES BY ASSUMED MODE OF
TRANSMISSION BY REGION AND COUNTRY

Region & Country	Hetero- sexual	Homo/ Bisexual	IDU	Transfusion/ Hemophiliac	Mother- -to-Infant	Year
AFRICA						
Algeria	63	9	5	18	5	85-97
Angola	59	1	9	24	8	85-97
Nigeria	95	0	0	4	1	86-95
South Africa	79	7	0	1	13	82-97
Zimbabwe	86	0	0	0	14	87-97
THE AMERICAS						
Brazil	34	34	25	4	4	93-96
Canada	13	71	13	2	1	93-96
Mexico	34	55	1	8	2	93-96
United States of America	13	52	33	2	0	93-95
EUROPE						
Finland	23	69	4	4	1	82-97
Germany	8	70	16	5	1	81-97
Russian Federation	32	64	1	2	2	86-97
United Kingdom	15	70	8	5	2	81-97
SOUTH-EAST ASIA						
Indonesia	72	24	3	0	1	87-97
Myanmar	60	1	37	2	0	95-97
Thailand	89	0	6	0	5	95-97
THE WESTERN PACIFIC						
Australia	4	89	3	5	0	82-97
Japan	33	27	1	39	1	85-97
Papua New Guinea	87	4	0	0	10	84-97
Philippines	53	39	1	6	2	84-97

Source: Report on the Global HIV/AIDS Epidemic, December 1997. 'Working Group on Global HIV/AIDS and STD Surveillance', UNAIDS/WHO, Geneva.

4.2 SOCIETAL INFLUENCE ON SEXUAL BEHAVIOR PATTERNS

We will discuss only hetero-sexual activity as it is the major mode of sexual transmission in India. However the basic point highlighted through this section is applicable to all kinds of behaviours, sexual and otherwise.

Biological difference sets the male and female apart and survival of the species requires that they interact with each other for reproduction. Thus 'sex' and sexual activity are ordained by nature. The elements of pleasure and satisfaction of a

natural urge are part of this biological phenomenon. However sexual behaviours are socially constructed similar to other ways of fulfilling other natural urges e.g. the variety of food patterns for satisfying the basic urge of hunger. The societal influence on sexual behaviour patterns is clearly demonstrated by data from different countries and between social groups within a country.

TABLE 4.2
SEXUAL BEHAVIOUR NORMS AND HETEROSEXUAL AIDS TRANSMISSION
BEHAVIOURS OF STUDENTS AND OTHER YOUTH

COUNTRY	SEX	% WITH SEX OUTSIDE MARRIAGE	PREDOMINANT PARTNERS	AIDS CASE RATE (per 100,000)
INDIA	M	20% *	Family members, neighbors, friends	0.09
	F	5-10% **	CSWs, fiance	
U.S.A.	M	70-75%	Family members, neighbor, friend, fiance	13.81
	F	50-60%	Friends, acquaintances, long & short period relationship with average of 2 in previous year	
THAILAND	M	65%***	CSWs	30.2
	F			
SUB-SAHARAN AFRICA	M	50%****	Friends, acquaintances, CSWs, short term living together arrangements	79.28 ... (Zimbabwe)
	F	3% (ZIMBABWE)		

Sources: * VISHWADEEPAK, 1998 ** OSKAMP & THOMPSON 1996
 *** KOETSAWANG'87 **** OSKAMP & THOMPSON

Taking the most comparable group for which data is available across countries, university students and youth, one can observe the diversity. Table 4.2 confirms quantitatively what has been qualitatively known, that sexual behaviour patterns differ markedly between societies. The data can be used to develop a broad comparative picture across countries.

An analysis of Indian studies involving the youth indicates that about 20 per cent males have had sexual experience (Vishwa Deepak'98). In the USA it is the reverse i.e. 20-30 per cent have not been sexually active while 70-80 per cent have had sexual experience. Among university students in Bangkok this figure for the sexually experienced was about 65 per cent. Both in Indian and US studies the partners were stated to be pre-dominantly friends, relatives and acquaintances, while in the Thai context it was CSWs for about two-third of

sexually active male youth.

Among adolescent girls, 5 per cent of university students seem to have had pre-marital sexual intercourse with a friend, relative or fiancé starting at an average age of 17 years (Rakesh, 1980; Basu, 1994; CCM-AIIMS;). Most often these are limited, occasional encounters. In the USA 10 per cent of all adolescent females have teenage pregnancies outside marriage. In Sweden 58 per cent of 18 year old girls were sexually active and about half of them reported multiple partners and regular partners.

Sexual activity among Indian women with their fiances continue into marriage and therefore remain part of the monogamous relationship of adolescent females. As a whole, sexual activity commences with marriage where the median age at 'effective marriage' is 19.6 years. With 50 per cent of females being married before this age, 17 per cent of all females aged 13-19 years have conceived and are pregnant or mothers.

These differences are epidemiologically extremely significant. Statistical epidemiological models for generating projections of the future of epidemic have used the following factors (Isham 1988, May & Anderson 1987, Schalfe 1990): (1) the average number of partners per unit time; (2) the average rate of acquiring new partners; (3) the distribution of partner change in the population and, (4) the pattern of partner choice and interaction between members of different sexual behaviour groups e.g. between those who visit CSWs and their other partners. However any interaction between two persons is also a social phenomenon and sexual relationships are no different.

Reproduction and Economic Systems

As human societies evolved, reproduction has been linked to property rights, occupation etc. and thus to production and economic systems. Institutions of family and community developed within socially determined structures to circumscribe child bearing, childcare and human power provided by the new generation. Thus as different production systems developed so did social structures.

Among the hunter-gatherers of food who lived as wandering 'tribes' with shared production and shared child wealth, the 'community' was the central social structure. As the society evolved and became more stable the economic systems changed. In more stable agriculture, artisan and trading based economic systems, property and the joint family were more important.

Modern industrialization and its economic systems delinks human labour from production'. Labour is treated as a commodity and leads to commoditization of labour. Labour is alienated from the produce and the value of number of hands within the family decreased. The available human labour exceeded demand for it. Child-bearing lost its value in such societies. Social mechanisms for regulating sexual relationships changed accordingly. They are less rigid in the first situation compared to the second. In the third they again become weaker than in the second as sexuality is delinked from fertility.

Social Norms

Structuring of society also resulted in defining differing roles for men and women in spheres other than reproduction and assigning a lower status to the women. Stereotype images of desirable 'masculine' and 'feminine' characteristics were

created. Sexual urges of males were considered legitimate and natural. Sexual urges of the females were considered passive and therefore to be only objects for satisfaction of male desires. Sexual behaviour of one person impinges physically, mentally and emotionally upon the other who is involved. As both are part of a social setting, it affects the families and communities of which they are members. Therefore, for the well-being of all members certain institutions with set codes and rules are developed by societies. The institutions of marriage and family are supposed to safeguard the interests of the woman in a sexual relationship. It ensures that she is not left bearing the burden of bringing up of the children while the husband moves to relationships with other women. The superior social status of men, however, converts the institutions into a means of control over women more than over the men. The rules are most stringently applied for the women while men's relationships with more than one woman are more easily condoned, whether in institutionalized forms as multiple wives or as extra-marital relationships. Interaction between two persons is affected by power relations between the two individuals e.g. between man and woman, prostitute and client, employer and employee and between the social groups they come from (caste, class, race).

Cultural and Religious Influence

Cultures reflect both the social striving for the well-being of all. Social values, ethics and norms are adopted as checks to the unrestrained exercise of power by the powerful. However they can also serve to maintain the unequal power equations in society.

Religion represents social values and provides ways of putting them into practice. All religions promote social responsibility and self-restraint. They are therefore conducive to enhancing levels of responsible sexual behaviours. According to Berelson and Steiner (1964) in the United States, the more devout people, both men and women but especially the latter, begin sexual activities at a later age and engage in them less frequently and more conservatively. Kinsey et al. (1948) in their study of sexual activity found that people who practiced religion had more conservative sexual activity than people who did not practice religion. Thus religion can play an important role in preventing risky sexual behaviour and strengthening socially responsible behaviours. However misuse of religion's power in society e.g. by reinforcing social hierarchies such as of men over women, or by stigmatizing HIV positive persons as sinful is negative influence that religion can have on control of HIV transmission.

Marriage, family and community are also structures that bind the individual to a collective good. They may curb some individual freedoms even while they create conditions for pursuing commonly accepted goals and a certain level of sustenance for all members. Marriage provides security to the woman, it also tends to reinforce her inferior social status thereby leaving her open to the whims and fancies of her husband, forced to abide by his decisions and desires. As the varied forms of social structuring across the world and in Indian society itself show, despite the same biological core, forms of marriage and family are not nature's creation but culturally developed.

Members of a society 'naturally' imbibe the social values and forms of behaviour as they grow and interact with others within their society. **Socialization** is the process whereby the infant gradually becomes a self-aware, knowledgeable

person, skilled in the ways of the culture into which she or he is born. While this process of cultural learning is much more intense in infancy and childhood, it continues throughout life. It changes with the individual's biology and social roles, from child to adolescent to adult to old age. As societal conditions change or the individual migrates to a different social context, re-socialization can occur especially under conditions of stress. Resocialization, people's personality, values and outlook are never simply 'fixed', but alter in relation to their experiences throughout the life-cycle. In some conditions, adult individuals may experience resocialization, marked by the disruption of previously accepted values and patterns of behaviour, followed by the adoption of radically different ones.

The groups or social contexts within which significant processes of socialization occur have been called agencies of socialization.

Socializing Agencies

In all cultures, the family is the main socializing agency of the child during infancy. But at later stages of an individual's life, many other socializing agencies come into play.

The Family

Children pick up ways of behaviour characteristic of their parents or others in their neighbourhood or community. Varying patterns of child rearing and discipline, together with contrasting values and expectations, are found in different societies. Parents are able (in varying degrees) to enforce codes of conduct upon their children.

Schools

Schooling is a formal process: there is a definite curriculum of subjects studied. Yet schools are agencies of socialization in more subtle respects too. Alongside the formal curriculum there is what some sociologists have called *a hidden curriculum conditioning children's learning*. The social stereotype images of male and female roles and their relationships are often communicated through the textbooks and the different behaviour codes enforced for boy and girl students.

Peer Group Relationships

Another socializing agency is the peer group. Peer groups are friendship groups of similar age. In peer groups a child discovers a different context of interaction, within which rules of conduct can be tested out and explored.

Peer relationships often remain important throughout a person's life. Particularly in areas in which there is not much mobility, individuals may be members of the same informal clique, or keep the same group of friends, for most or all of their lives. Even where they do not, peer relations are likely to have a significant impact beyond childhood and adolescence.

Mass Media

There are few societies in current times, which remain completely untouched by the mass media. A vast amount of research work has been carried out trying to analyse the influence of particular television programmes, or types of programmes, on the attitudes of children and adults. Most of this research is not conclusive. It is still not agreed, for example, how far the portrayal of violence

promotes aggressive behaviour among children. But it cannot be doubted that the media profoundly influence people's attitudes and outlooks. They convey a whole variety of information that individuals would not otherwise acquire. Newspapers, books, radio, television, films, recorded music and popular magazines bring people into close contact with experiences of which they would otherwise have little awareness.

Socialization and Individual Freedom

The cultural settings in which people are born and come to maturity influence their behaviour. It might appear that they are robbed of any individuality or free will. They might seem to be merely stamped into pre-set moulds which society has prepared for them. But such a view is fundamentally mistaken.

The fact that from birth to death we are involved in interaction with others certainly conditions our personalities, the values we hold, and the behaviour in which, we engage. Yet socialization is also at the origin of our very individuality, a sense of self-identity, and the capacity for independent thought and action. This point is easily illustrated by the example of learning language. None of us invented the language we learn as a child, and we are all constrained by fixed rules of linguistic usage. At the same time, however, understanding a language is one of the basic factors making possible our self-awareness and creativity.

The Contemporary Context

With this broad understanding of how human behaviour is shaped, let us examine what societal phenomena in the present times are leading to behaviours, which can transmit HIV at a high rate. As we have seen, socio-economic and cultural factors play an important role in shaping the material, social and psychological basis of behaviours.

Check Your Progress I

1. Describe briefly any two socializing agencies for a child.

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4.3 IMPACT OF SHIFT IN TRADITIONAL ECONOMY

In the market-oriented industrialized west a high level of material prosperity based on alienated production systems and impoverishment of other populations of the globe has led to a high consumption individualism-oriented economy and life-style. The accompanying increases in sexual behaviour patterns and intra-venous drug abuse creates conditions conducive for HIV transmission on a large scale.

In the third world conditions of poverty is a significant factor in HIV transmission.

Studies from many parts of the world are showing that the problem of HIV/AIDS is exacerbated by lopsided developmental policies, which have brought abrupt changes in traditional socio-economic structure of the societies. These abrupt changes have actually ingested the traditional economies mostly based on natural resources, which have provided the base for other societal factors. For instance, in Thailand, in the name of faster economic growth of the country, the rich forest resource was exploited for wood-export. Due to rapid deforestation, a large part of the population, which was living in rural areas, had lost its source of economic support. Many of these people's livelihoods were based on forest produce and agriculture. Deforestation has led to change in the weather cycle as well as soil erosion, which damaged agriculture. At the same time the advent of consumerism and invasion of various status symbols has added fuel to the fire. Young people started migrating towards urban centres, where they were forced to work in low paid jobs due to their low level of education. Since their aspirations were high, males entered the more lucrative drug industry while women resorted to the sex trade. Young women find the sex trade, as barmaids, masseurs, dancers etc. one of the best available options with less competition and more money. Remittances in various forms made by these women to their homes in rural areas turns more and more girls to urban areas and to prostitution (Usher, 1993).

A similar phenomenon was also reported from Ghana in Africa. In 1960, the Ghanaian government took up a project to develop Akosombo hydroelectric dam. Under this multipurpose project, one of the largest man made lakes, the Volta Lake, was created in the Agomanya area. With the beginning of the project around 80,000 people in the area, predominantly agriculturists were displaced. Since these people had lost their traditional livelihood and societal structure, males started working as laborers in the project and some as fisherman. Females, who were till now supporting the home economy by helping in agricultural works, had no employment, but their homes were still in need of support. These females started taking jobs in hotels, bars and clubs, from where they were inducted into the sex trade.

With the end of construction work after five years, a major workforce went back. The local males and females of the area again lost their livelihood. Subsequently the males of the community migrated to other areas in search of employment as unskilled labourers. The females took their business to other cities and also to other countries. Because of the poor economic conditions the next generation of this migrant population remained in similar conditions. Moreover, because of patriarchal inheritance in this society, a child who does not know his or her father has no chance of ever inheriting. There were few opportunities for economic survival for the many illegitimate children born during the construction boom. The situation was especially difficult for the first cohort of girls born to young women who were just learning to survive by selling sex to construction workers. Today, the HIV prevalence among birth cohorts of pregnant women in Agomanya is highest. Many of them are the daughters of construction workers for whom there were no other economic choices but to follow their mother into sex trade (Decosas, 1996).

In case of males, however, the situation is not very different. Reducing employment opportunities in rural areas due to the degradation of traditional resources and natural calamities are equally responsible for male migration, which again contribute effectively in increasing HIV prevalence. For instance,

populations in West Africa are highly mobile. Fishermen follow the Southern coast from Cameroon to Liberia in pursuit of the seasonal migration of fish stocks; traders ply the coastal routes from Senegal to Nigeria; and farmers of the Sahel migrate to the plantations in the coastal countries to survive the dry season. Today, the main destination of migrants is Cote d'Ivoire. Among its populations of 12 million, one quarter is made up of migrants from neighboring countries. In the capital, Abidjan, this proportion is as high as 40 percent. Cote d'Ivoire also has the highest HIV prevalence rates in West Africa. The country has the largest concentration of mobile populations. It is, therefore, the place to observe the factors that make migrants vulnerable to HIV infection (Decosas et al, 1995).

Any large agricultural enterprise in Cote d'Ivoire may have camps of 2000 young male migrant workers. In these camps, the tight external (societal) control on sexual behaviour at their original place is temporarily replaced by a culture of male-ness. On the weekend after pay day, a convoy of 30 to 40 female commercial sex workers may arrive at the plantation, often brought from the town by the employer, and service a mean of 25 workers each over a period of two nights.

4.4 HIV AND SOCIO-ECONOMIC SITUATION IN INDIA

Reconstructing the situation in India, reveals many conditions which are similar. A study among STD clinic attenders at Ahmedabad (Gujarat) report that most of the infected male patients were migrants and their families were living in native places (Vora et al, 1994). There are also studies among truckers in India which report that truckers usually stay away from their homes for about a month continuously; in some cases they visit their families once or twice in a year (Bansal, 1995 and Rao et al, 1994). In these cases, where nature of employment is such buying of sex is not surprising.

During the past five decades urbanisation in India has increased (the urban population has become about 26 percent in 1991). This growth in urban population is because agriculture has become non-profitable for middle and low class farmers. Continuous loss in agriculture and increasing debt on these middle and low class farmers is creating frustration among them. The recent news about the suicide by many farmers in Uttar Pradesh, Punjab and Andhra Pradesh are extreme examples to show the problems faced by the farmers. To overcome such problems most of these people are migrating to urban centres in search of employment in various industries. In urban centres these people live in slums. Poor income does not allow them to visit their families frequently. To satisfy their sexual urge these people may go in for illegitimate and paid sex. Further, the women in rural areas remain dependent on their male partners for financial support, decreasing the women's ability to negotiate for safe sex when the men return, and fostering the spread of HIV from cities to rural areas. Women who remain in rural areas for protracted periods without their male partners may also take other partners, increasing their HIV risk (Lurie et al, 1995). Overall, socio-economic conditions are not only making commercial sex widely available but also generating clients for it. In this way, the socio-economic conditions are playing a major role in spreading HIV infection.

Impact of Structural Adjustment Programmes

During the period of the last two decades the Structural Adjustment Programmes (SAP) of the World Bank (WB) and the International Monetary Fund (IMF) have exacerbated the pre-existing socio-economic circumstances. Under this programme, developing countries were forced to enter into agreement to meet specified macro-economic targets—first with the IMF and later with the WB, if they need loan. The measures taken under SAP, seek to stimulate the growth of the private and export sectors in developing countries, thus making their economy competitive on the international market. From the internationalised perspectives, they enhance the security of loans, benefiting international lenders and others involved in trade with developing countries (Lurie et al., 1995).

The major impact of SAP on the socio-economic conditions includes (i) declining sustainability of the rural subsistence economy due to the shift to the large scale export agriculture, logging and mining which displaces rural subsistence producers, (ii) rural to urban migration, and (iii) increasing poverty and the widening gap between poor and rich. There were 310 million persons living below the poverty line in 1987-88. By 1992-93 the number of poor had risen to 355 million (Swaminathan and Ramachandran, 1995). The first and second impacts are closely interrelated and discussed. So far as the third is concerned, it generates pressures for sheer survival of the poorest and creates aspirations in others for being like the higher sections even while their own conditions do not allow it.

Cultural Context

With rapid social change, social values and priorities are in a state of flux: traditional structures being questioned and reformulated. Breaking of coercive authoritarian attitudes, such as the power of parents, religious dogma or community patriarchs over the individual has released creative potential and empowered some of the traditionally powerless, making them less vulnerable. On the other hand the influence of processes of globalization on the reformulation of our cultures are promoting changes, which weaken us against the onslaught of the menace of HIV. As economic structures change drastically under structural adjustment programmes, market driven competitiveness and insecurities increase, material pursuits become singular priority and individualism prevails.

Consumerism and high consumption life styles become the aspiration of a greater section of the population than ever before. Values of collective responsibility, of austerity, of self-restraint in consumption and in pleasure seeking, lose their place as social ideals. Sexual behaviour becomes one of the sources of expression of individuality and pleasure seeking. The responsibility associated with a sexual relationship is de-emphasized, especially with notions of individual freedom and loosening of family and community constraints.

The mass media is playing a major role in bringing about cultural changes. Commercial advertising is entirely devoted to establishing consumerism and plays upon the individual weaknesses and fantasies. Glorification of the powerful macho-male image and of his sexual pursuits creates a negative role model. The images of 'being modern' are also projected through sexier dresses and freer attitudes toward sexual relationships.

The desires thus generated and promoted are not possible to be fulfilled through socially legitimate relationships, given the family structure and the constraints on

conjugal life created by male migration or by over-crowded housing. This kind of culture change can only increase the sexual exploitation of women. Increasing sexual harassment and assaults on women and even the girl child are one outcome. A stark illustration of sexual exploitation of women is provided by the spate of new magazines that came into the market

Thus, for HIV/AIDS prevention with a long-term and sustainable perspective, we need to create an environment conducive to continuation of the norm of sexual activity within marriage. Even while developing economic security will be crucial for this, social and cultural dimensions also need to be addressed. Strengthening of social values, of self-control and of respect for social institutions are important dimensions. Evolving gender relationships based on mutual respect and sharing is the second.

4.5 ROLE OF MEDICAL SYSTEM IN PROMOTING HIV TRANSMISSION

The medical system influences **extent of spread** of HIV in several ways. It can *decrease the spread* by diagnosing HIV positives early, providing them supportive services and counselling in a manner that decreases their suffering and social stigma, as well as **ensure behaviour** that does not transmit HIV. On the other hand *it promotes spread* by-

- i) Transfusing blood and blood products that have not been screened for HIV.
- ii) The medical system prescribes blood transfusion generating a demand for human blood which is not fulfilled by voluntary or replacement donation. This creates the need for 'professional' blood donation. Economic disparity generates the 'supply' by forcing people to resort to selling their own blood.
- iii) A significant proportion of the blood transfusion is unnecessary and meaningless.
- iv) Medical equipment such as needles and syringes can transmit HIV if used without the generally applicable, routine anti-sepsis procedures. A simple sterilization procedure practiced by the health care provider at the point of use is the surest way to safety but is often not practiced because of a negligent attitude, overcrowding in health care institutions and lack of adequate facilities and equipment.
- v) The grossly unnecessary over-use of injections by practitioners is well known.
- vi) Stigmatization of HIV positive patients and instances of doctors' refusal to treat them has been a very negative influence for HIV spread. It leads to hiding of HIV status from the treating doctor, thus increasing chances of spread from patient to patient.

Such behaviours in the medical service system that promote HIV transmission are again not just issues of an individual doctor or health care provider. Many factors influence it at several levels.

'Professionalisation' is, like socialisation, the process whereby a layperson becomes a member of a profession. Medical education includes not just the content of medical science but also imbibing attitudes, work culture and ethics.

Non-practice of professional ethics in general contributes to all the medical behaviours, which promote HIV transmission. This in turn is a result of several factors.

Social conditions and professionalisation must inculcate social responsibility and ethical practice. Individual providers must have moral strength to withstand the negative pressures of the societal trend but most are swept along with the tide. The tide, therefore, needs to be turned.

4.6 LET US SUM UP

This unit has focussed upon the role of societal factors in influencing sexual behaviour patterns and the practices of health care providers. Similar factors and analysis can be extended to other behaviours, e.g. intra-venous drug abuse. Economic and cultural factors contribute to shaping of behaviour patterns in a society. Individuals retain their right to be different but are even then moulded by the societal environment in general and their own conditions in particular.

Check Your Progress II

1. How does the medical system extend the spread of HIV through negligence?

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4.7 KEY WORDS

- Hetero-Sexual** : Persons who are attracted to members of the opposite sex and, if they have sex, do so exclusively with an opposite-sex partner.
- Homosexual** : People who are sexually attracted towards members of their own sex (same sex) and, if they have sex, do so with a partner of the same sex.
- Bi-sexual** : People who engage in sexual activities with people of both sexes.
- Gay** : Refers to persons who have conscious of erotic inclination towards their own sex as a distinguishing characteristic.

4.8 MODEL ANSWERS

Check Your Progress I

1. Describe briefly any two socializing agencies for a child.

(i) The Family

Children pick up ways of behaviour characteristics of their parents or others in their neighbourhood or community. Varying patterns of child rearing and discipline, together with contrasting values and expectations, are found in different societies. Parents are able (in varying degrees) to enforce codes of conduct upon their children.

(ii) Schools

Schooling is a formal process: there is a definite curriculum of subjects studied. Yet schools are agencies of socialization in more subtle respects too. Alongside the formal curriculum there is what some sociologists have called *a hidden curriculum conditioning children's learning*. The social stereotype images of male and female roles and their relationships are often communicated through the textbooks and the different behaviour codes enforced for boy and girl students.

Check Your Progress II

1. How does the medical system extend the spread of HIV through negligence?

Medical system promotes spread by-

- (i) Transfusing blood and blood products that have not been screened for HIV.
- (ii) The medical system prescribes blood transfusion generating a demand for human blood which is not fulfilled by voluntary or replacement donation. This creates the need for 'professional' blood donation. Economic disparity generates the 'supply' by forcing people to resort to selling their own blood.
- (iii) A significant proportion of the blood transfusion is unnecessary and meaningless.
- (iv) Medical equipment such as needles and syringes can transmit HIV if used without the generally applicable, routine anti-sepsis procedures. A simple sterilization procedure practiced by the health care provider at the point of use is the surest way to safety but is often not practiced because of a negligent attitude, overcrowding in health care institutions and lack of adequate facilities and equipment.
- (v) The grossly unnecessary over-use of injections by practitioners is well known.
- (vi) Stigmatization of HIV positive patients and instances of doctors' refusal to treat them has been a very negative influence for HIV spread. It leads to hiding of HIV status from the treating doctor, thus increasing chances of spread from patient to patient.

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UNIT 5 HIV/AIDS AND ETHICAL ISSUES

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- 5.1 Introduction
- 5.2 The Fundamental Rights of Persons Living with HIV/AIDS to Care and Treatment
- 5.3 The Futility of Discrimination against Persons Living with HIV/AIDS
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- 5.5 Futility of Criminalisation of HIV Transmission
- 5.6 Ethics of Developing Drug-policy Against HIV/AIDS
- 5.7 Ethics and HIV Vulnerable Population
- 5.8 Living Positively with HIV/AIDS
- 5.9 Let Us Sum Up
- 5.10 Key Words
- 5.11 Model Answers
- 5.12 Further Readings

5.0 AIMS AND OBJECTIVES

Ethics in the context of HIV/AIDS deals with the basic attitudes that both the HIV/AIDS affected people and the general public in a society should have, in order to promote the quality of human life, even when it is disrupted by this pandemic. The purpose of this unit is to develop the ethical or moral guidelines that should enable everyone to deal with the HIV/AIDS pandemic and its victims with dignity, respect and love which any human being deserves while protecting the lives of the general population from getting infected, and enable everyone to promote better quality of life even in the midst of this scourge of HIV/AIDS.

Ethics of HIV/AIDS, in the context of the prevention of the disease and care of the already infected people, should concentrate on three areas:

1. People Affected by HIV/AIDS

This ethics should promote the care and treatment persons affected by HIV/AIDS should get; it should guarantee strong action to protect individuals against discriminatory treatment or any form of persecution or ill treatment; it should protect the dignity of the affected as human beings.

2. The General Public

It should positively address the need to protect public health by helping to promote ways of preventing the spread of HIV/AIDS.

3. The Quality of Human Life to be Enhanced

It should enable everyone, both the infected and the non-infected to 'live positively' with this pandemic of HIV/AIDS. The quality of human life should be enhanced in the way we deal with HIV/AIDS.

Conflict between public health and fundamental rights of an individual, a classic instance of utility (for many) versus liberty (for the few), seems to be the two boundaries of the ethical constraints within which we have to operate in developing this ethics. On the one hand, there is for the affected individual the

possibility of discrimination in the form of loss of employment or residence and a risk of public shunning. There is a possibility of psychological distress, which may be acute enough to lead to suicide. On the other hand there is the concern for public safety: the right of the public to be protected against getting infected.

Therefore, one has to strike a balance between protecting public health, and also protecting infected individuals. Any one-sided and divisive approach that sets fundamental rights of individuals in opposition to public health, or vice versa, or which does not give hope to both the affected and non-affected cannot be considered as constructively ethical.

After staying this unit you should be able to:

- Describe the various ethical issues in HIV/AIDS pandemic
- Identify the basic rights of persons living with HIV/AIDS
- Enumerate the different ways in which these rights can be violated in the effort to protect the public from infection
- Identify the groups of people who are likely to be discriminated against in the context of the pandemic of HIV/AIDS
- Develop more constructive ways of dealing with people living with HIV/AIDS in a way that leads to prevention of further contagion
- Explain how quality of life can be enhanced through dealing with HIV/AIDS

5.1 INTRODUCTION

As you have already seen in the units covered so far, in the case of HIV, a person, once infected is infected for life – and is infectious for life.

This unit deals with the ethical issues in HIV/AIDS pandemic. Before you proceed with this unit, please take some time to do the following exercise. Please try to examine your attitudes calmly, and answer the way you feel at present. After finishing this unit, you will be asked to do it again to see if as a result of doing this unit your attitudes have changed.

Student Activity 1

For the following 10 statements, please choose a score. If you agree with the statement fully, you get 5. If you do not agree with the statement, you get 1. If you mostly agree with it, you get 4. If you mostly disagree with it, you get 2. If you are in between agreeing and disagreeing you get 3. Circle the score you choose for each sentence.						
1	If I visit a hospital where there are HIV/AIDS patients, I will avoid visiting them	1	2	3	4	5
2	I am convinced that HIV/AIDS patients contracted the disease through their immoral activities	1	2	3	4	5
3	I will argue for the compulsory testing of the whole population to prevent the spread of HIV/AIDS	1	2	3	4	5
4	Commercial sex workers are spreading HIV/AIDS. Therefore I will argue for making prostitution a criminal offence	1	2	3	4	5

5	HIV spreads through needle sharing among the drug addicts. Therefore all the drug addicts must be jailed immediately.	1	2	3	4	5
6	Since HIV is a fatal infection, it is a good idea to publicise the names of the people who test positive for HIV, so that others can avoid them.	1	2	3	4	5
7	HIV positive people should not be allowed to continue to work with others, for fear of infecting them.	1	2	3	4	5
8	Once a person is affected by AIDS, it is better for him/her to die immediately, as they have nothing to hope for in life.	1	2	3	4	5
9	HIV can be prevented only through criminal laws against people who spread it, like, commercial sex workers, homosexuals and drug addicts.	1	2	3	4	5
10	All homosexuals and drug addicts are HIV-positive and therefore infectious.	1	2	3	4	5
<p><i>Add up all the circled numbers and write the total in the next column. If your score is more than 20, your attitude towards HIV/AIDS can be considered as not ethical enough.</i></p>						

5.2 THE FUNDAMENTAL RIGHTS OF PERSONS LIVING WITH HIV/AIDS TO CARE AND TREATMENT

Often persons living with HIV/AIDS face difficulty in obtaining access to quality care and treatment. Some health care professionals refuse to treat persons living with HIV/AIDS for their HIV-related illnesses or medical problems that are unrelated to HIV. At times they develop an attitude that HIV-positive persons are just not worth receiving quality, expensive medical care. Apart from these prejudices against HIV positive individuals, often there are prejudices within the medical profession against commercial sex workers, homosexuals, injection-drug users, women, prisoners, truck drivers etc.

The ethical questions that are raised are:

- 1) Do health-care professionals have a duty to treat patients with HIV/AIDS?
- 2) Do people affected by HIV/AIDS have a right to have access to care and treatment?

Generally speaking the doctor has a moral duty to treat all patients, including patients with HIV/AIDS. This duty comes from the doctor's professional ethics that obliges a medical practitioner to treat all patients that they are competent to help. This duty is also involved in the oath that every doctor takes at the beginning of his/her practice.

People with HIV/AIDS have the same right to health care and respectful treatment as any other person. The right to health is in the directive principles of

the constitution Article 47. Article 21 of the constitution guarantees right to life as a fundamental right. HIV/AIDS patients are in no way excluded from this fundamental right. Health-care providers therefore have the obligation to provide that care, and it is unethical for any health provider:

- (1) To refuse to provide care for any person who is HIV-positive or who has AIDS, or
- (2) To make the care of any person conditional on that person having an HIV test.

Though the physicians have an obligation to treat patients with HIV/AIDS, this obligation does not seem to be unlimited. (There are some factors, which might limit the obligation. Some of such factors are, for example, excessive risks, questionable benefits and incompetence of the health care provider). Sometimes people are refused treatment using such clauses.

Another important issue is that, while one can assert a duty to treat, one cannot argue that the medical professionals or the general public have a duty to be unafraid. Similarly, one cannot coerce empathy or any other feelings or attitudes that are essential to the development of caring relationships between physicians and patients. It should come from an attitudinal change on the part of the health care professional. Therefore there is a need to stress the importance of education of health-care workers and institutions about:

- how to treat HIV,
- the risk (or absence thereof) of patient-doctor contact,
- the methods of preventing transmission,
- their ethical and legal duties to provide care, and
- the existence of significant legal penalties.

Check Your Progress I

1. Why does the HIV/AIDS patient have a right to care and treatment?

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5.3 THE FUTILITY OF DISCRIMINATION AGAINST PEOPLE LIVING WITH HIV/AIDS

The core of the Universal Declaration of Human Rights is the postulate that all human beings have equal rights. Denying human rights to people affected by HIV/AIDS is denial of this fundamental right and thus discrimination.

How a government chooses to confront the AIDS epidemic reflects its underlying interests, values, and systems, as well as those of the society it claims to serve.

How a country treats its own people with AIDS and HIV – or those at risk for HIV – thus would reflect its general approach to human rights. HIV/AIDS thus becomes an acid test for a country and its government regarding its respect for human rights.

In the context of AIDS, respect for human rights and dignity of those affected by this malaise is not only an ethical and legal imperative, but also the basis for our efforts to prevent the spread of HIV. If HIV infection leads to stigmatisation and discrimination, those affected will actively avoid detection and contact with health and social services. The result will be that those most needing information, education and counselling will be 'driven underground.' There can no longer be any doubt that respect for human rights saves lives. Indeed, there has been a realisation that protection of human rights is a necessary component of HIV/AIDS prevention and care, and that health and human rights are inextricably linked. Discrimination hurts the fight against AIDS. Therefore the protection of the rights and dignity of HIV-infected persons is an integral part of the Global AIDS Strategy. In short, the human rights of HIV/AIDS patients must be protected for the following reasons:

- (1) Because it is their fundamental right;
- (2) Because preventing discrimination helps ensure a more effective HIV prevention programme;
- (3) Because social marginalisation intensifies the risk of spreading the HIV infection; and
- (4) Because a society can only respond effectively to HIV/AIDS by expressing the basic right of people to participate in decisions which affect them.

The protection of the uninfected majority depends upon and is inextricably bound with the protection of the rights and dignity of the infected persons. As mentioned earlier: "If our society cannot take care of a few who are HIV/AIDS affected, it may not be able to save the many who are healthy."

Types of discrimination

Three different possible types of discrimination can be listed below in order to point out how it is counterproductive:

1. Against high-risk groups

Persons who do not belong to this category place themselves at risk through the sexual behaviour that they choose. On the other hand, others in the so-called 'risk groups' may well have chosen to behave in ways that do not place them at risk. Hence discrimination becomes meaningless.

2. Against HIV-positive people

The ethical basis for non-discrimination is the ancient principle that equals should be treated equally – that distinctions should be made between people only on grounds that are morally relevant. The significant thing about someone who is HIV-positive is that, as a carrier of the AIDS virus, that person may be instrumental in bringing about the illness and death of another person. If, for instance, within the closed and imposed context of a prison, people are located in different places solely on grounds that they are HIV positive or negative, it may be

morally justified. It is, however, not ethical if the prisoners in the HIV prison are offered worse facilities when compared to the HIV negative prisoners. If a prison is named as HIV prison, it would rightly be considered a breach of fundamental right to make a person's medical condition a matter of public knowledge. It might be practically impossible to achieve such segregation without breaching this ethical principle.

3. Against people with AIDS

They must be protected from arbitrary shunning in work or housing as HIV/AIDS does not spread through social contacts. Therefore social discrimination towards them is unjustifiable.

Suggestion for Combating Discrimination

Some suggestions for combating HIV/AIDS-related discrimination include:

- making changes in the area of human rights legislation and enforcement,



- creating a more supportive environment for persons living with HIV/AIDS as well as the groups most affected by the disease,
- strengthening anti-discrimination laws,
- expanding legal services,

- developing more rational insurance practices,
- educating health-care providers.

Proactive responses are those responses that seek to identify the causes of discrimination and to deal with these before conflict arises. They are important while dealing with HIV. **Reactive responses** are those responses that depend upon those who are discriminated against seeking redress after the event. It is to be stressed that various proactive responses include legislative responses, advocacy, and public declarations by influential individuals or groups, proactive ethical approaches and educational responses. The approach in this Unit can be considered as a proactive ethical approach.

The Question of HIV/AIDS and Insurance

Since a level of discrimination is the essence of insurance policy, especially of health insurance, it may be difficult to exclude testing and consequent exclusion of HIV-positive people from life insurance. Some sort of arrangements for the care of the AIDS patients should be one of the priorities of the government

Check Your Progress- II

1. Why there should not be any discrimination against people living with HIV/AIDS? Give reasons.

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5.4 ETHICS OF LEGISLATION ABOUT HIV/AIDS

Models for Legal Intervention

One of the responses to HIV/AIDS has been an 'epidemic' of laws and policies enacted by many countries all over the world. These laws relate to public health, civil liability for HIV transmission, discrimination, homosexuals, sex workers and their clients, employment, injecting-drug-use, therapeutic and preventive goods (including condoms, HIV test kits and injection equipment), the media, broadcasting, censorship, privacy, etc. As early as May 1991, the World Health Organisation listed 583 laws and regulations concerning HIV infection and AIDS enacted by different countries. To this, more than 170 laws from the United States had to be added.

The effectiveness of this legal response, however, has to be evaluated. In the words of one legal expert, this 'judicial outburst,' while it may have solved some problems, has caused the appearance of "a new virus, 'HUL' (= for Highly Useless Laws)." It is generally agreed that many of the legal or policy responses to HIV/AIDS are useless and often can be harmful and counterproductive.

Instead of being based on an understanding of the medical issues, medical research and its findings, they are driven more by fear and the resulting public demand for action. We know that the legal response to HIV/AIDS is important, but what should the legal response actually be?

Legislation in this matter should be able to assist in strategies for the care and treatment of people with HIV and help to reduce the spread of HIV. The approach of the law in responding to AIDS should encourage the cooperation, confidence and trust of those infected and at risk by protecting their dignity and integrity.

There could be three main models through which the law can be incorporated into HIV/AIDS policy:

- (1) The traditional proscriptive model that penalizes certain forms of conduct.
- (2) The model that focuses on the protective function of the law and the need to uphold the rights and interests of persons living with HIV/AIDS.
- (3) A third model that seeks to use the law actively to promote the changes in values and patterns of social interaction that lead to susceptibility to HIV infection.

Proscriptive model

A large number of countries have adopted provisions for compulsory reporting of HIV and AIDS, providing penal sanctions for knowingly spreading HIV, establishing procedures for mandatory testing for HIV, or enacting other proscriptive laws directed specifically at HIV/AIDS. The coercive nature of such laws, far from encouraging conduct that will reduce the spread of HIV, has actively impede prevention efforts by alienating those people who are at risk of HIV and making it less likely that they will cooperate in prevention measures. Lawmakers must be sensitive to not only to the direct but also to the indirect impact of legal sanctions. The particular dynamics of AIDS and HIV infection suggest that proscriptive laws will rarely be an appropriate policy response if they seek merely to target the conduct of people with HIV or activities that give rise to HIV infection risks. In this guise, the role of the law is a negative one rather than a positive one, and the challenges of HIV/AIDS are such that an effective policy requires more than negative prohibition. Of all the different models of the law one can follow, the proscriptive model has the least scope for a creative application to policy formulation.

Protection of an individual

The second model for the role of law in HIV/AIDS policy focuses upon how the law can protect people from discrimination, breaches of confidentiality and other harmful and undesirable occurrences. This model has been of central importance in the context of the legal response to HIV/AIDS because of the proliferation of discrimination against people with HIV and because of the increasing recognition, both nationally and internationally, of the interplay between AIDS and human rights. Protective laws may help to enlist the support and cooperation of people at risk of HIV in prevention strategies. Decisive and firm legal intervention may be what is required in the context of measures to protect the rights of people with HIV.

Proactive Model

The third model for legal intervention mentioned above is the most controversial, but arguably may also be the most important. It operates on a broader and more far-reaching level. It suggests that the law can play a proactive role not merely in mediating rights and obligations as between individuals but also in seeking to change underlying values and patterns of social interaction that create vulnerability to the threat of HIV infection.

The challenge for HIV/AIDS policy is to recognise the need to address not only what might be called the 'HIV/AIDS-specific' issues, such as HIV education programmes and research into new barrier methods to prevent HIV transmission, but also the underlying social and economic factors that deprive individuals of the power to protect themselves against HIV infection. The law can be used as an instrument to provoke or reinforce the required changes, "as a sword rather than a mere shield." These interventions will require a creative approach to the law, which recognises that the law can play more than just a direct proscriptive or protective role. With such an approach, there is a real potential to use the law proactively and constructively in response to HIV/AIDS.

5.5 FUTILITY OF CRIMINALIZATION OF HIV TRANSMISSION

Whether or not the criminal law should be used to deal with the behaviour of persons living with HIV/AIDS who put others at risk of contracting HIV is one of the most hotly debated topics.

Any person who engages in any high risk behaviour knowing that he or she has been infected with the human immunodeficiency virus is certainly committing a criminal offence. The routes of contagion are usually used as a norm to demarcate HIV/AIDS population into two categories: *the guilty majority* and *the innocent minority*. Gay men, injecting drug users and promiscuous men and women are supposed to belong to the first category, and haemophiliacs and other transfusion cases to the second category.

In attempting to 'criminalize' certain behaviour by people infected with HIV, the criminal justice system at times tends to ignore the conclusions of public health officials. The strategy of some prosecutors of charging people with serious crimes for committing certain acts while knowing they are infected, discourages people from learning their HIV status and seeking diagnosis and treatment. Further, by attempting to charge people with serious crimes for actions that cannot transmit the virus, criminal justice system is undermining efforts to educate people about the real risk of transmission. There is a real risk that judges and juries will punish people not because they have committed dangerous acts, but because they are homosexuals or commercial sex workers or drug users.

Public health laws will be better suited than criminal law to deal with those individuals who, knowing that they are infected, engage in behaviour likely to transmit HIV without using precautions and without previously informing their partners about their HIV status.

Many argue that traditional criminal laws are ill-suited to the context. They seem to be ineffective and inappropriate in dealing with conducts likely to transmit HIV. Unlike traditional penal laws, statutes made in many countries regarding HIV do not require proof of either 'harm,' 'causation,' or 'state of mind': it is sufficient that the accused engaged in the forbidden behaviour - persons would commit a criminal offence if, knowing that they are HIV-infected, they engage in sexual intercourse or other activities that could potentially transmit HIV, without previously informing their partner about their positive HIV status.

However, it must be pointed out that in this matter, use of criminal law serves only a limited purpose. For example, in a case where individuals knowing they are infected choose to engage in behaviour that will probably lead to the infection of others, criminal prosecution for the purpose of punishment and deterrence can be justified. Also, creating a provision that would deal only with HIV/AIDS, thereby singling out HIV/AIDS from other serious communicable diseases is blatantly unfair to HIV/AIDS patients. The criminal justice system may be an inappropriate mechanism through which to combat the AIDS crisis. Criminalisation of HIV transmission would encourage people to avoid testing, threaten the privacy of sexual relationships and encounters, and raise a risk of official harassment and abuse.

Even those who argue in favour of using the criminal law often concede that it has only a minor role to play in preventing the spread of HIV and that ultimately the major role will be played by education rather than coercion.

Check Your Progress- III

1. What are the main models through which law can be incorporated into the HIV/AIDS policy?

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6 ETHICS OF DEVELOPING DRUG POLICY AGAINST HIV/AIDS

In the 1980s, when AIDS broke out, the system regulating the approval of new drugs underwent some changes as a result of AIDS activism. There certainly was a conflict between the anxiety and urgency perceived by those seeking access to new drugs and treatments on the one hand, and scientific method, on the other hand. Both had their justifications and both sets of demands must be seen as legitimate. However, it is ethically very important to conserve the central points of the philosophy of drug regulation. Drugs should not be licensed for

marketing until they have been proved safe and effective under proposed conditions of use. Any change in the process regulating drug approval should be at least consistent with, if not positively enhancing of, the ability to speedily conclude sound scientific evaluations of any new treatments. On the other hand, it can be said that people with life-threatening illnesses like AIDS or cancer have exceptional rights, and should be allowed access to experimental drugs before these have been formally approved.

The important tenets of a healthy drug-policy should prevail in order to remedy potential manipulations and exploitation by the drug industry of both the medical profession and the patients.

Check Your Progress IV

1. Any way the AIDS patients are sure to die of this disease. What is then wrong with trying some untested drugs on them? Discuss.

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5.7 ETHICS AND HIV VULNERABLE POPULATION

Drug Addicts and HIV/AIDS

Until the outbreak of HIV/AIDS, drug-addiction was considered in general as a law and order problem, or a crime. The advent of the AIDS pandemic has changed it. It has become a public health concern. A sensible strategy in dealing with drug-addiction would be to aim at harm minimisation, rather than total legal prohibition.

Instead of reaching out to the drug addicts with the healing touch that they require, often they were discriminated against and ostracised. A group that was often most in need of services was denied access or actively discouraged from accessing these services.

The existing drug laws in many countries negatively affect efforts to prevent HIV infection and to care for HIV-positive drug users. These laws and policies make it difficult to reach and educate them. It is because drug use is treated as a criminal activity rather than a health issue. They create a culture of marginalised people, driving them away from traditional social support networks. They foster a reluctance to educate about safe drug-use practices, for fear of condoning or encouraging the use of illegal drugs. They foster public attitudes that are vehemently anti-drug user, creating a climate in which it is difficult to persuade people to care about what happens to their fellow citizens who use drugs. They focus too much attention on punishing people who use drugs, thereby downplaying critically important issues such as why people use drugs and what

can be done to help stop unsafe drug-use practices. The drug users, rather than being offered easy access to treatment for both their drug use and HIV/AIDS, are being "driven underground."

There can be no question that concern about HIV/AIDS, especially about the connection between the sharing of contaminated needles and the spread of HIV. Many are officially embracing the so-called "harm-reduction approach" to drug use. Under this approach, the first priority is to decrease the **negative consequences** of drug use rather than its **prevalence**. There is a distinction between harm-reduction approaches and approaches advocating decriminalisation of drugs. Harm-reduction approach **may or may not include** the goal of decriminalisation of drug use, but, even if it does, this will only be **one of many** components of a strategy to reduce the harm from drug use, rather than its primary goal. Supply of clean needles should be seen in this context, and not in the context of promoting a permissive attitude towards drug use.

Homosexuals and HIV/AIDS

Human Immunodeficiency Virus can spread through any intimate sexual contact, whether it is heterosexual or homosexual. The fact that the effect of human immunodeficiency virus is the same whichever way it enters a human body. We may have different moral or ethical convictions regarding different sexual orientations. Once HIV affects a person, it is unethical to discriminate him/her on the basis of our moral convictions about various sexual orientations. The ethical duty of everyone is to reach out to those unfortunate fellow human beings with compassion and care.

Statements like "All gay men have AIDS and are infectious," or "Gay men are to blame for AIDS," or "All drug addicts have AIDS and are infectious," are as absurd like statements like "All heterosexuals have AIDS" because AIDS can spread through heterosexual contacts too.

Often people with HIV infection or AIDS are not referred to as members of a single community or society to which we all belong, but as 'them.' This process of creating 'Us' and 'them' is called a process of 'disidentification.' This process of 'disidentification' is inherent in all forms of discrimination. The advantage of this misidentification is that it helps us to discriminate against 'them.' HIV/AIDS is a good example of this. Most citizens are not involved in the AIDS fight: they are uninvolved because they do not perceive themselves to be at risk of infection. Others are different. Gay and bisexual men and women and intravenous drug users represent the "them" to a large majority of the population. Persons infected, or perceived to be infected, with HIV are regarded as alien and threatening. This is one of the most unethical attitudes that is condemned in the Sacred Writings of all the religions in our country, and this attitude can be described as one of "self-righteousness."

Prostitution (commercial sex workers) and HIV/AIDS

Usually public health initiatives and media accounts emphasise the role of CSWs as people who infect others rather than people who are infected by others. People do not seem to be concerned about whether CSWs themselves get infected from their clients and die. The only discussion is whether they transmit the virus to their male customers, who then pass it on to their 'innocent' wives and

children. All over the world, CSWs are being made the scapegoats for heterosexual infection. This scapegoating is taking place in the context of a general viewing of women as vectors for transmission of the disease to their male sex partners and their babies. Laws were introduced to protect the interests of CSWs' clients, considered to be potentially innocent victims of AIDS, at the expense of CSWs on whose side guilt is deemed to lie.

Certainly, there is a legitimate community interest in regulating, and in some places controlling and prohibiting prostitution.

Earlier we have dealt with the question of mandatory testing directed to CSWs and suggested alternative ways of reducing the spread of HIV among CSWs and to their clients. The attitude of compulsory measures, which focus exclusively on CSWs, but not on clients, is evidently unjust and unethical.

The importance of examining existing laws on prostitution was also recognised by the WHO, which held a consultation on HIV epidemiology and prostitution in 1989. One of the recommendations put forward by the consultation was to organise a meeting "with appropriate representation from the international legal and civil rights communities" to address issues such as "laws which impinge on social, economic, and legal rights of CSWs and therefore impede HIV prevention efforts."

Women and HIV/AIDS

The HIV/AIDS pandemic highlights the plight of human beings who are victims of the world's most pervasive inequality - women. The HIV epidemic seems to have taken the age old sexual, economic and cultural subordination of women and translated it into a death sentence for women.

The most striking feature in dealing with women and HIV/AIDS is that it deals with women as **mothers** or as **future mothers**, and rarely about **women as women** and the many problems they face in dealing with HIV/AIDS.

As pointed out earlier, ever since the finding that administration of AZT and or similar drugs to **pregnant** HIV-positive women can reduce transmission of HIV from mother to **child**, many people are advocating compulsory testing of pregnant women of **childbearing** age, and/or **new-borns**. The concern was and is the reduction of HIV transmission from mother to child, and the early detection of HIV infection in **new-borns**. Before the discovery of the effectiveness of AZT, the fear was that a **compulsory** screening programme among pregnant women would lead to advocacy for **abortion**, and would take women's reproductive choices away from them.

The ethical issue here is that women who are not pregnant or of childbearing age find it difficult to access HIV testing. This raises the issue of whether there is less concern about the welfare of women than for that of their children or potential children. Provisions must be made that testing of women should always be accompanied by concurrent legal protection for them, such as anti-discrimination and informed consent laws, and it must be linked to the availability of early clinical intervention programmes to them.

Attempt to address the needs of women and children with HIV must, for reasons both ethical and pragmatic, be broadened to encompass more of the women's

own health and support needs. Women must not only receive the message that health systems are interested in them only or primarily because of their children.

Woman's varying life situations should be systematically taken into consideration in the formulation of responses to the epidemic.

Poverty and HIV/AIDS

Poverty becomes a reality in relation to HIV infection - some people become poor because they have AIDS and people who are poor can be more at risk. In developing countries poverty seems to play a central causal role in AIDS epidemic. When informed about the fatal nature of HIV infection, the statement that a poor man living below poverty line in India made was: "I prefer to die of AIDS than of poverty and famine." Therefore many see the relief of poverty as a key to prevention of HIV/AIDS, especially in these countries. It is true that programmes to combat AIDS in the developing countries are inevitably drawn into the wider economic and social problems of the people with whom they are involved.

AIDS has become a major political issue. It is good to an extent because action in national and international level can be promoted to combat the disease in the context of eradicating poverty. The unacceptable side effect of politicisation of HIV/AIDS, however, is that it tends to divide human beings into some as privileged and others as underprivileged. Many people often see the disease as an affliction of marginal groups. As a result, they tend to see the ethical and legal issues generated as essentially matters of human rights: the marginal groups have to be protected against the discrimination that is prompted by their assumed connection with a lethal and incurable infectious disease. Here the responsibility to guard against the spread of infection is considered to be the responsibility of everybody else, not of the victims. Others, perceiving the issue in terms of guilt and innocence, of morality and immorality, seeks solutions in legislation directed against the target groups. What is needed here is the necessity to be united and have the fellow-feeling and a common sense of human vulnerability in dealing with HIV/AIDS.

5.8 LIVING POSITIVELY WITH HIV/AIDS

There seems to be universal conviction that ethics, whether we describe it as morality or *dharma*, deals with the principles of human duty, of good conduct or the logic of moral discourse. From the beginning the ultimate goal of ethics was real goodness and happiness of human persons. Ethics is, thus, the science that should enable us to attain that goal in our life that can be described as human self-realisation, or *sadhana*. This goodness and happiness ultimately depends on a person's relationship with other persons, the nature where he/she is situated and living, and his/her way of dealing with the ultimate questions of life, including the possible relationship with the Ultimate Being. Harmony in life has been the eternal quest of sages of this country, harmony with *satya and Dharma*, cosmic order, ontological realm of the self and social obligations.

Ethics in the context of the pandemic of HIV/AIDS should be one that enables people who live with HIV/AIDS and all others to achieve greater quality of life. HIV/AIDS may also be considered as a "moral booster!" for, HIV/AIDS touches all the important existential variables of human life: "The AIDS epidemic

has rolled back a big rotting log and revealed all the squirming life underneath it, since it involves, all at once, the main themes of our existence: sex, death, power, money, love, hate, disease and panic." (Edmund White : 1986).

Anthony Perkins, (1932–92), U.S. screen actor made this statement published posthumously in *Independent on Sunday* (London, September 20, 1992): "I have learned more about love, selflessness and human understanding in this great adventure in the world of AIDS than I ever did in the cut-throat, competitive world in which I spent my life."

Having a positive attitude to life means:

- knowing and accepting that they are infected
- knowing and understanding the facts about AIDS
- taking steps to protect others from their infection
- taking care not to expose themselves to further HIV infection or other infections
- taking special care of their physical health and treating symptoms of ill health as soon as possible.
- having access to emotional support
- continued participation in social life
- eating well and avoiding or learning to cope with stressful situations.

This attitude can be described as "Living Positively with AIDS." To illustrate what it means "to live positively with AIDS", the following quotation from a book by Noerine from Uganda entitled *We Miss You All* seems to be very helpful:

"Living positively with AIDS. The public health messages were saying: "Beware of AIDS. AIDS kills", "You catch it and you are as good as dead." There were no messages for those people who were already infected. What was implied was that people who were already infected should die and get it over with. People with HIV and AIDS were seen as dying. We adopted the slogan of "living positively with AIDS." For us it was the quality rather than quantity of life that was important. Once infected with a deadly virus like HIV people need to take definite steps to enhance the quality of whatever life they have left. They must develop a positive attitude to life.

This seemingly complex philosophy is attainable. Achieving positive living is a process, with ups and downs, in which we all need support. It is part of working through the various feelings that having HIV may bring: shock, denial, anger, bargaining, acceptance and hope. Counsellors, carers, and friends should learn to recognise this instability, and not be frustrated when progression through the stages seems erratic, and we regress to former emotional reactions. We need to be accompanied through these stages by a sensitive, understanding friend who pledges to be there for us.

"The slogan is 'Living positively with AIDS' and calls on everyone in society, infected or non-infected. To the person who is infected it calls on them to live responsibly with the HIV infection in their blood, to face up to the infection as a starting point. It calls on them to recognise their responsibility to society, the responsibility to retain the amount of virus they have in their blood, and not spread

it around, by making the effort not to infect others. It also calls upon people who got infected to look after themselves better, and preserve themselves until a cure comes. It calls to people who are infected to remain actively involved in society, and in social activities within society. It also calls upon the rest of society to support people with HIV infection so that they can fulfil their obligations... Acceptance of people with HIV or AIDS within our community is a very important starting point for dealing with the problem." (Anthony Perkins).

With the onset of HIV/AIDS, suddenly life becomes both very precious and very precarious. Every second, and every moment of life, acquires an urgency. It is important to live every second. Everything from fear to hope becomes very vivid. There are AIDS patients who claim that they felt they had really come to life for the first time through this disease. The aim of learning to live positively with AIDS is to survive and live as creatively as possible with the disease, to maintain some sense of control and self-esteem in the face of this fatal illness.

The decisive question one has to ask in our country in the context of dealing with HIV/AIDS is whether our attitude towards people living with HIV/AIDS, our efforts at containing the contagion of this disease, the way we care for HIV/AIDS patients, enable all of us, the infected and the non infected, enhance the quality of life.

Student Activity 2

Please do the following exercise, which you did at the beginning of this unit, and see if there has been an attitudinal change in you towards HIV/AIDS:

For the following 10 statements, please choose a score. If you agree with the statement fully, you get 5. If you do not agree with the statement, you get 1. If you mostly agree with it, you get 4. If you mostly disagree with it, you get 2. If you are in between - agreeing and disagreeing you get 3. Circle the score you choose for each sentence.

1	If I visit a hospital where there are HIV/AIDS patients, I will avoid visiting them	1	2	3	4	5
2	I am convinced that HIV/AIDS patients contracted the disease through their immoral activities	1	2	3	4	5
3	I will argue for the compulsory testing of the whole population to prevent the spread of HIV/AIDS	1	2	3	4	5
4	Commercial sex workers are spreading HIV/AIDS. Therefore I will argue for making prostitution a criminal offence	1	2	3	4	5
5	HIV spreads through needle sharing among the drug addicts. Therefore all the drug addicts must be jailed immediately.	1	2	3	4	5
6	Since HIV is a fatal infection, it is good idea to publicise the names of the people who test positive for HIV, so that others can avoid them.	1	2	3	4	5

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7	HIV positive people should not be allowed to continue to work with others, for fear of infecting them.	1	2	3	4	5
8	Once a person is affected by AIDS, it is better for him/her to die immediately, as they have nothing to hope for in life.	1	2	3	4	5
9	HIV can be prevented only through criminal laws against people who spread it, like, commercial sex workers, homosexuals and drug addicts.	1	2	3	4	5
10	All homosexuals and drug addicts are HIV-positive and therefore infectious.	1	2	3	4	5
<p><i>Add up all the circled numbers and write the total in the next column. See if your score has changed from what it was before you went through this unit.</i></p>						

If you see changes in your attitude towards people living with HIV/AIDS in comparison to the same exercise you did at the beginning of this unit, and your score is less than 30, then you have certainly profited from this unit. Congratulations!

Check Your Progress- V

1. What is the main injustice done to women in the context of HIV/AIDS?

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2. How does poverty lead to the spread of HIV?

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5.9 LET US SUM UP

In this unit on HIV/AIDS and ethical issues, we began learning by doing an exercise in which we assigned a certain score to the ten statements on HIV and

related issues. We then went through the fundamental rights of persons living with HIV/AIDS to care and treatment, discrimination of people living with HIV/AIDS, ethics of legislation about HIV/AIDS as well as ethics and HIV vulnerable population. We also discussed about living positively with HIV/AIDS. The exercise we did in the beginning helped us to understand where we were before we studied this unit and the repetition of the same exercise helped us to find out to what extent we have profited from this unit.

5.10 KEY WORDS

Ethics : The Science of morals in human conduct.

Infections : A person is infectious, when he/she has been infected with a pathogen, like HIV, and is capable of transmitting that pathogen to another person.

Sexuality : The total of an individual's sexual make up. It includes inherited and acquired factors.

Fidelity : Refers to being faithful to one's chosen or given sexual partner and having sexual relationship only with that partner usually within marriage.

5.11 MODEL ANSWERS

Check Your Progress I

1. Why does the HIV/AIDS patient have a right to care and treatment?

The HIV/AIDS patient has a right to care and treatment because the right to health and right to life is part of the fundamental rights and directive principles of our constitution.

Check Your Progress II

- 1 Why should not there be any discrimination against people living with HIV/AIDS? Give reasons.

The core of the Universal Declaration of Human Rights is the postulate that all human beings have equal rights. Denying human rights to people affected by HIV/AIDS is denial of the fundamental rights of these patients. The net result of this discriminative feeling is that it hinders our efforts to minimise pain of the patients and the transmission of HIV. If HIV infection leads to stigmatisation and discrimination, those affected will actively avoid detection and contact with health and social services. The result will be that those most needing information, education and counselling will be "driven underground."

Therefore a society can only respond effectively to HIV/AIDS by expressing the basic right of people to participate in decisions which affect them. Discrimination, in short, is counterproductive.

Check Your Progress III

- 1 What are the main models through which law can be incorporated into the HIV/AIDS policy?

There could be three main models through which the law can be incorporated into the HIV/AIDS policy:

- 1) The traditional proscriptive model that penalises certain forms of conduct.
- 2) The model that focuses on the protective function of the law and the need to uphold the rights and interests of persons living with HIV/AIDS.
- 3) A third model that seeks to use the law actively to promote the changes in values and patterns of social interaction that lead to susceptibility to HIV infection.

Check Your Progress IV

- 1 Any way the AIDS patients are sure to die of this disease. What is then wrong with trying some untested drugs on them?

Till their death, AIDS patients are human persons who have all the basic rights any other human being has. This right prevents them from being used as guinea pigs for experimentation.

Check Your Progress V

- 1 What is the main injustice done to women in the context of HIV/AIDS? It is that women as women are not considered in the matter of HIV/AIDS. They are only considered as mothers in relation to the health of the baby.
- 2 How does poverty lead to spread of HIV?
The despair that goes with dismal poverty can lead a person to decide implicitly to die of AIDS rather than of famine and poverty.

5.12 FURTHER READINGS

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INTRODUCTION TO SUPPLEMENTARY READING BOOK

Welcome to the programme of study on HIV and Family Education. This is the first ever endeavour by the Distance Learning System in the country to provide a programme of study on sensitive topics like HIV/AIDS, substance abuse and family education.

The university has tried its best to prepare a very comprehensive programme covering several issues on the current topics of our discussion. The units within the supplementary reading book will provide additional information to equip you to deal with day-to-day situations in different settings.

The information given in the Supplementary reading book is not meant for helping you in appearing for term-end examinations. Instead it will add to your knowledge about various practical issues.

There are eight units in this Supplementary reading book. You may find some or all of them interesting to you depending upon your profession or interest on specific topics.

Unit 1 provides two case studies namely, one about an HIV infected individual and the other about an institution involved in HIV/AIDS and substance abuse problems. This unit is designed to help you to have an idea about "how to develop a or write a case study".

Unit 2 is on 'Management of HIV by Patient and care giver'. This is intended to provide additional practical suggestions which will supplement the unit on continuum of care given in the third block of the Basic Course on HIV/AIDS.

Unit 3 is on 'Value Clarification Exercises'. This unit will supplement the course on Alcohol, Drugs and HIV. Teachers, TOTs and NGO functionaries may find this unit and the exercises very useful in training programmes and awareness campaigns when conducted for small groups.

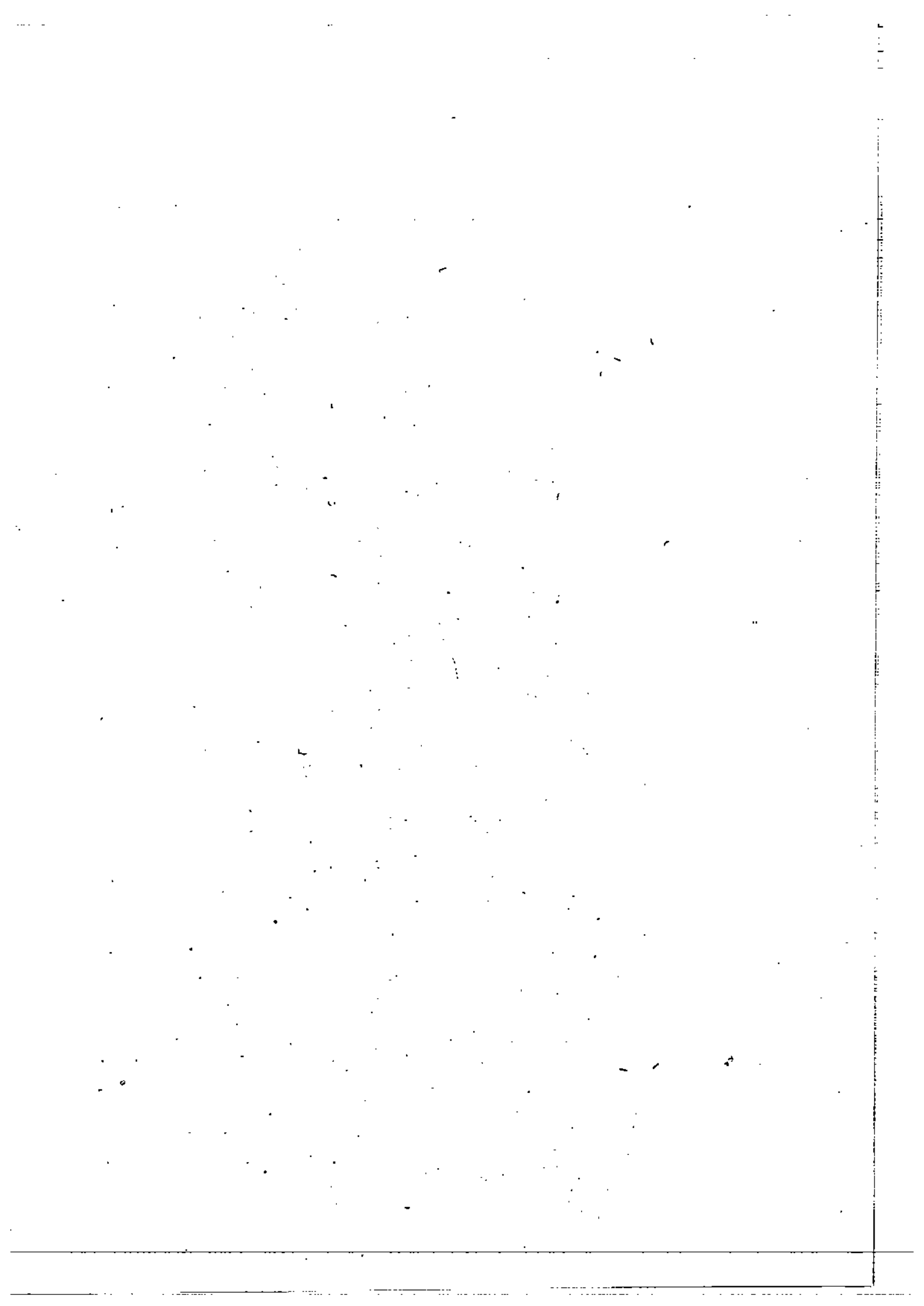
Unit 4 is on 'HIV Surveillance Centres in India' and Unit 5 is on 'Zonal Blood Testing Centre in India'. These units will be useful for people working in the area of HIV/AIDS.

Unit 6 is a 'List of Agencies Working in the Area of Drugs and Alcohol'. This unit will be useful to people working in the area of substance abuse as well as for NGO, paramedicals, and counselors.

Unit 7 is a 'List of STD Clinics' in the country which again will be helpful for NGOs, paramedicals and counselors who like to refer cases to such centres.

Unit 8 provides an extensive list of print materials on HIV/AIDS related topics like books and articles or research papers, some of the publications available at UN Information Centre in New Delhi and list of certain periodicals related to some of the topics included in the programme of study of HIV Family Education.

There is no end to the kind of information available on these topics. We have chosen only a few relevant topics. However, we will make every effort to provide other related information in course of time. Hope you will find them enriching.



UNIT 1 CASE STUDIES

* G. Mahesh & Bhavana Gulati

In this Unit you will come across the case study of a person who lives with HIV while his wife died of AIDS. Apart from this, there is also a case study of an institution which has been working for the cause of HIV/AIDS and substance abuse.

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1.1 AN INDIVIDUAL'S CASE STUDY

Personal Details

Shantha (not her real name) is a young woman aged 26. After completing her education (B.A.), she appeared for the bank clerical examination. She has been working as a clerk-cum-cashier in a bank in New Delhi for more than four years now.

Family Background

She got married to Naresh (not his real name) who is 28 years old now, almost four years ago. Shantha's parents also live in Delhi. Her father is a retired government servant and her mother a housewife. Shantha is the only child of her parents. Naresh's parents reside in a village in Uttar Pradesh. His elder sister lives with her husband in Saharanpur.

Economic Background

While Shantha's family was financially well off, Naresh did not have a good economic background. His father had used up almost all his savings to marry off his sister. This was one of the reasons why Naresh decided to get into business. He started his business in partnership with a friend. Initially he had to face some problem in making profit. After about a year he had started earning enough to make ends meet for himself and also send some help home for his parents. It was around that time that Shantha and Naresh were married. The initial days after marriage went well and both were happy. However, their happiness did not last long. Naresh was surprised to find his business partner absconding. Soon he realized that his partner had borrowed lot of money from various sources and their business was actually running in a loss. His partner had cheated him and left him amidst all the losses and debts. It took some time for them to come to terms with this shock. While Shantha's earnings were God's gift at a time like this, Naresh decided to apply for jobs and started appearing for interviews. After a few months, Naresh was appointed as a sales representative in a private firm. In order to pay the debts the both Shantha and Naresh decided to run their household economically and save as much as possible.

The Accident

After all this turmoil, both of them settled for a well-organised life. In the meantime Shantha was pregnant and had their first baby girl.

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Shantha mother came over to Naresh's house to help Shantha in managing household affair and provide care and company for the newborn child.

Naresh and Shantha used to go to their workplace on a motorcycle. He dropped Shantha to her office and then went over to his workplace. While returning home in the evening he picked her up from office. One such evening when they were returning home together, they were hit by a speeding van. They were taken to the emergency ward of a government hospital in an unconscious stage. It was through their identity- cards that their respective employers and colleagues were informed, who, in turn informed their parents.

Naresh apparently was out of danger with multiple fracture on his right leg and arm. But, the doctors stated Shantha's condition to be critical. She was under observation in the Intensive Care Unit. She had deep injuries and an acute loss of blood. The doctors demanded the need for the arrangement of blood for transfusion. Shantha's parents who had reached the hospital by then, along with Shantha's and Naresh's colleagues, began desperately, the hunt for blood of Shantha's blood group (AB negative), which was quite rare. Fortunately, some units of blood was managed from a blood bank nearby which was sufficient to carry out the operation. But, the doctors expressed the possibility that they might require more blood, and advised Shantha's parents and friends to act just in order to avert any crisis.

Blood Donation

Meanwhile, Naresh's colleagues contacted a person who was in the hospital premises and was, apparently, a regular blood donor. To their, profound relief, his blood group was also AB negative. The donor donated his blood. He was thanked and paid for.

Shantha was in the hospital for eleven days, while Naresh was discharged after four days. Even after coming home, Shantha and Naresh had to have complete bed rest until they recovered. Initially, Shantha's mother also stayed with them to help them and take care of their household requirements.

Both, Naresh and Shantha resumed their respective jobs after recovering, and their lives went on the same organised manner as before.

The Beginning of Problems

Shantha became pregnant a second time. The physician at the antenatal clinic observed certain unusual symptoms in Shantha. She used to have cough and persistent temperature. When the symptoms kept on relapsing even after regular treatment, the doctor advised Shantha to go for an over-all-checkup and a lot of tests were carried out. She was also tested for HIV. It was a shock to them to find that Shantha was positive. This meant that Shantha was carrying the deadly virus causing AIDS. But neither she nor Naresh had any clue as to how she got infected. In fact Shantha got infected with HIV from the blood she received from the blood donor while she was being treated after her accident.

In a state of complete shock, they decided not to disclose this news to their parents.

The doctor treating Shantha was the only source of emotional support. She referred them to an NGO for better treatment and care along with counselling. The counsellor at this NGO persuaded Naresh to go for an HIV test. Naresh was also tested positive for HIV. For Naresh and Shantha, this was the time when they needed the right kind of support. It is presumed that Naresh got infected with HIV through sex from Shantha.

The Early Sunset

Shantha was not responding to medication, care, and yoga exercises. Her condition kept on deteriorating. Their parents did not know the actual story. Naresh's parents suggested that Shantha may go for an abortion. They did not know that she was HIV positive. Her physician ruled out the possibility for abortion as she was already into the sixth month of her pregnancy. This pregnant woman all of a sudden went into a coma. She was rushed to the hospital. Although her doctor tried hard to help her regain her consciousness, Shantha breathed her last the next day. None of the family members knew that Shantha died of HIV.

The Troubled Naresh

Naresh lost his wife early in life. He knew that perhaps he too will have an early death. The question of a second marriage was almost remote for him. His parents did not know that he was HIV positive. Almost a year after the demise of Shantha, Naresh's parents suggested that he may think of a second marriage. They were of the opinion that the baby girl of Naresh needed the care and support of a woman. Above all Naresh is still young to go for a second marriage.

Confidentiality

Naresh knew the kind of stigma attached to a disease like HIV/AIDS. He also knew the would be reactions of people close to him, if he broke the news that he is HIV positive. At the same time he was also concerned about the life and future of his girl child. He continues to attend the yoga and counselling sessions at the NGO which is his only hope of support and survival.

Present Scenario

Naresh continues with his job and his parents are taking care of the girl child. Although Naresh is still healthy, he is emotionally a shattered person today not knowing when that last day would arrive.

Questions For Reflection

How long should we live in ignorance about the what, why and how of HIV/AIDS and continue to stigmatize the HIV infected?

Can you do something to educate one person or a family or a group or a small community about HIV/AIDS so that we may be able to adopt a loving and compassionate approach to the HIV/AIDS infected?

1.2 CASE STUDY OF AN INSTITUTION INVOLVED IN THE CARE OF DRUG ADDICTS AND HIV/AIDS PATIENTS

(In this case study we have given priority to its intervention in the area of HIV/AIDS. Therefore, detailed description about its administrative set up, infrastructural facilities, sources of funds, problems faced, future plans etc. have not been included. When you do a case study of an institution, you should add all those details under separate headings).

Name of the Institution : SAHARA

Address : E, 453, Greater Kailash II,
New Delhi - 110 048.

About the Organisation

Sahara is a Registered organisation under the Societies Registered Act 1860. It has a dedicated team of Board Members. It has spread its activities to various parts of India. It has a huge network of institutions and dedicated professionals. Sahara mobilizes funds from various sources - national and international.

Sahara is a non-government organisation (NGO) based in Greater Kailash, II, in New Delhi. It is involved in addressing the needs of chemical dependent persons whom we know better as drug users. For them, Sahara has devised planned qualitative programmes of treatment and rehabilitation. In addition, Sahara is involved in spreading awareness about drugs and HIV/AIDS, its dangers and method of prevention on a regular basis. Sahara provides HIV/AIDS care through its project Sahara Michael's Care Home.

The main thrust of Sahara is to provide rehabilitation facilities for people dependent on chemicals, people with mental health disorders and for people infected and affected by HIV/AIDS.

Projects

The Following are Sahara's main projects currently in operation:

- Residential Care and Rehabilitation programme
- After Care Centre
- Day Care Centre
- Women and Children's Home
- Michael's Care Home
- Awareness and prevention
- Income generation
- Vocational training
- Sahara Day Care (Mumbai)

- Sahara Aalhad (Pune)
- Sahara DAPPA project (Churachanpur, Manipur)

HIV/AIDS PROJECT

The following are Sahara's HIV/AIDS projects in operation across the country.

- Sahara Michael's Care Home (AIDS Care Home, Delhi)
- Sahara NACO AIDS Care project (AIDS Care project)
- Sahara Aalhad (Continuum of AIDS Care project)
- Sahara DAPPA project (Awareness and prevention, health care, reduction, counselling)
- Sahara CII network project (income generation, vocational & skill building training for PLWHA (people living with HIV/AIDS)).
- Sahara also networks with other NGOs involved in the field of HIV/AIDS in providing hands on training, prevention and education programmes.

Assistance to People Living with HIV/AIDS

Sahara has been actively involved in advocating for the right of PLWHA in issues such as accessing health care from hospitals and their fundamental rights. In 1998 Sahara filed a Public Interest Litigation (PIL) in the Supreme Court for PLWHA for their rights to standard health care and take stands against stigma and discrimination. Advocacy on behalf of clients is an important aspect of Sahara's approach to HIV care. Sahara represents individual needs and terms of treatment believing that optimism and care brings results more effectively than punitive measures.

HIV/AIDS & Substance Abuse

As it has already been mentioned, Sahara was initially working only for the cause of chemical dependent people. About a decade ago, the organizers in Sahara realised that a lot of their inmates were falling ill all of a sudden. After initial attempts at providing treatment for their symptoms, the doctors treating them advised a rigorous medical check-up for all the inmates. The results were shocking. Almost 40 per cent of the inmates of Sahara being treated for intra-venous drug use were tested HIV positive. A private doctor (who did not want to treat these patients in his clinic due to social stigma) advised them on the steps to be taken to help the patients. Then, volunteers in Sahara started lending hands on care. Since none of them were qualified for dealing with the sudden appearance of the unusual virus among so many inmates, their care included much of trial and error initially. Later they were given necessary training for the care of the HIV infected. Thus proper care coupled with an appropriate nutrition programme brought about satisfactory results.

A Home for Treatment and Care

At such a time of crisis, Catholic Relief Services (CRS), an organization from the U.S.A. provided them with funds for medicines which Sahara

desperately needed for the many people who were ill. The Director of Catholic Relief Services suggested Sahara to set up a separate home for their residents; a place where they could be taken care of and treated when they fell sick. When they were feeling better, they could be pulled back to Sahara. The Catholic Relief Services funded this project, and thus, the Sahara Michaels Care Home came into existence. Initially, it was meant only for the patients from Sahara. But as news went out through the media, a lot of people, not necessarily with drug problems, but also those who were HIV positive began to contact Sahara. Those who wanted to be trained to take care of drug addicts and HIV positive persons also contacted Sahara. This is how Sahara started a training programme for care and treatment of HIV and AIDS patients.

Sahara AIDS Care Mission Statement

- Sahara AIDS Care is committed to limiting the spread of HIV infection in the community and to providing support to those affected by HIV/AIDS.
- Sahara AIDS Care is committed to working towards the prevention and management of HIV.

Aims

Sahara has the following aims in working with the HIV infected:

- To create public awareness of the HIV/AIDS epidemic and educate youth about AIDS, design programme to prevent HIV/AIDS and thus reduce the spread of the disease.
- Educate the families and friends of people living with HIV/AIDS.
- Provide provision of a wide range of services to meet the various needs of people living with HIV/AIDS or otherwise affected with HIV/AIDS.
- Promote care and support to people living with HIV/AIDS and enable them to fight and live positively with the disease.
- Promotion and protection of the human rights of people who are infected and affected by HIV/AIDS.

The Objectives of Sahara AIDS Care include the following:

- To promote a society where people living with HIV/AIDS and their families can live normal lives, free from fear, discrimination and undue physical and mental suffering.
- To assist in the prevention, control and minimize the spread of HIV and serve as a forum for exchange of information in collaboration with HIV/AIDS services organisation through effective and non-discriminatory information, education, and communication approaches with other agencies involved in AIDS work.
- To open centres/institutes for awareness, preventive, diagnostic, treatment and curative measures for HIV/AIDS and associated opportunistic infection and research for AIDS and other life threatening diseases associated with HIV.

- To advocate for the rights of HIV/AIDS infected and affected people.
- To organise various programmes and activities relating to HIV transmission and preventive methods and to disseminate the knowledge about the disease and also provide family training in medical first aid and counselling services. Harm reduction programmes, day care facilities, establishment of midway homes, conducting research, organising seminars, workshops on HIV and AIDS etc. will be taken up on priority basis.
- To enhance the quality of life for people living with HIV/AIDS.

SAHARA'S PROGRAMMES

Sahara has various programmes. Some of its major programmes have been briefly mentioned here below:

The Rehabilitation Programme

The rehabilitation programme is a six months residential programme. It starts with an early assessment of client needs, contact with his/her family and the registration. Detoxification, if required, is a process that lasts for 7 to 14 days depending upon the drugs used and the extent of consumption. The programme is flexible, lives in the real world and imparts practical coping skills that run parallel to situation that people using drugs would face once they move on. The easy accessibility to the programme base has resulted in a waiting list that is perpetually extensive. Towards the end of the rehabilitation programme, clients are encouraged to seek vocational guidance and training which will enable them to get employed once their programme is complete.

This programme is meant for the drug addicts.

Aftercare Centre

The Aftercare Centre is the second stage of rehabilitation of the drug addicts. The admission criteria for clients into this facility is carefully discerned. The residents are guided by a skeleton programme and are required to seek employment, pursue further education or prepare to return home. This programme is time bound. Clients are required to attain self independence within three months. Those with the work potential are offered training options under the Sahara umbrella and are asked to volunteer in a spirit of 'giving back' to the organisation. Those who have undemandingly travelled up the volunteer path and reflect Sahara's work ethic are employed by Sahara.

Women and Children's Home

This home caters to women using drugs, destitute women, single mothers and women and/or children in crisis situations. Clients are rehabilitated according to their needs. Interested persons are then phased into vocational training. The home also runs a school for children from lower income groups. The main intention is to bring the children up to a level of education from where they are able to integrate into formal schools. This programme is managed entirely by women who best

understand and emphasize with the clientele. The main thrust of the program is empowerment of women and to repair the fabric of the nuclear family. This project is funded by Catholic Relief Services(CRS).

Drugs/AIDS Awareness Programmes

Sahara has been conducting drug/alcohol awareness programmes for the past 14 years and HIV/AIDS prevention and awareness programme for the past 10 years. This programme has been indigenously developed and updated by the clients of Sahara. These programmes have been conducted in schools, colleges, institutions and slums and in crowded places all over Delhi and other parts of India. Sahara also perform all night street theatre at eating places along the highway. Fundamental information on HIV/AIDS /STD and drug abuse is given in the form of plays or street theatre which are followed by inter active sessions with the audience. Misconceptions and personal doubts are cleared. Informative literature is also handed out in Hindi, English and in the regional language of the area. Services and other referrals are offered to those who express a need for help. Sahara also participates in inter organization campaigns against drugs and HIV/AIDS.

In house Care for HIV Positive People

Sahara runs an in house care programme for its HIV positive residents undergoing rehabilitation. This entails exhaustive testing, prescribe medication if necessary, a nutritious supplementary diet and counselling. Clients are taught self care and their families are taught home based cares. The rehabilitation process continues. The focus is living life well and to make pro life choices. Apart from this, they are encouraged to develop social and moral responsibility in order to control the spread of HIV. Regular discussions are held on injecting drug use and attitudes of sero positive people. People who were virtually given up by the medical fraternity have bounced back from the brink of death and are now living productive lives with their families and in society.

Sahara Michael's Care Home

Three years ago, Sahara initiated a 16 -bed facility for residential care of its HIV positive clients who due to AIDS advancement required an intensive and organised form of care. Initial patient admission was restricted to Sahara but soon people in need of treatment began to use it. Sahara Michael's Care Home had traversed the journey from an experimental pilot project to a credible model. It is the only full fledged care home in Delhi and one among the few in the whole of India. Its services have yet to be duplicated. The programme description denotes diagnosis, treatment, counselling and testing of patients. There is a nutrition programme in place that provides meals according to health specifications. An outreach programme takes care to the homes of the infected and the affected. There is a strong pro life focus which goes a long way in the quick recovery of the client. Sahara Michael's Care Home is also involved in human rights advocacy, instilling community owners' sp of the HIV/AIDS and encouraging volunteerism. The model is a training ground for interested parties who wish to serve in the field of HIV/AIDS. This is funded by Catholic Relief Services.

The National AIDS Control Organisation (NACO) which is the HIV/AIDS wing of the Ministry of Health, Government of India, selected Sahara to network with. This is first time that Sahara has networked with the government, though, in the past, it had run several de-addiction/rehabilitation programmes in the Central Prison, namely, the Tihar Jail. The Sahara- NACO project is a ten bed facility for PLWHA who require crisis care. It is the first collaborative effort between the government and an NGO in the field of handling crisis care in the city.

Income Generation

The Confederation of Indian Industry (CII) has been involved in Sahara's Income Generation Project for the past 2 years. They have organised training in chalk and detergent making. Sahara now supplies chalk to most of the schools in Churachandpur, Manipur. Sahara also hopes to patent its detergent and then market it across the country with the help of the CII. Sahara also runs a garment shop which deal in cheap, good quality second hand clothes. This shop has proved to be quite popular. Sahara has been involved in income generation for two purposes. The needs as expressed by its contact populations indicated that employment was absolutely essential to maintain personal growth and standard of living. At the same time, Sahara as an organization needs to find means of sustaining itself. Income generation caters to these two requirements. The training provided assists in developing job skills and a source of income, a part of which goes towards the organization and a part of which goes towards reintegration of clients into the mainstream of society. Other aspects of the Income Generation Programme are printing stationery (mainly recycled paper) and carpentry.

Schools

Sahara has two independent schools that serve the local populace of deprived children. The schools impart education skills to children in the pre and first kindergarten category. The method of teaching is informal and fun filled with the intention of evoking interest in the children in academic activities. The children are thus prepared for an easy transition into formal schooling. A nutrition program and a health care component support the school. One school has been running for the part 10 years while the other is 2 years old. One is funded by SEL, France while the other is funded by Catholic Relief Services.

Networking

Sahara is well aware of its limitation. Therefore, networking is high on its agenda. This provides an extended source of continued care and support that is solely geared towards ultimate client benefit. Sahara networks extensively with most organisations, governmental, non-government and international who are involved in similar work. Exchange of services, information, ideas and methods is regularly done with the aim of streamlining existing services.

Advocacy

Sahara is a pioneer for advocacy on social issues. It is one of the first NGOs to file a Public Interest Litigation (PIL) in the Supreme Court against the government for apathy against the current reality of the health situation. Sahara has made several recommendations and the cases are due for perusal. Sahara believes in fighting for the rights of the person on the street who has no life of his/her own. Sahara has excellent relationship with the State AIDS Society as well as with the like minded organisations that operate at multi levels. Sahara has also featured on international forum as an expression of the current reality of the HIV/AIDS situation in India. Sahara's programmes have been the topic of much discussion and duplication. They have been instrumental in changing the modalities of care giving in its variety, depth and outreach.

Sahara DAPPA (Manipur)

Sahara was invited to Manipur in 1996 to partner with a local organisation to impart rehabilitation methodology on the lines of the Delhi programme. The programme was inundated with clients, a large percentage of whom travelled to Delhi to continue rehabilitation after Sahara had to withdraw from the area due to ethnic strife. Sahara has since returned to Manipur with a similar programme in relation to drugs and has expanded its work to other areas in the Region. AIDS care and counselling is being tackled in a systematic manner. Needle exchange and harm reduction service to those who are not receptive to rehabilitation or are wait listed is one of its programmes. A youth club has been established with the dual purpose of alleviating boredom and to unite the youth of different tribes under one roof. Sahara also runs a monthly detoxification programme. Sahara in Manipur has also addressed gender issues in an area that appeared service barren. This programme is currently being partially funded by UNESCO.

Sahara Day Care (Mumbai)

The Sahara Mumbai day care is a programme that caters to people with drug behaviour patterns but who are reticent to opt for long term rehabilitation as an abstinence alternative. The Day Care provides a safe environment with inputs on lifestyle modifications among other recreational activities. The programme is run by Ex-Saharaites who profess the philosophy of Sahara. The Day Care also functions as a transitional point for those clients from Mumbai who have completed rehabilitation in Delhi till as such as they adjust to their home environments. The Day Care also refers people using drugs in Bombay to its Delhi unit.

Sahara Aalhad (Pune)

Sahara has an operational outdoor AIDS care programme in Pune. The programme had made giant strides not only in bringing care and support to the infected and affected but in uniting NGOs with a common aim and purpose. The programme involves palliative care in hospitals, referral, a nutrition programme, counselling and income generation. The programme has also established 2 support groups for people living with HIV/AIDS. A crèche for HIV positive children has met with great

success. The programme is also engaged in implementing an information and education package coupled with mass research on local awareness levels which are necessary to refurbish awareness programs that have impact, coverage and sustainability. This project is funded jointly by Catholic Relief Services, McArthur Foundation and the Australian High Commissioner's Fund.

Day Care Project (Delhi)

The Day Care is specially designed to cater to active drug users and runs throughout the day. The programme helps to reduce the harm caused by drug use on the individual and society by providing a service oriented non-threatening and non-judgmental atmosphere. The inputs in the Day Care are oriented towards abstinence and encourage the clients to opt for rehabilitation. Information on health, safer sex and injecting drug use practices is disseminated. Those pending admission into the institution are detoxified on an outdoor basis. The Day care operates every day of the week and a meal is provided to all the clients.

Observation

Sahara is perhaps a pioneer in establishing a model HIV/AIDS care and de-addiction centre in the country with wide network. Its experience and the kind of programmes are certainly examples which other NGOs and even the government agencies can follow. Sahara has tried to create a network which takes into account a holistic approach to human personality in its care, treatment and rehabilitation programmes keeping in mind human dignity. Every segment of the client, his/her family, and community is kept in mind while providing service to the patient. With limited funds and a group of dedicated workers Sahara does a wonderful work. Their efforts are worthy of praise.

UNIT 2 . MANGEMENT OF HIV BY PATIENT AND CARE GIVERS

* G. D. Ravindran

Contents

- 2.1 Introduction
- 2.2 Management during the asymptomatic phase
- 2.3 Symptomatic treatment
- 2.4 Drug treatment of HIV infection
- 2.5 Drug prophylaxis

2.1 INTRODUCTION

In the beginning of this epidemic, between 1980 –1985 medical science had very little to offer for the HIV positive persons. Since the causative organism has been found, medical science has made tremendous progress. It has improved the quality of life and prolonged life. Complete eradication of the virus is not possible at present; there is hope that it will be achieved soon.

The measures used to improve the quality of life are affordable and cost effective. However, treatment and medication are costly even for people from developed countries. These measures are easy to be implemented by HIV positive people themselves. Hence they give these people a control over their lives.

An HIV patient will have an average life span of eight to ten years after contracting the infection. In some cases it can be even more. This depends on the type of infection and its treatment.

At all stages of HIV infection patient needs to be counselled. You may go to the counselling module and revise the steps of counselling in the course on Communication and Counselling in HIV.

2.2 MANAGEMENT DURING THE ASYMPTOMATIC PHASE

An HIV patient should take certain measures to improve the general health and immune functions of the body. These measures are Diet, Exercise, care during minor infections and care not to infect others.

Diet

An HIV patient should eat only well cooked food, which is preferably boiled. Eating uncooked food will make digestion difficult. The patient may get infected with other microorganisms like bacteria, fungi and viruses.

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HIV patients require lots of energy. They should take lots of starchy food like rice wheat etc. They also should take more of fats. The total caloric requirement is about 2500 calories per day.

Proteins are necessary for the body for repair as well as proper function of the immune system. An egg a day as well as half a litre of milk is recommended for the HIV positive patient daily.

Vitamins and minerals have been shown to protect the immune system from damage. Vitamin A is said to protect and improve immune function. Hence the diet should consist of plenty of fruits and vegetables. When fresh fruits and vegetables are used they should be cleaned well before use.

HIV infected patient have altered taste sensation or loss of taste. The food should be made palatable. Cooking skills should be used to produce tasty and appetising dishes. Spices can be used provided that they do not cause any gastric irritation.

Patients may not be able to have large meals. They must be encouraged to have frequent small meals. Sometimes the doctor may prescribe multivitamin pills or food substitutes. They should be used under guidance.

Exercise

HIV positive patients suffer from a condition known as the wasting syndrome. To prevent this weight loss, it is essential to improve the muscle mass. It has been recommended that HIV positive patients should walk briskly. They should walk for at least forty five minutes a day. They should cover a minimum distance of 3 kilometres during this time.

In addition to aerobic exercises, resistance training also helps to prevent the loss of muscle mass. Patients who do regular weight lifting exercises have a better muscle mass. It has been suggested that the patients should do resistance exercises at least three times a week. Try to find a gymnasium in your area so that these patients can be helped. This is possible in most Indian towns. However one may not disclose his/her HIV status.

Yoga has also been shown to improve the muscle and immune system. NACO has published a book on yogic exercises for the HIV infected. Help your patient to find a good yoga teacher.

Positive approach

A person who has a positive frame of mind and who is not depressed will have a better immune system. Patient should be encouraged to keep himself/herself busy and occupied. Help the patient by counselling. If the patient is severely depressed, consult a psychiatrist. Forming support groups consisting of a number of HIV positive patient's can be of a tremendous help to these patients. There are several HIV support groups in India. Some of them hold weekly meetings for sharing and praying.

Protecting others

Patient should be told about various methods by which he/she can protect others from getting infected. A patient may get injured. If he/she

has bleeding injury, he/she must apply a firm pressure over the wound and stop the bleeding. If another person is helping him/her, he/she should see that the person helping him/her should protect himself/herself with either with gloves or with a thick plastic bag.

Patients must be told not to take any injections unless absolutely necessary. If he/she does take an injection he/she should insist on disposable needles and syringes.

HIV infected patients are more prone to be infected with other organisms. They must be told to avoid crowded places or mixing with people who have colds and coughs.

Where should a person who is HIV positive live?

The best place for a person with HIV to live is with his family. Family will provide support, love and comfort to the patient. Patient will be relaxed in a family atmosphere. Patient is not exposed to other serious infections in the family. Hence, patient must be encouraged to stay with their families.

HIV patients require regular follow up. He should see his doctor once in two months. He should consult his doctor whenever he develops a new symptom.

Symptomatic patient

An HIV infected person after some time will become symptomatic. He/she will develop infections. These infections are known as opportunistic infections. When he/she develops symptoms he/she should consult a doctor. It is preferable to consult a doctor who deals with HIV infected patients regularly. Do you know of any doctors who deal with HIV infected patients regularly? Perhaps a physician or a social worker or social welfare agency in your neighbourhood can help you to find one.

The patient should follow the doctor's instructions correctly. Some conditions like tuberculosis need to be treated for long time. The patient should be motivated to continue the treatment. For some conditions prolonged hospital stay may be necessary. Infections that occur with HIV patients are all treatable. It takes time and costs money. A person should be told to save his/her money when he/she is asymptomatic so that it can be used when he/she needs it. Government hospitals will provide these drugs to the patients. Some social service organisations also can provide financial support to these patients. Remember that all opportunistic infections can be treated.

Prophylaxis

Many of the infections in HIV infected patients can be prevented with use of certain drugs. These drugs are known as prophylactic drugs. If the drugs are started before the patient develops the opportunistic infections then it is known as primary prophylaxis. If the drugs are started after the patient recovers from the disease they are known as secondary prophylaxis. A common drug that is used as prophylaxis is cotrimoxazole. Various brand names like Septran, Bactrim and Oripim are available in the market. The doctor will decide about these drugs. Patients may have to continue these drugs life long.

2.3 SYMPTOMATIC TREATMENT

Sometimes it may not be possible to consult a doctor. In that case the patient can be given symptomatic treatment. Common symptoms like fever, diarrhoea and cough etc. can be treated.

- i) **Fever:** Fever occurring in an HIV patient can have many causes. Patient has to be

seen by a doctor. Till the patient sees the doctor fever can be reduced. Remove unnecessary clothing from the patient. Keep the patient in a cool room. You can put cloth soaked with water over for the head. Give plenty of fluids to the patient. Common drugs like Paracetamol 500mg every 6 hours or Aspirin 2 tablets every six hours can be given.

- ii) **Diarrhoea:** Diarrhoea can be very dangerous to the patient. It leads to dehydration and malnutrition. Even if the diarrhoea is not treated dehydration must be corrected.

Using plenty of oral fluids can prevent dehydration. Oral rehydration salt packets can be used to prepare the fluid. Do not starve the patients. Feed the patients with nutritious food; it will prevent malnutrition.

- iii) **Nausea and vomiting**

Avoid the smell of food or other urgent smells. If the vomiting is severe then avoid oral fluid and consult a doctor.

- iv) **Wound and cuts.**

If the wounds are not infected the wounds can be cleaned with clean salt water (saline). Mixing one teaspoon of common salt with one litre of water can make salt water. A waterproof dressing should be applied over the wound. If the wound is infected, a doctor needs to be consulted.

- v) **Palliative care**

HIV infected patients will have repeated episodes of infections. He/she will recover from one infection and then develop another infection. There comes a time when medical treatment will not benefit the patient. At that time the patient can be offered palliative care. The decision when to start palliative care should be preferably made when the patient is well. In India the decision to offer palliative care is very often taken due to economic reasons.

During palliative care patient will be given symptomatic treatment. Common infections will be treated and serious infections will not be treated. Pain medication is usually given.

- vi) **Care of the dying**

Persons caring for HIV patients will have to deal with death. Patient should be helped to die in dignity. Patient may be in coma. He/she has to be nursed to prevent bedsores. He/she may have to be fed by a nasogastric tube. He/she has to be cleaned whenever he/she wets or soils himself/herself. Patients may want to have some spiritual

solace. Try to arrange for some spiritual support like prayers, bhajans or scripture readings. Patients may also have some last wishes. Try to fulfil them. Family members may like to stay with the patient. They also need help and strength to face the death of their loved one's.

vii) Care of the dead body

After the patient dies, try to handle the body with care without too much of contact. Ritual cleaning of the body should be done with wearing of gloves or with hands covered with plastic bags. Do not mutilate the body. Do not allow relatives to touch the body for a long time. It is preferable to cremate the body as soon as practically possible. If the body has to be buried then sprinkle bleaching powder on the body.

Care of the HIV patient continues till the death of the patient and includes the care of the dead body as well.

2.4 DRUG TREATMENT OF HIV INFECTION

Certain drugs can be used to kill the HIV virus. To understand how these drugs work, it is essential to understand how HIV multiplies in the CD4 cell.

Life cycle of HIV

HIV envelops and attaches to the cd4 receptor. Once it attaches to the CD4 receptor, it gets into the cell. In the cytoplasm of the cell the reverse transcripts enzymes synthesise the viral DNA. The viral DNA gets incorporated into the host cell nucleus. This is the early part of the HIV lifecycle. Once the conditions are favourable for the virus to multiply, the viral DNA synthesises RNA. In the cytoplasm the viral RNA is acted upon by protease. The viral particles bud out of the host cell. During the process of budding they acquire an envelope from the host cell. As the viruses bud out of the CD4 cells they destroy the cell.

Drugs used for treatment of HIV

Every point of the viral synthesis can be a target for drug development. To date, the drugs that are available act only on two specific sites. They are reverse transcripts inhibitors and protease inhibitors. Reverse transcriptase inhibitors can further be classified into nucleoside analogues and non- nucleoside analogues. At present six nucleoside analogues are available in our country. They are Zidovudine, Lamibudine, Stavudine, DDI, DDC and Abcavir. Non nucleoside inhibitors are Nevrapine, Delvardine and Efirnavaz. Protease inhibitors that are available are Saquinavir, Ritonovir, Indianavir, Nelfinavir and Ampenavir. More and more of newer drugs are being synthesised. These drugs have many side effects. They can cause abnormality in blood and nervous systems. Protease inhibitors have side effects that may make a person develop heart disease. On the whole, these drugs are relatively safe. **They should always be taken under the supervision of a doctor who has been dealing with these drugs.**

Monitoring the therapy

Measuring two parameters sees the effect of the drugs. They are CD4 cell count and viral load.

CD4 count is measured by a special instrument called the flow cytometer. It should be examined within sixteen hours after collecting the blood. It should be measured four weeks after the patient has recovered from opportunistic infections.

Viral load is determined by measuring the viral RNA. The common method that is used is the polymerase chain reaction (PCR).

Initiating therapy

Before starting the Anti HIV therapy, CD4 count and viral loads should be determined. Therapy should be started only if the patient commits himself/herself for life long therapy. He/she should have the financial means to support the therapy. From a medical standpoint, therapy is started only if the CD4 count is less than 3250 cells or the patient has a viral load of more than 30,000. These guidelines are bound to change as we get more experience and knowledge.

What treatment to give?

At present the accepted mode of treatment is to give three drugs. They are combinations of two nucleoside analogues and a protease inhibitor or non-nucleoside analogues. This combination is known as highly active anti retroviral therapy (HAART). Any treatment that does not meet these criteria can only be palliative. The cost of this therapy is about twenty to twenty five thousand rupees per month (as on January 2000.).

How long to continue therapy?

As of now, the treatment has to be continued life long. This is because the virus lives for a long time in the body. A pool of virus is present in the blood. This pool is known as a rapid turnover pool. There may be 10^5 cells being infected and destroyed per day. HAART will clear this pool by six weeks. Second pool is present in the follicular cells of the lymph nodes and in the tonsils. They divide slowly and it will take a year to eradicate this pool. There is a third pool of HIV infected cells which are present in the brain and other areas. We do not know the time taken to eradicate the infection. At present the recommendation is to continue these drugs life long.

Achievements of HAART

HAART has given a New Hope to the patients. It has reduced the mortality of HIV. It has reduced the occurrence of opportunistic infections. It has improved the quality of life.

Failures of HAART

HAART has its disadvantages. At present it can not eradicate the virus and cure the patient. The drugs do not cross the testis-blood barrier and the patients are still infective. The cost of therapy is exorbitant, hence at present only a few people can afford it.

Drug resistance

Patients who are on HAART can develop drug resistance. It occurs when patients are irregular with treatment. If a patient discontinues a drug due to any reason, he/she should discontinue all the drugs. Failure of therapy is detected by doing viral loads.

2.5 DRUG PROPHYLAXIS

Mother-to-child transmission

Using drugs can prevent mother-to-child transmission. Doctors will be able to suggest a suitable regimen for an infected mother. It has been shown that mother-to-child transmission can be reduced to less than ten percent.

Post exposure prophylaxis

Sometimes a person may get accidentally exposed to blood or to body secretions. Of all the exposures, needle stick injuries are most dangerous. If a person gets injured from a needle stick, he/she should encourage bleeding from the puncture site by squeezing blood. Wash the part with soap and water. If the injury is deep or the needle has been in a vein or an artery, visible blood is present on the needle or patient has high viral load then prophylaxis needs to be taken. The usual drugs that are used are Zidovudine and Lamivudine. It is given for a period of twenty-eight days.

Care of the patient's articles

Patient's clothes and bed linen can safely be washed with soap and water. Some people recommend the use of bleaching powder if the clothes are stained with blood or soiled.

Alternate system of medicine

Whenever the therapy is not curative or is costly, many people try alternative or complementary systems of medicine. This is a fertile ground for quacks and tricksters to make money and dupe people. Beware of such claims. One way of protecting the patients is to advise them to seek treatment only from qualified practitioners of alternate systems of medicine. Alternate systems of medicine may be useful to the patient. At present time we have to be cautious to recommend them.

Care of the Caregiver

People caring for HIV infected patients also need care and help. They may be physically exhausted with the burden of caring for HIV infected patients. HIV infected patient's recover from one infection only to succumb to another infection. This phenomenon is known as the roller coast ride. Caregivers may be emotionally exhausted to take care of their own health. Caregivers may lose money, as they may not be able to go for work. The virus may have infected some of them. They also need support. Hence, the caregivers and their needs also be taken into consideration. Is there any organisations that provides support to the

caregivers of HIV patients in your area? You need to be aware of such facilities so that you can refer your clients for help.

Conclusion

From being a totally incurable disease, today HIV is a disease that can be controlled. Patient can be helped to lead a productive and useful life for many many years.

UNIT 3 VALUE CLARIFICATION EXERCISES

* R. M. Kalra

Guidelines for the instructor

1. The strategies regarding value clarification discussed in this unit are just suggestive and not prescriptive in nature.
2. Intervention strategies for developing skills and competencies regarding drug abuse prevention are exemplary. The instructor may design other activities depending upon the environment and needs of the student.
3. Some suggested strategies such as activity No. 13 (Discussion with self etc.) are to be handled with care as there are sensitive matters. The instructor or counsellor may guide this activity.
4. Intervention strategies suggested are meant for the following:
 - i) Teachers/Instructors dealing with drug addicts (Strategies No. 9,10,13 & 19).
 - ii) Student activity (Strategies No. 1,2,3,4,5,11 & 14).
 - iii) Drug victims (Strategies No. 6 & 7).
5. Evaluation and examination for the participants (Students) have to be different because of the nature of the content. Performance based evaluation or situation analysis or problem solving questions may be designed for this unit. Suggested questions for assessment of participants are also enclosed.

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- 3.0 Aims and objectives
- 3.1 Introduction
- 3.2 Value clarification
- 3.3 Education for character development and value clarification
- 3.4 Value judgement exercises
- 3.5 Conclusion
- 3.6 Suggested readings and references

3.0 AIMS AND OBJECTIVES

This unit aims at familiarizing you with values, role of education for character development, behaviour modification skills, role of media in development of values and development, administration and evaluation of exercises related with value judgements. After studying this Unit, you will be able to:

- Identify the role of values in human life;
- Enumerate the characteristics of values;

- Describe the role of education in character development and value clarification;
- Identify the role of media in value development;
- Develop and analyze the exercises related to value judgements.

3.1 INTRODUCTION

Millions of youngsters in the world are taking drugs to escape the ugly and harsh realities of life. Drug addicts are sick people requiring lots of 'Love' and 'Care' so that they can find life; meaningful and worth-a life of full of purpose and gratitude.

Mother Teresa of Calcutta had aptly described the plight of drug addicts in the following paragraph "Addicts should not be ostracized from Society. Why they smoke is not known? So they should not be condemned; they should be made to feel that they are wanted. They should feel that they are cared for."

It may be observed that our country is enveloped in new waves of music, fashion, social values and above all the spirit of freedom and individualism. Parents have very limited time to provide "Love and Care" for their wards, because they are too busy in procuring materialistic happiness. Teachers who used to have a special and honorable place in the society are not respected or feared any more.

In India economic disparities are wide, majority of parents are not in a position to provide whatever their wards demand. Therefore, unsatisfied needs and desires lead to feelings of helplessness and frustration among the younger generation. The desire to escape is born out of this feeling of frustration. In traditional Indian Society, where spiritualism was an integral component of one's life, a check on desires was advocated to survive. Everybody learnt to cope even in the fact of highly adverse circumstances. In the race to earn more and acquire more material comforts, modern youngsters have been stripped of their great cultural heritage and spiritual strength. This deprivation has led to the degradation of moral, ethical and human values, which is further aggravated by the onslaught of media showing violence, crime and sex as the successful means to enjoy life. Hence, values conflict among the youngsters in turn entices them towards drug addiction.

3.2 VALUE CLARIFICATION

It is well known that values are acquired by example of others and are caught by what we do, rather by what we say or we should do. Sometimes in our routine we ask a pertinent question "what am I doing here"? No one knows the answer; people just make obvious guesses. Different religions give different answers but an individual must decide for himself. Unless his life has a meaning, he would not have peace of mind. For this, one must have a set of values. By assigning certain values to one's behaviour in achieving the utmost goals, one can give a direction to one's life.

We are aware that young addicts believe that they are 'Nobody' and functioning in 'No place'. So, they should be given a learning experience which gives them a sense of contribution and personal values, hope for future and a certainty that education will fetch them a place in the labyrinth of social life of the country. These pupils need special attention, love and affection. The concept of love and affection is based on familiarity and faith; where affection is non-existent there can be no confidence. Thus the role of the teacher dealing with young addicts is to act like a loving guardian, counselling and correcting their short-comings with a sense of commitment. While punishing such students, care should be taken that they realize their mistakes. Corrective actions should be followed with patience to make them aware of their short-coming. It is always desirable to avoid punishment; but, if necessary, it should be mild with compassion and justice for better results. This type of educational environment based on affection and love expects a school teacher to espouse a humane approach based on reason and not passion. If we want to have a meaningful interaction with them, let us make them feel loved, not scared. Moreover it is necessary that everyone follows the rules to maintain good discipline in a class.

3.3 EDUCATION FOR CHARACTER DEVELOPMENT AND VALUE CLARIFICATION

To overcome peer group pressure for promoting drug use, students need to learn to say "No" to drugs. In addition, it is necessary to provide education for value clarification and character development.

Values for character development can be included in the curriculum as a separate subject, but these can be integrated in the course content as well. Physical education, spiritual education and aesthetic education are imperative for character development and an integrated personality. To achieve the above objective, the need for teachers, parents, elders and community members to play as role models cannot be over emphasized. Thus to enhance the will power of students to resist the pressure of their peers for drug addiction, education for character building is of utmost importance.

Behaviour modification skills

The following skills may assist in fostering change in the behavioural patterns of drug using pupils:

- Patient hearing;
- Suggesting by reasoning;
- Guiding;
- Counselling;
- Love as a base of the teaching/learning environment;
- Demonstration of exemplary behaviour by teachers/parents/leaders

Media is a powerful tool. It provides entertainment as well as the information. Now days children are growing up with a sophisticated knowledge through television and a visual literacy that their elder members of the family never had. In a country like India, a large percentage of population is visual literate, but they can not read and write. Therefore, it is well recognized that media is a powerful tool to create awareness. It may be used to bring desirable changes in knowledge, attitude and student behaviour. Today, particularly television may be used as a tool to develop positive attitude, health interest and values in younger generation.

3.4 VALUE JUDGEMENT EXERCISES

Making judgements on value system is not an easy thing, especially for adolescents. The blame is sometimes put on the educational organisations for not teaching them enough about life so as to make value judgements themselves.

The following exercises orient them towards such purposes. For this, they should not be taught a system of values, but should merely be guided in making value judgements.

Exercise: To Make Independent Value Judgements

These exercise are designed to teach the adolescent parameters to consider when making any choices, to feel confident with such choice, and how and when to act upon it.

Strategy no. 1: My Favorite Activities

It aids the person in examining his/her favorite activities by thinking about what he/she wants to do? We will get a better idea of life. If one person decides upon such a goal, half the battle is won. This exercise is specially relevant for drug addicts.

Procedure

Write down fifteen things you would like to do. They do not have to be important things: just anything you really enjoy doing. Think about factors involved in each of those activities. If it costs more than three rupees, put an appropriate sign against it.

B: beside the items you would like to do by yourself

F: beside, those activities you would rather do with your friends

BF: beside those you would like to do either by yourself or with your friends

PL: beside an activity needs overall planning or organisation.

Evaluation

Rate your choices in the order you like them best and examine your list. How do you think it might change in the future? Compare your list with someone else and try to explain the reasons.

Strategy No.2: Discouraging Apathy.

It will help the individual to develop a stronger and clearer point of view.

Procedure

Take an important issue like drug abuse. Describe your views about it in a few words.

Evaluation

Now ask yourself the following questions:

- a) Are you confident of your position?
- b) Have you told someone about your stand on the issue?
- c) Any alternatives in making your decision?
- d) Have you analysed the pros and cons of the issue and its aftermath?
- e) Is your stand based on your free choice?
- f) Anything about how you feel?

Discuss how you actually came to your views on the issue with another person. Which questions have you answered in the negative? Go for another issue and find out if you have similar opinion in a more orderly fashion. Is your position stronger or weaker?

Strategy No.3: Rating Values

The exercise deals with making decisions of different rating. It is harder to make a choice if you have three or four options to choose from. Ranking such choices teaches the person to compare the advantages and disadvantages of an alternative before coming to a decision. This activity enables the pupil to practice in public, quoting his/her views and defending them, if necessary.

Procedure

Some sample questions are given here. Think carefully about each question and state about three options in the order you would rate. You may pass if you wish so.

Q.1 Which is more important in a friendship?

- Sincerity;
- Honesty;
- Kindness.

Q.2 Who do you think finds life at home easier?

- An only child;
- The youngest child;
- The oldest child.

Q.3 What would you look for in a marriage partner?

- Intelligence;

- Personality;
- Sex appeal.

Q.4 What is more important to you?

- To work hard for the future;
- To love others;
- To really know about yourself.

Evaluation

Discuss your options and explain how and why you made them.

Strategy No. 4: Where Do You Stand?

It is oriented to test the strength of your feelings on certain values. It involves weighing options in complex situations including possible consequences. This strategy is quite meaningful for checking drug addiction.

Procedure

Have a ladder or series of steps drawn by chalk on the floor. The teacher reads a situation, e.g. "A drug addict wants to kick the habit but cannot do so because of his/her friends", and you will stand on the best step that shows the strength of your feeling for and against on the subject.

Evaluation

When an adolescent stops himself on the ladder, you will get a better idea of where you stand in relation to others. Discuss with the person a few steps away from you why is he/she more or less concerned about the issues than you are.

Another way to gauge things is to test five or six pupils and rate each of them according to the strength of their feelings.

Strategy No. 5: In Between Issues

Answers do not remain concrete or practical in evolution. You might have feelings somewhere in the middle. It gives you an opportunity to appreciate where you are when you are undecided.

Exercise

An issue is presented to the class, written on the board with two extreme options. Where are you? When you are called upon, briefly state your views (not reasons) on the issue and where you would put yourself on the line. Listen to the reaction of others and see where they are on the line. Later you can discuss with appropriate reasons for your position. Did you end up in the middle or near one of the extremes? Where have the others ended up? Do you think you have an average option on the subject or is it very important for you? Think about:

1. How much freedom do you have ?

I have no say Complete
freedom.

1.....10

2. Do you like your School?

Want to blow up.....
love school

1.....10

3. How is you relationship with your teacher?

Moderate.....friendly.....not good

Strategy No.6: On-the-Spot Decisions

This exercise helps you in making quick decisions. It also serves as a quick method for people to gauge what others are thinking and how they react to questions.

Exercise

A question is put to you. Think carefully about it. Organise your thoughts so that you can state them briefly. Listen to others, who are called upon to speak. Sample questions.

1. What issues have you spoken on recently in public?
2. What latest incident in the news has really upset you?
3. What issues in your community peeves you most?

Strategy No. 7 : I Am Proud

It builds self confidence in the pupil and gives an idea about the degree of pride he has in the things he attempts to do.

Exercise

Your are asked about your pride in relation to certain aspects of life. Do not compare your answers with those of other pupils, but do try to get new ideas from them. Answer the question with the phrase " I am proud....." Or" I am proud that....."Try to think about what you really feel good about. Don't answer with something you think you should be proud of, but really aren't.

Think about:

1. What can you do independently and feel yourself proud of?
2. Which things are you proud of in relation to personal wealth?
3. What are you proud of in your school?
4. What are you proud of concerning the gifts presented to you?
5. What are you proud of in respect of something you have written?

Strategy No. 8: In the Public Eye

Here, the pupil will have a chance to state his/her opinion about some issues in the class room. It also motivates him to stick to what he/she has said in the evaluation.

Exercise

A pupil volunteer has to be interviewed by either the teacher or another pupil as the interviewer. He/she is asked several questions about his/her beliefs and feelings on certain issues. He/she may refuse to answer any question, but the ones he/she chooses to answer must be answered truthfully. He/she may end the interview at any time by thanking the audience. The volunteer at the end of the interview may ask the interviewer any of the questions he/she was asked. The number of questions put to the interviewer should be limited so as not to shift the focus from the volunteer. Sample interviews:

1. If you had a choice of how old you could be, what age would you like to be?
2. Do you smoke? Why?
3. Do you take hard drugs? Why?
4. Do you believe in GOD?
5. How do you feel about grading in Schools?
6. What do you like the best/ latest about yourself?
7. Is there someone in your life whom you admire very much? Why?
8. Is there anything you really believe in?

Strategy No. 9: Sharing Experiences

This enables you to get to know one another through interviews. you can relate on a more intimate basis with a group not exceeding six pupils rather than in a large classroom.

Exercises

Form group of four to five people with one person volunteering to be interviewed. The compare will regulate the interview by calling upon one of the group members to ask questions. The interviewee may pass on any question he/she does not wish to answer. The compare can ask the member the reason for asking it. When the group runs short of questions or when the interviewee says "Thank you for the interview, assume that the interview is over.

Remember while interviewing:

1. People never talk about their personal feelings, so always respect their decision, for passing the question.
2. Attempt on arguments or commence lively debates. These interviews are to help the people in expressing their feelings, whereas for others it will serve as a basis for reacting in a mature way. If you disagree with someone try to understand his/her position. Don't try to negate his feelings. If the groups are small enough with sufficient time, you may interview others in your group. This exercise is more likely to succeed, if everyone gets an opportunity to express his/her feelings.

Strategy No. 10: Learning to Listen

Trying to form a system of values is much easier when you are in an encouraging and warm atmosphere. To generate such an atmosphere,

teachers and pupils must learn to respect on another's views. Everyone has a right to express his/her opinion. This fact should be realised in the classroom, otherwise people will be afraid to voice their opinions.

Exercise

It attempts to help you accept and assimilate different opinions without mobilizing others to change their minds. Everyone completes the format as:

1. I like to be with people who.....
2. I don't like to be with people who.....

Get into groups of three, to discuss your answers. Each person in the group should concentrate on the other two for a period of five minutes. The interviewer then talks about what he has written down.

Note

1. You give the interviewer full attention for the entire five minutes. Hear him/her till he/she speaks. Ask only such questions that relate to the subject. Don't go off the track.
2. Make him/her feel comfortable. It is not easy to talk in front of other people. Acknowledge his/her statements with nods or smiles; this will make everyone feel more relaxed. If you disagree with his/her statement try not to show it. Negative feeling defeat the purpose of the activity. There will be time for discussion later.
3. Try to understand the other person's feelings. Ask a question to clarify the reason for a particular response. Make sure you are not trying to put yourself in the spotlight. Don't reveal any negative feelings through your questions.

Think about how well you have listened and understood. Did you have a hard time saying nothing when someone was commenting on the subject you disagreed with? Were you afraid in giving your opinion? Discuss and react to each other's positions for another five or ten minutes. Did you feel more confident or less confident than before? Could you listen to others as well by knowing that you could say something this time?

Strategy No. 11: Examining Alternative

How many times have you committed a mistake and found yourself regretting it afterwards? May be, if you had been more clear about your feelings you could have reacted in a more beneficial way. This strategy will help you in conditioning the alternative before taking any decisions. The purpose here is to motivate you in accordance with your personal values.

Let us discuss the things you have done that you regretted later. Now in a situation where something must be done, decide what alternative is the best. Assimilate all your feelings related to the situation and your role in this situation. Answer one you think you would probably do, and the second you think you should do. Break into groups of three or four for discussion and arrive at a conclusion.

Example

You have friendship with a drug addict and want that he/she should kick the habit.

Strategy No. 12: What are the Consequences?

Exercise

One part of making decisions is examining the consequences of an action. This strategy helps in strengthening the ability to search for consequences leading to better choices.

Make a table with three headings, alternatives 1, 2 and 3. Write down under each heading as many consequences as you can. You may work individually or in groups. If you can think of an alternative for a situation, write down "not doing it" as the second alternative.

Choosing not to do something will also produce consequences. Discuss your responses with those of other people and try to come up with new alternatives. Compare your consequences with those of other pupils. Do you find any limitations to your answers? Try to get as many ideas as possible.

Strategy No. 13: Discussion with Self

Exercise

Have you ever been faced with a problem and sorted it out yourself? Have you ever heard of a voice within: Asking to change mind? This strategy will help you to sort out things within your conscience by a conversation with yourself. It will make you realise that there is some confusion with value decision. Think of a problem that has been worrying you lately. Write down a dialogue or triologue of your voices, don't write only what you think is right. Or, someone may volunteer to act out his/her dialogue. The volunteer changes from one position to another, when he/she questions and answers himself/herself until he finishes the script. He/she may continue his/her dialogue as long as he/she can or until he/she arrives at a decision. This may be done in front of the whole class or in groups of four or five. Pupils may ask questions to the actor to help him/her clarify his/her thoughts. Try to analyze each other's psyche.

Strategy No 14: Slicing the Apple of Your Life

Exercise

How do you spend your time and money? Do you spend it wisely? These things are important for us to know if we want to improve from where we are to what we ought to be in life. This strategy also makes you examine how you like your life.

Draw a circle on a paper and divide it into four quarters. Each quarter represents six hours of the day. Now try to estimate how much time you spend on each of these things.

1. Sleeping
2. Attending School

3. Working at a Job
4. With your colleagues
5. Home work
6. Doing something by yourself
7. Doing nothing
8. Helping in community services
9. With your family, including sharing meals
10. On other things

You won't get exact estimates, but will have to add up to 24 hours-to call it a routine. Think about:

1. Are you happy with the sizes of your slices?
2. Draw another apple you think would be perfect. It is very different from the first?
3. Anything that you can do to change the sizes of your slices?

Try this exercise with different pies. School, one school subject, the books you read are some topics you might try. Look at the other pies and compare them with yours. Is your pie much different? Do not get into arguments but discuss reasons for dividing up your pie the way you did. Everyone has his/her own way of life, do not try to change others minds.

Strategy No. 15: Make a Wise

Exercise

Let us imagine we have a magic box. There can be anything we want, tangible or intangible within. If you have such a box in front of you right now, what would you imagine is stored in it? Take your own time with the correct answer, then jot it down.

- Is your answer related to money?
- Is your answer related to virtue?
- Do you think your answer will change in the next year, or month or week, or tomorrow?
- What do you want for the friends?
- What do you want for the society?
- What do you want for the world?
- Keep your answers, look at them sometime again in the next week. See whether your values have changed?

Strategy No. 16: What Am I?

Exercise

This strategy will help you to acquaint yourself better with personality development. It will give you an opportunity to think about your life objectively.

Write a short story once in two or three days. Use the topics;

1. What am I?
2. What do I want to be?
3. I feel proud?
4. My most valuable experience
5. A turning point
6. If I were the president of my country
7. My best friend
8. My best teacher

You may discuss your stories or read them aloud. Show them to your parents and see what happens. Save them and look at them again in a few months. Have you changed?

Strategy No. 17: My Life

This activity will help you to see your life as a whole. It gives you an opportunity to think of goals-past and present and not living through the days as they come. It will help you to be more confident of the pattern of your life and the way you change it to suit you better.

During the year, you will develop chapters or pages for your life story by remembering the past events. Examine such experiences to unveil important life patterns and which of these were result of conscious choice, outside pressure or impulses. Discuss a page or two with someone frequently. Learn about their experiences and feelings about them.

Examples

1. Who have been favorite teachers; not only school teacher but anyone who might have taught a valuable lesson to you?
2. Draw a line with one end representing birth and the other, your age now. Mark all the turning points in your life on it. Put your age underneath each mark. How did they happen? How did you feel about these before and after? Did anyone notice the sudden change? How do you feel about it now?
3. Write episodes about some of the learning experiences.
 - Learning to ride a bike/bicycle. Who helped? Whose bike/bicycle was it?
 - Learning to dance.
 - Learning to play cards.
 - Learning to love your brothers and sisters.
 - Learning to drive.
 - Any other experiences you have had, including the use of narcotic drugs.

Strategy no. 18: Strength of Beliefs

Exercise

This exercise helps you to assess how strongly you believe in something at some time. Complete the questions on your own by indicating how you feel about the statement. Write C for "Complete agreement", N for "not at all", PY for "partially yes", PN for "Partially No".

Sl. No.	Statement Response			
	C	N	PY	PN
1.				
2.				
3.				
4.				
5.				
6.				
7.				

Break into groups to discuss your answers. Would you change your answers after listening to the reasoning process of other? How confident are you about your answers? Would you rather have stronger or weaker feelings? If so, to which question?

Strategy No. 19: Values on the Outside

One of the main problems in our educational institutions is linking the classroom with the outside world. This exercise attempts to make such a link by shifting the minds of the pupils to the outside happenings. Learning to make value judgements through experience will be more meaningful to a pupil than ordinary classroom discussions.

Exercise

Pick an experience or project you want to be involved in, between such people who you don't know, and it will involve some risk factor. You can finish the assignment in a week. Later everyone will report on what they experienced with a discussion there on. Inform your teacher of the project before carrying it out.

Sample projects

1. Go to the local court-house and observe the cases brought in. How are the people treated?
2. Put on some old clothes and sit in the employment exchange. Strike up a conversation with someone sitting next to you. Observe your own reactions.
3. Sit with a drug addict. Strike up a conversation with him.
4. Make up a lesson plan on something you recognize as important. Contact a local junior high school and seek permission to teach a classroom of pupils.

5. Find a neighbor or friend who is being abused or neglected by his/her landlord. Offer to phone the City Hall to help the landlord get punished.

Strategy No. 20: Picture of My life

This strategy helps pupils to think about the direction to their lives. How important it is and why they want a change.

Exercise

Draw the outline of an emblem of coat-of-arms. Divide it into six sections. Draw in each section a picture relating to a question.

The art work is not important but what you draw is:

1. What is the most important thing you have done in your life?
2. What is the most important thing your family has done?
3. What is it that someone can do to make you happy
4. What do you want to achieve with only one year at your disposal?
5. What was your greatest personal failure?
6. Which thing would you like people to highlight about your career, if you die today?

Break into discussion groups and compare pictures of everyone. Explain the reasons for your pictures and listen to comments from others. Do you think your emblem will change by next year? How would you like it to change? In which direction is your life moving?

Strategy No. 21: Communication Lines

Many feelings in our world are lost or wasted, because people can't communicate smoothly. They are rather worried about what they are about to say next when they miss the valuable point of others. Building values comes from considering alternatives. The later comes from listening to the opinions of other people. By listening and feeling we can completely understand their opinions. This is not an easy thing. i.e. listening with rapt attention to someone you disagree with. But it helps in the long run, especially when it comes to investigating fully each alternative before making any decision. Understanding the people better can also make life less complicated.

Exercise

Break into groups of four with one person as the monitor and the others as participants. The monitor helps in an issue on which the others have different shades of opinions. When a person finishes his/her statement, the next person must repeat the point he/she made before giving his/her opinion. The monitor has to ensure about this procedure. Each person must be satisfied about his/her opinion being heard before some one else speaks. The monitor may go to someone else during the discussion. The discussion winds up when everyone get exhausted over the topic. A brief discussion may follow with the whole class. How well did you listen?

Did you find the meaning about the opinions of other persons? Were you satisfied with the attention you had? Did you feel happy about your opinion?

3.5 CONCLUSION

We should provide adolescents/youth with equal and appropriate opportunities to test their values. Errors in judgement must be discussed but the educators must be prepared to accept the values adolescents derive from the environment. Clarification of values is very important for drug addicts. However, the educators should be taught how to use various strategies for assessing values. Therefore, let us think, organize and strive together so that drug using pupils can discover for themselves the values of logical inquiry, tested institution and useful contribution to society to lead a complete life. Life cannot be complete unless there is an inward drive to achieve some personal goal and unless the welfare of others close to you has equal importance. Respect for life and it's gifts alone will make life meaningful and worth living.

3.6 SUGGESTED READINGS AND REFERENCES

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3. Jiloha, R.C. and B. Sain "From drug to Dragon" Mittal Publications, New Delhi.
4. Kalra, R.M/ (1997) "Drug Addiction in Schools" Vikas Publishing House, New Delhi.
5. Weiner, R.S.P. (1975), "Drugs and School Children" Longman, London.

UNIT 4 HIV SURVEILLANCE CENTRES IN INDIA*

1. Andhra Pradesh	1. Department of Microbiology, Osmania College, Hyderabad.
	2. Department of Microbiology, SV Medical College, Tirupati
	3. Department of Microbiology, Andhra Medical College, Vishakapatnam.
	4. Institute of Preventive Medicine, Hyderabad
2. Arunachal Pradesh	5. District Hospital, Itanagar
3. Assam	6. Department of Microbiology, Guwahati Medical College, Guwahati.
4. Bihar	—
5. Goa	7. Department of Microbiology, Goa Medical College, Panaji
6. Gujarat	8. Department of Microbiology, BJ Medical College, Ahmedabad
7. Haryana	9. Department of Microbiology, Medical College, Rohtak.
8. Himachal Pradesh	10. Department of Microbiology, Indira Gandhi Medical College, Shimla
9. Jammu & Kashmir	11. Department of Immunopathology, Sher-e-Kashmir Institute of Medical Sciences, Srinagar.
	12. Department of Microbiology, Government Medical College, Jammu
10. Karnataka	13. Department of Microbiology, Bangalore Medical College, Bangalore
	14. Department of Microbiology, Kasturba Medical College, Manipal
11. Kerala	15. Department of Microbiology, Medical College, Trivandrum.
12. Madhya Pradesh	16. Department of Pathology, Gandhi Medical College, Bhopal
	17. Choitram Hospital and Research Centre, Indore

* NACO, Country Scenario 1995, Ministry of Health and Family Welfare, Govt. of India

13. Maharashtra	18. Department of Microbiology, Seth G.S. Medical College, Bombay.
	19. Department of Microbiology, JJ Hospital, Bombay
	20. Sion Hospital, Bombay
	21. B.Y.N. Nair Hospital, Bombay.
	22. Rajabari Hospital, Ghatkopar, Bombay
	23. B.J. Medical College, Pune.
	24. Department of Microbiology, Govt. Medical College, Nagpur.
	25. Civil Hospital, Kolhapur
	26. District Hospital, Chandrapur
	27. Governmental Medical College, Miraj
14. Manipur	28. J.N. Hospital, Imphal
15. Meghalaya	29. Civil Hospital, Shillong
16. Mizoram	30. Civil Hospital, Aizwal
17. Nagaland	31. Naga Hospital, Kohima
	32. District Hospital, Dimapur
18. Orissa	33. Department of Microbiology, SCB Medical College, Cuttack
19. Punjab	34. Government Medical College, Amritsar.
20. Rajasthan	35. Department of Microbiology, SMS Medical College, Jaipur.
21. Sikkim	36. S.T.N.M. Hospital, Gangtok
22. Tamil Nadu	37. Department of Microbiology, Instt. of Child Health and Hospital for Children, Madras.
	38. Department of Microbiology, Madurai Medical College, Madurai.
23. Tripura	39. District Hospital, Agartala
24. Uttar Pradesh	40. Department of Microbiology, K.G. Medical College, Lucknow
25. West Bengal	—
26. A & N Islands	41. G.B. Hospital, Port Blair
27. Chandigarh	—
28. Dadra & Nagar Haveli	—

29. Daman & Diu

HIV Surveillance
Centres in India

30. Delhi

42. Department of Microbiology, University
College of Medical Sciences, Shahdara,
Delhi.

43. Deptt. of Microbiology, Maulana Azad
Medical College, New Delhi.

31. Lakshadweep

44. Govt. Hospital, Kavarati

32. Pondicherry

45. Government General Hospital,
Pondicherry.

UNDER INDIAN COUNCIL OF MEDICAL RESEARCH

46. Central JALMA Instt. for Leprosy, Agra

47. Regional Medical Research Centre,
Bhubaneshwar

48. Regional Medical Research Centre for
Tribal Health, Jabalpur

49. Tuberculosis Research Centre, Madras.

50. Rajendra Memorial Research Institute,
Patna

UNDER DIRECTOR GENERAL OF ARMED FORCES MEDICAL SERVICES

51. Indian Naval Ship Hospital, Ashwani,
Bombay

52. Indian Naval Ship Hospital, Cochin

53. Armed Forces Command Hospital, Delhi
Cantt.

54. Department of Microbiology, Armed
Forces Medical College, Pune.

55. Indian Naval Ship Hospital, Kalyani,
Vishakapatnam

IN CENTRAL INSTITUTIONS

56. All India Institute of Hygiene & Public
Health, Calcutta

57. Department of Microbiology, JIPMER,
Pondicherry

IN AUTONOMOUS INSTITUTIONS

- 58. Department of Microbiology, Instt. of Medical Sciences, Varanasi
- 59. Jawahar Lal Nehru Medical college, Aligarh.
- 60. Department of Immunopathology, PGI Chandigarh
- 61. National Institute of Mental & Neurosurgery

IN PRIVATE INSTITUTIONS

- 62. Kamla Nehru Memorial Hospital. Allahabad.

UNIT 5 ZONAL BLOOD TESTING CENTRES IN INDIA*

IN VARIOUS STATE/UNION TERRITORIES

- | | |
|----------------------|--|
| 1. Andhra Pradesh | 1. Blood Bank, Gandhi Hospital, Hyderabad. |
| | 2. Blood Bank, M.J.Cancer Hospital, Hyderabad. |
| | 3. Blood Bank, Nizam's IMS, Hyderabad. |
| | 4. Blood Bank Instt. of Preventive Medicines, Hyderabad. |
| | 5. Blood Bank, Govt. Headquarters Hospital, Vijayawada. |
| | 6. Blood Bank, Govt. Headquarters Hospital, Karim Nagar. |
| | 7. Blood Bank, Govt. Headquarters Hospital, Cuddapah. |
| | 8. Blood Bank, Govt. Headquarters Hospital, Kamman. |
| | 9. Blood Bank, Govt. Headquarters Hospital, Chittoor. |
| | 10. Blood Bank, Medical college, Tirupati. |
| | 11. Blood Bank, Guntur Medical College, Guntur. |
| | 12. Blood Bank, General Hospital, Kurnool. |
| 2. Arunachal Pradesh | 13. Blood Bank, Government Hospital, Itanagar. |
| 3. Assam | 14. Blood Bank Guwahati Medical College, Guwahati. |
| | 15. Blood Bank, Medical College, Dibrugarh. |
| | 16. Blood Bank, Medical College, Silchar |
| 4. Bihar | 17. Blood Bank, Medical College, Gaya |
| | 18. Blood Bank, Patna Medical College, Patna. |
| | 19. Blood Bank, District Hospital, Dhanbad. |

* NACO, Country Scenario 1997-98, Ministry of Health and Family Welfare, Govt. of India.

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|---------------------|---|
| | 20. Blood Bank, District Hospital, Jamshedpur. |
| | 21. Blood Bank, Jamshedpur. |
| | 22. Blood Bank, Rajendra Medical College, Ranchi. |
| | 23. Blood Bank, Medical College, Bhagalpur. |
| | 24. Blood Bank, Shri Krishna Medical College, Muzzafarpur |
| | 25. Blood Bank, Medical College, Dharbanga. |
| 5. Goa | 26. Blood Bank, Medical College, Panaji |
| | 27. Blood Bank, Civil Hospital, Panaji. |
| 6. Gujarat | 28. Blood Bank, Surat Medical College, Surat. |
| | 29. Blood Bank, Govt. Medical College, Vadodara |
| | 30. Blood Bank, B.J. Medical College, Ahmedabad. |
| | 31. Blood Bank, M.P. Shah Hospital, Jamnagar, |
| | 32. Blood Bank, District Hospital, Junagarh |
| | 33. Blood Bank, Civil Hospital, Amreli |
| 7. Haryana | 34. Blood Bank, Medical College, Rohtak |
| | 35. Blood Bank, District Hospital, Hissar. |
| | 36. Blood Bank, General Hospital, Faridabad. |
| | 37. Blood Bank, General Hospital, Karal |
| 8. Himachal Pradesh | 38. Blood Bank, Indira Gandhi Medical College, Shimla |
| | 39. Blood Bank, District Hospital, Dharamsala. |
| 9. Jammu & Kashmir | 40. Blood Bank, Govt. Hospital, Srinagar. |
| | 41. Blood Bank, Medical College, Jammu |
| 10. Karnataka | 42. Blood Bank, K.C. General Hospital, Bangalore. |
| | 43. Blood Bank, H.S.I.S. Hospital, Bangalore. |

44. Blood Bank, K.M.Instt.Of-Oncology,
Bangalore.
45. Blood Bank, K.M.C.Hospital,Hubli.
46. Blood Bank,Kasturba Medical College,
Manipal.
47. Blood Bank, Medical College, Bellari
48. Blood Bank, Kasturba Medical
College, Mangalore.
49. Blood Bank, Medical College,
Gulbarga
50. Blood Bank, Medical College,
Belgaum
51. Blood Bank, Medical College
Hospital, Calicut.
52. Blood Bank, Govt.Hospital, Ernakulum
53. Blood Bank, Medical College,
Trivandrum
54. Blood Bank, District Hospital, Trichur
55. Blood Bank, District Hospital,
Cannanore
55. Blood Bank, Medical College, Bhopal
57. Blood Bank, Dist.Hospital Ujjain.
58. Blood Bank, Medical College, Gwalior
59. Blood Bank, D.H., Sagar
60. Blood Bank, Medical college, Indore.
61. Blood Bank, Rewa Medical college,
Rewa
62. Blood Bank, District Hospital,
Bilaspur.
63. Blood Bank, Medical College,
Jabalpur.
64. Blood Bank, District Hospital,
Chindwara.
65. Blood Bank, Medical College, Raipur
66. Blood Bank, KEM Hospital, Bombay
67. Blood Bank, LTMG Hospital, Bombay
68. Blood Bank, BYL Nair Hospital,
Bombay

11. Kerala

12. Madhya Pradesh

13. Maharashtra

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| | 69. Blood Bank, Haffkine Institute, Bombay. |
| | 70. Blood Bank, Tata Memorial Hospital, Bombay |
| | 71. Blood Bank, Red Cross, Bombay |
| | 72. Blood Bank, Cooper Hospital, Bombay |
| | 73. Blood Bank, Rawadi Hospital, Bombay |
| | 74. Blood Bank, JJ Hospital, Bombay |
| | 75. Blood Bank, General Hospital, Solapur |
| | 76. Blood Bank, Govt.Hospital, Ulhasnagar. |
| | 77. Blood Bank, Sasoom Hospital, Pune. |
| | 78. Blood Bank, Govt.Medical College, Miraj |
| | 79. Blood Bank, Dist.Hospital, Chandrapur |
| | 80. Blood Bank, General Hospital, Kolhapur |
| | 81. Blood Bank, Medical college, Nagpur |
| 14. Manipur | 82. Blood Bank, J.N.Hospital, Imphal |
| 15. Meghalaya | 83. Blood Bank, Pasteur Hospital, Shillong |
| 16. Mizoram | 84. Blood bank, Govt.Hospital, Aizwal |
| 17. Nagaland | 85. Blood Bank, Dist.Hospital, Dimapur |
| | 86. Blood Bank Dist.Hospital, Muckchong |
| | 87. Blood Bank, Govt.Hospital, Kohima |
| 18. Orissa | 88. Blood Bank, M.K.G.G.Hospital, Burla |
| | 89. Blood Bank, V.S.S.Medical College, Berhampur |
| | 90. Blood Bank, S.C.B.Medical College, Cuttack |
| 19. Punjab | 91. Blood Bank, Shri.Guru Tegh Bahadur Hospital, Amritsar |
| | 92. Blood Bank, Rajendra Hospital, Patiala |
| | 93. Blood Bank, Civil Hospital, Ludhiana |
| 20. Rajasthan | 94. Blood Bank, S.M.S.Medical College, Jaipur |
| | 95. Blood Bank, Medical college, Ajmer |

96. Blood Bank, Medical College, Bikaner
97. Blood Bank, S.N. Medical College,
Jodhpur
98. Blood Bank, General Medical College,
Udaipur
99. Blood Bank, Medical College, Kota.
21. Sikkim 100. Blood Bank, S.P.N.M. Hospital,
Gangtok
22. Tamil Nadu 101. Blood Bank, Madras Medical College,
Madras.
102. Blood Bank, Stanley Medical College,
Madras.
103. Blood Bank, Kilpak Medical College,
Kilpak, Madras.
104. Blood Bank, Govt. Royapettah
Hospital, Madras.
105. Blood Bank, Apollo Hospital, Madras.
106. Blood Bank, Madurai Medical
College, Madras
107. Blood Bank, S.G. Hospital, Madras
108. Blood Bank Central, Egmore, Madras
109. Blood Bank, Govt. Hospital,
Coimbatore
110. Blood Bank, Govt. Hospital, Salem
111. Blood Bank, Govt. Hospital,
Tiruchirapalli
112. Blood Bank Medical College,
Tirunelveli
23. Tripura 113. Blood Bank, G.B. Hospital, Agartala.
24. Uttar Pradesh 114. Blood Bank, Dist. Hospital, Gorakhpur
115. Blood Bank, G.S.V. Medical College,
Kanpur
116. Blood Bank, Dist. Hospital, Allahabad
117. Blood Bank, K.L. Sharma Hospital,
Meerut
118. Blood Bank, K.G. Medical College,
Lucknow
119. Blood Bank, S.G.P.G.I., Lucknow

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|--------------------------|---|
| | 120. Blood Bank, Medical College, Agra |
| | 121. Blood Bank, Dist.Hospital,Dehradun |
| | 122. Blood Bank, Dist.Hospital, Nainital |
| | 123. Blood Bank, Dist.Hospital,
Shahjahanpur |
| | 124. Blood Bank, M.L.D.Medical College,
Jhansi |
| 25. West Bengal | 125. Central Blood Bank, Calcutta |
| | 126. Blood Bank, C.N.M.C.H., Calcutta |
| | 127. Blood Bank, N.R.S.M.C.H., Calcutta |
| | 128. Blood Bank, R.G.K.A.R.M.C.H.,
Calcutta |
| | 129. Blood Bank, S.S.K.M., Calcutta |
| | 130. Blood Bank, Dist.Hospital, West
Dinajpur |
| | 131. Blood Bank, NorthBengal Medical
College, Darjeeling |
| | 132. Blood Bank, Dist.Hospital, Jalpaiguri |
| | 133. Blood Bank, State Hospital, Burdwan |
| 26. A & N Islands | 134. Blood Bank, G.B.Pant Hospital, Port
Blair. |
| 27. Chandigarh | — |
| 28. Dadra & Nagar Haveli | — |
| 29. Daman & Diu | — |
| 30. Delhi | 135. Blood Bank, G.T.B.Hospital,Shahdara
Delhi |
| | 136. BloodBank,HinduRao Hospital,
N.Delhi |
| | 137. Blood Bank LNJP /MAMC Hospital,
N.D. |
| 31. Lakshadweep | — |
| 32. Pondicherry | — |

UNDER INDIAN COUNCIL OF MEDICAL RESEARCH

138. Blood Bank, Bhubaneswar
139. Blood Bank, Instt:of Pathology, New
Delhi.

140. Blood Bank Command Hospital, Bangalore.
141. Blood Bank Comman Pathology Lab, Eastern Command, Calcutta.
142. Blood Bank Armed Forces Command Hospital, Delhi Cantt.
143. Blood Bank Command Pathology Lab, Central Command, Lucknow
144. Blood Bank Armed Forces Medical College, Pune
145. Blood Bank Command Hospsital, Northern Commd. Udhampur.

IN CENTRAL INSTITUTIONS

146. Blood Bank, Lady Hardinge Medical College, New Delhi.
147. Blood Bank, Blood Transfusion Services, Safdarjung Hospital, New Delhi.
148. Blood Bank, Jipmer, Pondicherry
149. Blood Bnak, RML Hospital New Delhi

IN AUTONOMOUS INSTITUTION (Other than ICMR)

150. Blood Bank, Medical College, Banaras Hindu University, Varanasi.
151. Blood Bank, AIIMS, New Delhi.
152. Blood Bank, Indian Red Cross Society, New Delhi.
153. Blood Bank, PGI, Chandigarh.

IN PRIVATE INSTITUTIONS

154. Blood Bank, Christian Medical College, Vellore.

UNIT 6 LIST OF AGENCIES WORKING IN THE AREA OF DRUGS AND ALCOHOL

Andhra Pradesh

1. Upkaar Dr. Pashupuleti Nirmala Hanumantha Rao Charitable Trust Managing Trustee, Dr. Subbarao Nagar Colony, Secunderabad, Andhra Pradesh - 500 003.
2. Grameena Nava Samaja Nirmana Sangham President. Kistapuram, P.O. Man Miryalguda District Nalgonda, Rudraram, Andhra Pradesh - 508 207.
3. Organisation For Rural Reconstruction Movement Director-cum-President, H.No. 16-3212, Bangalore Road, Dharamavaram, Anantapur Dist., Andhra Pradesh-515 671.
4. People's Action For Social Service General Secretary, 10-12, Maruthi Nagar, Chittoor District, Tirupati West, Andhra Pradesh - 517 502.
5. Psycho-Social Counselling Centre Director, P.B. 2126, Staff Road, Secunderabad, Andhra Pradesh - 500 009.
6. Health Education Link Programme (HELP) Director, A-701, Brindavan Apartments, Lakhadikapool, Hyderabad, Andhra Pradesh - 500 003.
7. The Salvation Army, Training Principal, S.A.O.T. College, Dhargamitta, Nellore, Andhra Pradesh - 524 003.
8. Hanumanth Rao Charitable Trust Director, Upkaar Circle, Secunderabad, Andhra Pradesh - 500 003.
9. Association For Social Health In India General Secretary, Humayun Nagar, Guards Road, Hyderabad, Andhra Pradesh - 500 004.
10. Needs Serving Society Executive Secretary, Post Box No. 13, R.V.S.C.V.S. High School Hostel, Chilakaluripet, Andhra Pradesh.
11. Vimukti Honorary Secretary, Peerajupeta, E.G. District, Kakinanda Andhra Pradesh - 533 003.
12. Caritas Innovative Project Project Co-ordinator, Fr. Patrao Hospital, Darbe, Puthur, Andhra Pradesh - 574 202.
13. The Andhra Pradesh People's Socio-Economic Development Services Society Director, Near Laxmi Theatre, Solomons Centre, Prakasam District Chirala, Andhra Pradesh - 523 156
14. Rural Organization For Social Activity Director, Manthenavaripalem, Pittalavaripalem (Mandal), Guntur, Andhra Pradesh.

15. A.P.Girijana Seyak Sangh Chandamamapet, Nondigama, 185, Krishna, (A.P.), Andhra Pradesh.
16. Society For Uplifting Rural Poor and Socially Stranded (SURPASS) H.No. 3-4-13/1/1, Dr. Bhoomanava Lane, Kochiguda, Hyderabad/27, Andhra Pradesh.

Assam

17. Asso. For Social Health In India : Assam State Branch General Secretary, Baruah Road, Sundarpur, Guwahati, Assam - 781 005.
18. Society For The Promotion Of Youth And Masses (SPYM) Director, Ashram Road, Near Water Tranks Ulubari, Guwahati, Assam - 781 007.
19. Jagriti Sanmilita Unnayan Kendra Project Incharge, Bongalmora, P.O. Islamgaon, Lakhimpur, Assam - 787 054.
20. Seva Kendra Silchar Director, Bishop's House, Silchar, Assam - 788 005.
21. Amar Pragari Sanskritie Chora and Samaj Unnayan Kendra, Guwahati, Assam.
22. Khorapathar Sanmilita Yuvak Samaj P.O.Sandhkhowa - 784 054, Islamgaon, Distt. Lakhimpur, Assam.

Bihar

23. Sister Nivedita Memorial Trust Secretary, Firoz Gandhi College, Old Bhavan, Jakkanpur, Patna, Bihar - 800 001.
24. Shree Narayan Samaj Kalyan Kendra Secretary, P.O.Kurup Indrayan, District. Rohtas (Sasaram), Lok Dihari, Bihar.
25. Birsa Seva Sansthan Secretary, 25, Shardhanand Road, Ranchi, Bihar - 834 001.
26. Ranchi Arch Diocesan De-Addiction Programme Sister Incharge, Holy Family Hospital, Ranchi District. Mandar P.O., Bihar - 835 214.
27. Youth Mobilization for National Advancement General Secretary, 132, Triveni Apartment, Patna, Bihar - 800 001.
28. Bihar Rehabilitation And Welfare Institute Director, Jagdamba Bhavan, G-4, People's Co-operative Colony, Kankerba, Patna, Bihar - 800 026.
29. Environment Counselling Vikas Centre Patna, Bihar.
30. Kammi Sewa Sadan Jaiprakash Nagar, Dhanbad - 826 001, Bihar.

Delhi

31. Bapu Nature Cure Hospital And Yogashram Project Director, Gandhi Nidhi, Patparganj, New Delhi - 110 091.

32. Women's Conference Secretary, Sarojini House,
New Delhi - 110 001.
 33. Bijnor Seva Sansthan Director, B-3/57, 2nd Floor, Safdarjung
Enclave, New Delhi - 110 029.
 34. Sahara House Director, E-453, Greater Kailash II,
New Delhi, - 110 048.
 35. Catholic Health Association Of India Incharge, 9435-36/4,
Makhanlal Street, 7 Ansari Road, Daryaganj, Delhi - 110 002.
 36. Jeewan Jyoti Director, 25/3, Institutional Area, Janakpuri,
New Delhi, - 110 046.
 37. Navjyothi Delhi Police Foundation Director, Sarai Rohilla, Police
Station, 3rd Floor, New Delhi - 110 007.
 38. Christian Medical Association of India Co-ordinator, Plot No. 2,
A-3, Block, Janakpuri, New Delhi - 110 058.
 39. Society For Promotion Of Youth And Masses Chairperson, Sector
B-3, 3054, Vasant Kunj, New Delhi - 110 070.
 40. Santulan Executive Director, F-60, Bali Nagar, Near Raja Garden,
New Delhi.
 41. Akhil Bhartiya Mahila Udhog Kalyan Shiksha Samiti Director, B-
290, New Ashok Nagar, New Delhi - 110 096.
 42. International Labour Organization National Co-ordinator, Theatre
Court, 3rd Floor, India Habitat Centre, Lodhi Road,
New Delhi - 110 003.
 43. National Institute of Social Defence, Ministry of Social Justice
And Empowerment Lecturer, West Block 1, Wing 7, Ground Floor,
R.K.Puram, New Delhi - 110 066.
 44. United Nations International Drug Control Program (UNDCP)
Regional Representative, India International Centre, Lodhi Road,
New Delhi - 110 003.
 45. Association of National Brotherhood for Social Welfare 21, New
Rohtak Road, New Delhi - 110 005.
 46. Association for Social Health in India 4, Deen Dayal Upadhyaya
Marg, New Delhi - 110002.
 47. Samaj Sewa Sangh Bhrahampuri, Delhi.
- Goa**
48. Asha Bhavan Administrator, Goa Vista: Eastora, Bardez,
Goa - 403 003.
 49. Association For Social Health In India President, Goa State
Branch, Taleigao, Goa - 403 003.
 50. Association for Social Health In India Asha Mahal, Goa.

Gujarat

51. Parivartan De-Addiction Hospital Project Director, Old civil Hospital, Chowk Bazaar, Surat, Gujarat.
52. Nashabandhi Mandal, Gujrat President, Opposite Apna Bazar, Bhandra, Ahmedabad, Gujarat - 380 001.
53. Christ Reconciling Youth Honorary Director, Pensionpura Near Ashok Compound, P.O. Fatehganj, Baroda, Gujrat - 390 007.
54. Indian Council Of Social Welfare (ICSW) Secretary, Municipal Bal Bhawan, Paldi, Ahmedabad, Gujarat - 380 007.
55. S.C.Patel Trust De - Addiction Centre Director, A-4, Mudra Complex, Ellora Park, Baroda Gujarat - 390 007.
56. Gujarat Kelayani Trust Honorary Director, Mangal Prabhat Trust Building, Opp. St. Xavier's High School, Ahmedabad, Gujarat.
57. Kanoria Hospital & Research Centre Near Indira Bridge, Hansol-Gandhinagar, Highwat, Village Bhat, Gandhinagar, North Gujarat.
58. Ranchnatmak Abhigam Trust. Hardik Prerana Park, Society Opp. I.G.Hospital, Mani Nagar, Ahmedabad, Gujarat.
59. Sahyog Charitable Trust C 14-15, Bhagyoday Complex, Gorwa Refinery Road, Vadodara - 390016, Gujarat.

Haryana

60. Adarsh Saraswati Shiksha Samiti Institute, De -Addiction Centre, Haryana.
61. Association for Social Health In India 134-A, Sector- 11 A, Chandigarh, Haryana.
62. Indian Red Cross Society Distt. Branch, Red Cross Bhavan, Kothi No. 340, Sector - 14, Faridabad - 121001, Haryana.
63. Indian Red Cross Society Distt. Branch, Red Cross Bhavan, Delhi Road, Hissar, Haryana.
64. Indian Red Cross Society Distt. Branch, Red Cross Bhavan, Jind-126 102, Haryana.
65. Indian Red Cross Society Distt. Branch, Red Cross Bhavan, G.T.Road, Panipat, Haryana.
66. Indian Red Cross Society Distt. Branch, Red Cross Bhavan, Rohtak, Haryana.
67. Indian Red Cross Society Distt. Branch, Fatehabad, Haryana.
68. Haryana State Council for Child Welfare Bal Vikas Bhavan, 650, Sector 16-D, Chandigarh - 160 015.
69. CAIM Society, Bannerghatta Village, Bangalore (Centre at Rewari), Haryana.

70. CAIM Society, Bannerghatta Village, Bangalore (Centre at Sohna, Gurgaon), Haryana.

Jammu-Kashmir

71. Society For Promotion Of Youth And Masses Mashwara Hospital, Purkhoo Road, P.O. Dumana Akhnoor Rd, Jammu (J&K).

72. HNSS De-Addiction Centre Masjid; Khanyar, Srinagar.

Karnataka

73. Trada De - Addiction Centre Director, Carmelaram Post, Bangalore, Karnataka - 560 035.

74. Father Muller's Charitable Institutions Director, P.B. No. 501, Kankanady, Mangalore, Karnataka - 575 002.

75. St. Martha's Hospital Director, Psychiatry Department, Room No-22, Nrupathunga Road, Bangalore, Karnataka - 560 001.

76. NIMHANS (National Institute of Mental Health and Neuro Sciences) Chief (De-addiction Unit), Hosur Road, Bangalore, Karnataka - 560 029.

77. CAIM Charitable Society-Director, 11th Main Raj Mahal Vilas Extension, Bannerghatta Road, Bangalore, Karnataka - 560 080.

78. Link Trada Counselling Centre Co-ordinator, Brito Lane Falnir, Mangalore, Karnataka - 575 001.

79. Prajna Counselling Centre Director, Falnir Road, Kankanaday, Mangalore, Karnataka - 575 002.

80. River Valley Organisation For Rural Development Managing Trustee, Chandagal Road, Mandya District, Srirangapatna, Karnataka - 571 438.

81. Jeeva Dharu Director, Hand Post, Mananthavady Road, H.D.Kote, P.O. Mysore, Karnataka - 571 114.

82. Kaur Rani Channama Mahila Mandal, Karnataka.

83. Sri Maitri Mahila Mandali@ Doddabathi Post, Devengere, Tq. Chitradurga Distt. Karnataka.

84. Nitur Education Society Nitur(B) Tq. Bhalki, Distt. Bidar - 585 401, Karnataka.

85. Shri Shakti Mahila Mandali, Guntur Post Harihar, Devang Distt., Karnataka.

86. Seva Sangama No. 1163, 80-Feet Road, Prakash Nagar, Bangalore - 656 021, Karnataka.

Kerala

87. M.M.M. De-Addiction Research and Treatment Centre Project Director, MOSCMM Hospital, Kolenchery, Kerala - 682 311

88. Navajeeva Kendras Secretary, Malayalpuza, Thazam P.O., Pathanamthitta, Kerala.

89. Unity Group Counselling Centre Director, Perandoor Road, Cochin, Kaloore, Kerala - 682 017.
90. International Centre For Study And Development (ICSD) President, Valakom P.O., Kollam, Kerala - 691 532.
91. Prateeksa Counselling Centre Director, Bethany Aramana, Tiruvalla, Kerala.
92. Cochin Social Service Society Director, Jubilee Memorial Complex, Veli Cochin, Kerala - 682 001.
93. Total Response To Alcohol And Drug Abuse (TRADA) Director, Manganam P.O., Kottayam, Kerala - 686 018.
94. Kerala Association For Social And Women's Welfare General Secretary, Mupparayil Building, Vellayittambalam, Kollam Kerala - 691 012.
95. Atmata Kendram Director, Pastrol Centre, Changanassery, Kerala - 686 101.
96. Indian Psycho-Social Service Society President, Vettuthura, Channankara P.O., Channankara, Kerala - 695 315.
97. Prateeksha De-Addiction Centre Administrator, Sanghumugom Beach P.O., Trivandrum, Kerala - 695 007.
98. Family Apostolate Director, P.B. No. 42, Mananthavady, Waynad, Kerala - 670 645.
99. Divine Retreat Centre, De-Addiction Director, Muringoor P.O., Chalakudy, Kerala - 680 316.
100. Mujahid Education Trust Honorary Secretary, M.Square Complex, Pavamani Road, P.Box 60, Calicut, Kerala - 673 001.
101. Mar Gregorios Study Centre Director, P.B.No. 620, U.C.College P.O., Alwaye, Kerala - 683 102.
102. Social Action Forum Executive Director, Navachaithanya Aloor P.O., Trissur District, Aloor, Kerala - 680 683.
103. Alcohol And Drug Information Centre (ADIC) Project Director, TC 26/2203, Spencer Junction, Trivandrum, Kerala - 695 001.
104. St. Gregorios De-Addiction And Counselling Centre Administrator, Mission Hospital, Parumala, Kerala - 689 626.
105. Sri Sathya Sai De-Addiction Centre President, K.M.Hospital, Palliport P.O., Palliport, Kerala - 683 515.
106. Naranganam Rural Development Society Secretary, Naranganam West P.O., Pathanamthitta District, Pathanamthitta, Kerala - 689 642.
107. Nirmal Nikethan Mukthisadan Director, Mukthisadan, S.N.Junction, Thripunithura, Kerala - 682 301.
108. Shanthi Counselling Centre Co-ordinator, Kalleri Peruvayal P.O., Calicut, Kerala - 672 323.

109. Brain Society Director, P.O. Mala, Mala, Kerala - 680 732.
110. The Dale View Director, Ponalal P.O., Poovachal, Trivandrum, Kerala - 695 575.
111. Changanassery Social Service Society Secretary, P.B.No. 20, Changanassery, Kerala.
112. St. John Sangam Trust Chairman, Rover Campus Perambalur, Perambalur, Kerala - 621 212.
113. Abhaya Varada, Nandavanam, Thiruvananthapuram, Kerala.
114. Alcohol And Drug Addicts Research & Rehabilitation And Treatment, Pala, Kottayam - 686 575.
115. Calicut Diocese Social Service Society, St. Michael's Church, West Hill, Calicut - 673 005.
116. Prateeksha De-Addiction Centre Thalicherry, Cannore, Kerala.
117. Jawaharlal Memorial Social Welfare Public Co-operation Centre, Thalayolaparampu, Kottayam - 686 605.
118. Malankara Orthodox Syrian Church Medical Mission Hospital, Kolencherry, Ernakulam - 682 311.
119. Shree Niketan Centre For Social Development, Thiruvananthapuram.
120. Thiruvananthapuram Social Service Society Bishop's Palace, P.B. No. 828, Vellayambalam, Thiruvananthapuram - 695 003.
121. Unity Group Vallor Road, Petta, S.N.Junction, Thripunithura, Kochi.
122. K.Velayudhan Memorial Trust Shertalley, Allapuzha, Kerala.

Madhya Pradesh

123. Drug De-Addiction Hospital Incharge Hospital, Opium and Alkaloid Factory Campus, Station Road, Neemuch, Madhya Pradesh - 458 441.
124. Jagriti Drug Awareness Counselling And Assistance Centre President, 98, Ramprasad Bhargav Marg, Chhatri Chowk, Ujjain, Madhya Pradesh.
125. Indian Red Cross Society Secretary, Prem Kumari Hospital, 19, Biyabani, Indore, Madhya Pradesh - 480 012.
126. Indian Institute of Socio-Economic Research Development Secretary, Jabalpur, Madhya Pradesh - 482 001.
127. Rashtriya Vidhyan Manch President, E-20, BDA Colony Kohepiza, Bhopal, Madhya Pradesh - 462 003.
128. Raipur Diocesan Social-Welfare Society Director, Seva Sadan, District Drug, Kumhari, Madhya Pradesh - 490 042.

129. Navjeevahn De-Addiction Centre Project Director, Gandhi Bhavan Shamla Hills, Bhopal, Madhya Pradesh - 462 003.
130. Berojgar Mahila Seva Samiti Chairperson, Zone 3, Old Khursipar, Bhilai, Madhya Pradesh.
131. Bhilai Steel Plant Personnel Department Senior Manager, Counselling Section, Room No. 12, Old Administration Building, Bhilai, Madhya Pradesh.
132. Jabalpur Diocesan Social Service Society Director, Binjhia, P.B. No. 6, Mandla Dt., Madhya Pradesh - 481 661.
133. Akhil Bharat Rachnatmak Samaj E-4/1855, Mahavir Nagar, Near 10th Bus Stop, Bhopal, Madhya Pradesh.
134. Assem Jyoti Sanskritik Shiksha Parishad Gwalior, Madhya Pradesh.
135. Association For Social Health In India 98, Ram Prasad Bhargav Marg, Chhatri Chowk, Ujjain - 456 006.
136. Gandhi Bhavan Trust Syamala Hills, Bhopal.
137. Guru Tegh Bahadur Shiksha Samiti, Gwalior.
138. Shanti Niketan Mahila Kalyan Samiti Shivani Complex, Bhopal.
139. Shri Gautam Buddha Shiksha Prasara Samiti, Gwalior.
140. Shiv Kalyan Avam Shikshan Samiti, Bhopal.

Maharashtra

141. Kripa Foundation Mt. Carmel Church, 81/A, Chapel Road, Bandra, Mumbai - 400050.
142. Kripa foundation Managing Trustee, Mt. Carmel Church, 81/A, Chapel Road, Bandra (West), Mumbai, Maharashtra - 400 050.
143. Shri Ganesh Shikshan Prasarak Mandal Secretary, Priyadarshini Chowk, Khadgaon Road, Latur, Maharashtra - 413 531.
144. Sarva Seva Sangh Director, Vadgaonsheri, Pune, Maharashtra - 411 014.
145. Veer Arjun Yuvak Vikas Mandal Secretary, Lane No. 4, Plot No. 23, Vishwakarma Nagar, Nagpur, Maharashtra - 440 027.
146. Parivartan De - Addiction Centre Secretary, 155, Sadashiv Peth, Satara Maharashtra.
147. Seva Dhan Chairman, 4th Floor Municipal Hospital Bldg., Bhardawadi Road, Andheri, Mumbai, Maharashtra - 400 058.
148. Mahabodhi Education Society President, Lala Lajpatrai Ward, Near Nehru Garden, Mendha Road, Bhandara, Maharashtra - 441 904.
149. Society on Cancer and Health Education and its Management (SCHEME) President, Prof. Bunglow No.3, Medical College Campus, Nagpur, Maharashtra - 440 003.

150. Support Executive Director, M.M.Joshi Marg Lower Parel (W), Mumbai, Maharashtra - 400 013.
151. Nav Nirmaan Foundation Clinical Director, Rose Minar, 87, Chapel Road, Ground Floor, Bandra, Mumbai, Maharashtra - 400 050.
152. Drug Abuse Information, Rehabilitation and Research Centre Secretary, H Block, Ist Floor, Sitaram Building, Palton Road, Mumbai, Maharashtra - 400 001.
153. National Addiction Research Centre (NARC) Director, Bhardawadi Hospital, Andheri West, Mumbai, Maharashtra - 400 053.
154. Forum Against Drugs General Secretary, Office 2, Ist Floor, Sonal Mahal, 143, Marine Drive, Mumbai, Maharashtra - 400 005.
155. Adarsh Shikshan Prasarak Mandal, Mumbai,
156. Arunchaya Bahuudeshiya Gramin Vikas Sanstha, Maharashtra.
157. Bhartiya Aushadhi Anusandhan Sansthan Tumsar At. Post Khapa, (Tumsar), Tah, Tumsar, Distt. Bhandara, Maharashtra
158. Bhartiya Adiss Jati Sangh Vidarbha Pandes Bunglao, Nagpur, Khamala - 440 025.
159. Dharam Samanway Maharishi Gulbarga Maharaj Warkari Vikas Shikshan, Maharashtra.
160. Jan Kalyan Samaj Vikas Sansthan Police Barracks, Behind Centre Building, Osmanabad, Maharashtra.
161. Jeevan Rekha Pratisthan, Maharashtra.
162. Kagal Education Society, Maharashtra.
163. International Mission of Dr. Adbedkar Education Society, Nawa Nakasha, Nagpur - 440 017.
164. Kalyan Education Society 103, Tikekar Road, Thantoli, Nagpur - 440 012.
165. Muktanar Mitra Krishna Patrakar Nagar, Pune - 16.
166. Sant Kabir Vidya Prasarak Society 19, Bhuvikas Bank Colony, Naik Nagar Road, Anand Nagar, Nanded - 431 605.
167. Shivam Mahila Shikshan Prasarak Mandal Near Pilla Bangla, Near Old Telegraph Office Jalna, Jalna, Maharashtra.
168. Sandhi Niketan Shikshan Sansthan Wadgaon, Tq. Mukhed. N.M.Wadgaonkar, At. P.O. Barholi. Distt. Nanded.
169. Shiv Shakthi Education Society Lashkari Bagh, Nagpur-17.
170. Shri Shiwaji Shikshan Prasarak Mandal, Maharashtra.
171. Unnatisheel Mahila Mandal Ravi Bhavan, Ganesh Nagar Road, Nanded, Maharashtra.

Manipur

172. Sunichinvum Women Society Secretary, Sunny Cottage, New Lambulane, Imphal, Manipur - 795 001.
173. Manipur Rural Institute Society Chairman, Tera Bazar, Sapam Leikai, Imphal, Manipur - 795 001.
174. Kripa Foundation Project Director, Mantripukhri, Imphal, Manipur - 795 002.
175. Centre For Social Development Secretary,,Palace Compound (W), Imphal, Manipur - 795 001.
176. Rural Health Organization-General Secretary, Naoremthong Laisharam Leirak, Imphal, Manipur - 795 001.
177. Kha-Manipur Yoga And Nature Cure Association Secretary, Nature Cure Research Hospital, Machin Manao Hills, Kakching Bazar, Manipur - 795 103.
178. Thangkhul Mayar Ngala Long Project Director, P.O.Box No. 1, Ukhrul, Manipur.
179. Social Care Ministry Director, Praise The Lord Building, Tiddim Road, Churachandpur, Manipur - 795 001.
180. Challengers Club Cricket Faculty, Oinam, Tiddim Road, Imphal.
181. Community Development Programme Centre, Thoubal.
182. Integrated Women And Children Development Centre, Thangmeiband, Imphal, Manipur.
183. Centre For Mental Hygiene Sangaiprou, Airport Road, Imphal.
184. Evangelical Convention Church Lamka Rehabilitation And Research Centre, Churachandpur - 795 128.
185. Galaxy Club, Singjamei Mathak Choughiam, Leikai, Imphal, Manipur 795 001.
186. Rural Development Society Thoubal District, Manipur.
187. Sneha Bhavan, C/o Little Flower School, Imphal - 795 001.
188. Service and Education For Welfare Action, Soibam Leikai Ayangapalli, Near Jawaharlal Nehru Hospital, Imphal - 795 001.
189. Social Reformation and Development Organisation, Thoubal, Manipur.
190. United Voluntary Youth Council West - II, Keisampet, Modu. Meghalaya
191. Khasi Jainatia Presbyterian Synod Executive Secretary, Church House, Mission Compound, Shillong - 793 002.
192. Kripa Foundation, Shillong.

Mizoram

193. Agape Home De-Addiction Centre Incharge, Durtlang, Aizwal, Mizoram.
194. Synod Social Front Secretary, Synod Office, Aizwal, Mizoram - 796 001.
195. Social Guidance Agency General Secretary, P.I.Chhuma Building Tuikaul, Aizwal, Mizoram.
196. Blessing Home De-addiction cum Rehabilitation, Centre, Sakawrtuichhun, Aizawal - 796 006.
197. Faith Home Chhingehhip, Aizawal - 796 161.
198. New Life Home Society 31/D, Mahatama Gandhi Road, Aizawal - 796 001.
199. Zoram Driver's Ramthim Board C/o Friends Automobile Enterprise, P.O. Chandmari, Aizawal.

Nagaland /

200. Shalom Rehabilitation Centre Director, Chumukedima, Nagaland - 797 103.
201. Prodigal's Home Director, Post Box - 148, Dimapur, Nagaland - 797 112.
202. Youth Mission President, P.O.Box 127, Kohima, Nagaland - 797 001.
203. Naga Mother's Association President, NMA-Kripa Centre, D-Block, Kohima, Nagaland - 797 001.
204. AIDA Director, Don Bosco, P.O.Box 40, Dimapur, Nagaland - 797 112.
205. Bethesda Youth Welfare Circular Road, P.B. No. 33, Dimarpur - 797 112.
206. Eleutherous Christian Society Tuensang, Nagaland.
207. Operation Dawn Satc Building, P.R.Hill, Kohima - 797 001.
208. Save Youth Association of Lhisema Lhisema Khel, Kohima Village, Kohima - 797 001.
209. Kripa Foundation, Kohima.

Orissa

210. Nilachal Seva Pratisan Dayavihar Secretary, Kanas, Puri, Orissa - 752 017.
211. Rural Development Action Cell Secretary, Convent Road, Mayurbhanj, Orissa - 757 001.
212. Project Swarajya Director, Moti Bhawan Kesharpur Road, Cuttack, Orissa - 753 001.

213. Evangelical Hospital Director, Khariar, Orissa - 766 107.
214. The Citizen President, Tulsipur, Cuttack, Orissa - 753 008.
215. Chintamani Memorial Educational Society Secretary, LCR 416, Chend Colony, District Sundergarh, Rourkela, Orissa.
216. Indian Institute of Youth And Development Director, Kalinga, Phulbani, Orissa - 762 022.
217. Council For Socio-Economic Benevolent Action Secretary, Baripada, P.O. Bhanjpur, Mayurbhanj Dist., Walliganj, Orissa - 757 002.
218. Centre For Action And Rural Reconstruction Chairman, Via Bhapur, District Nayagarh, Fategarh, Orissa - 752 063.
219. Organisation for Social Change And Rural Development Secretary, A-85, Saheed Nagar, Bhubaneshwar, Orissa - 757 007.
220. Gram Vikas Executive Director, Mohuda Post, Berhampur, Orissa - 760 002.
221. Gania Unnayan Committee President, District Nayagarh, Belapadapatna, Orissa - 752 085.
222. Community Development Medicinal Unit Director, 97, Forest Park, Bhubaneshwar, Orissa - 751 009.
223. Bhairabi Club Secretary, P.O. Hadapada, District Khurda, Kurumpada, Orissa - 752 018.
224. Association For Social Reconstructive Activities Secretary General, Satyabrata Press Premises, Pithapur, Cuttack, Orissa - 753 001.
225. Rural Development Society President, Avani, Arunoday Market P.O., Cuttack, Orissa - 753 012.
226. Arjun Institute of Rural Affairs Aswakhola P.O., Karamul, Via Mahimadadi, Distt. Dehkanal.
227. Community Legal Action And Reseach Centre (LARC), At./P.O. Bainsia, Via-Mahimagadi, Distt. Dhenkanal - 759 014, Orissa.
228. Centre For Youth And Social Development A-70, Bhubaneshwar - 751 007.
229. Gopinathi Jubak Sangha, Brahmagiri, Orissa.
230. Jaikishan Youth Club Puri, Orissa.
231. Nikhil Utkal Harijan Adiwasi Sewa Sangh 44, Diuples, Sailashree Vihar, Bhubaneshwar - 751 021.
232. National Institute of Community Health 981, Santrapur, Bhubaneshwar.
233. Open Learning System 275/A, Bhubaneshwar - 751 007.

234. Orissa Multipurpose Dev. Centre 4/14, MIG-II, BDA Colony, Chandrasekharpur, Bhubaneswar - 16.
235. People's Cultural Centre VII-H/3, Sailashree Vihar, Bhubaneswar.
236. Peace Bird of Capability Amra, Village Amra, Post Orangi, Via. Haladipada, Orissa.
237. Sahyog, Badambadi, Orissa.
238. Shree Ramakrishna Ashram M.Rampur, Kalahandi - 766 102.
239. Vishwa Jeevan Sewa Sangh At. Saradhapur, P.O.Garhasanput, Distt. Khurda - 752 060.

Pondicherry

240. Arunodayam President, No. 439, M.G.Road, Pondicherry - 605 001.
241. APSARA (Association for Psycho Social Awareness and Rehabilitation of the Afflicted) V.P.Nagar, Pondicherry.
242. Association For Social Health in India.
29, Villianure Road, Reddiarpalayam, Pondicherry - 605 001.

Punjab

243. Guru Nanak Charitable Trust General Secretary, Gurmat Bhawan, Ludhiana District, Mullanpur Mandi, Punjab - 141 101.
244. Indian Red Cross Society Secretary, Red Cross Bhawan, Sector 16 - A, Madhya Marg, Chandigarh, Punjab - 160 017.
245. Indian Red Cross Society (District Branch) Secretary, Sadiq Road, Faridkot, Punjab - 150 228.
246. Red Cross De-Addiction Centre. Project Director, Saket Hospital, Patiala, Punjab - 147 001.
247. Drug Awareness Counselling And Assistance Centre Project Incharge, Opposite Police Lines, Bhatinda, Punjab.
248. Red Cross De-Addiction Cum Rehabilitation Centre Project Director, Near Banga, District Nawashehar, Dhahan Kaleran, Punjab.
249. Indian Red Cross Society (District Branch) Secretary, Red Cross Hospital, Opp. Thermal Lake, No.2, Goniana Road, Bathinda, Punjab - 151 005.
250. Punjab State Drug Awareness Counselling And Assistance Centre Project Incharge, House No. 638 - A, Phase XI, Mohali District, Ropar, Punjab.
251. Claim Society, Jalandhar.
252. Child Welfare Council House No. 15, Sector - 3 A, Chandigarh - 160 001.

253. Dr. D.N.Kotnis Health And Education Centre Ludhiana, Punjab.
254. Guru Gobind Singh Study Circle Model Town Extension, Ludhiana.
255. Indian Read Cross Society Distt. Branch, Mansa, Punjab.
256. Indian Read Cross Society Amritsar Branch, Punjab.
257. Indian Read Cross Society Moga Branch, Moga, Punjab.
258. Society for Rehabilitation of Handicapped aAnd Persons Suffering from Social Evils. 417, Sec - 44-A, Chandigarh.
259. Association For Social Health in India Chandigarh Branch, 1169, Sec-21-D, Chandigarh - 160 022.
260. Servants of People Society Lajpat Rai Bhavan, Sec-15 B, Chandigarh - 160 015.

Rajasthan

261. Marwar Medical And Relief Society Secretary, 10-D, Near Government Bus Stand, Paota, Jodhpur, Rajasthan - 342 006.
262. Rajyoga Education And Research Foundation (Medical Wing) Joint Secretary, Brahamakumaris, Pande Bhawan, Mount Abu, Rajasthan - 307 501.
263. Society For Rural Action And Motivation Secretary, Behind Power House, W.No. 22, Jhunjhunu, P.O. Chirawa, Chirawa, Rajasthan - 333 026.
264. Adarsh Bikaner Bal Shikshan Parishad Subhash Pura, Bikaner, Rajasthan - 342 006.
265. Jaipur Rural Health And Dev. Trust B-7, Shiv Marg, Bani Parik, Jaipur, Rajasthan.
266. Nirashrit Mahila Bal Vikas Gramodhyog Shiksha Samiti Pai Bagh, Bharatpur - 521 001.
267. Opium De-Addiction Treatment Training and Research Trust Balia Niwas, Inside Sojati Gate, Manaklao - 342 305.

Sikkim

268. Association For Social Health in India Secretary, Jagriti, Ist Floor, Sikkim Sahitya Parishad Bhawan, Gangtok, Sikkim.

Tamilnadu

269. Mass Hopes Project Director, Plot No. 3494, 46th Cross Road, Villapuram, Madurai, Tamilnadu - 625 011.
270. St. Paul's Educational And Medical Trust President, No. 21, Vanniar Street, Turstpuram, Chennai, Tamilnadu - 600 094.
271. Indian Institute of Woman And Child Health Trust Director, Dindigul District, Sempatti P.O., Tamilnadu.

272. T.T.Ranganathan Clinical Research Foundation Honorary Secretary, 17, IV-Main Road, Indira Nagar, Madras, Tamilnadu - 600 020.
273. Tiruchirapalli Multipurpose Social Service Society Director, P.B. No. 12, Melapudur, Tiruchirapalli, Tamilnadu - 620 001.
274. Madhar Nala Thondu Niruvanam Executive Director, Thiruvendhipuram Road, Pathirikuppam P.O., Cuddalore, Tamilnadu.
275. Y.W.C.A. General Secretary, P.B.No. 3984, Avinashi Road, Coimbatore, Tamilnadu - 641 018.
276. Arogyam Honorary Secretary, No. 10, Vaidhyaram Street, T.Naga Chennai, Tamilnadu - 600 017.
277. Good Will Social Work Centre Executive Director, Plot No. 5 South Street Extension, Singarayar Colony, Madurai, Tamilnadu - 625 002.
278. The Salvation Army Catherine Booth Hospital Administrator, Vadasery, Nagerecoil, Tamilnadu - 629 001.
279. St. John Sangam Trust Office Manager, 18, Anna Salai, Roever Campus, Perambalur, Tamilnadu - 621 212.
280. Shri Victoria Educational Society Secretary, Puthukkottai Mathakkottai Village, Thanjavur, Tamilnadu - 618 005.
281. The Salvation Army Territorial Commander, Maharaja Nagar Post, Tirunelveli, Tamilnadu - 627 011.
282. Trust in the Area of Social Organisation (TASA) Director, Polatch Amman Kovil, 2nd Street, Arakkonam, Tamilnadu - 631 001.
283. Indian Society of Criminology Secretary, Department of Psychology, University of Madras, Chennai, Tamilnadu - 600 005.
284. Bharati Women Development Centre Secretary, 28, Kannagi Vilas Building, Thiruvarur Road, Thiruturaipundi, Tamilnadu - 614 713.
285. Yathregan counselling Centre Director, 32 Mahal Ist Street, Madurai, Tamilnadu - 625 001.
286. Community Service Centre Director, 17, Balfour Road, Kilpauk, Chennai, Tamilnadu - 600 010.
287. Sacred Hearth Hospital Incharge, Tuticorin P.O., Tuticorin, Tamilnadu - 628 002.
288. Association for Social Health in India State Branch, 187, Cutchery Rd., Mylapore, Tamil Nadu - 600 004.
289. Davidraj Nursery Educational Society 1846, West Main Street, Thanjavur, Tamil Nadu - 613 009.
290. Khajamalai Ladies Association Khajamalai, Thiruchirappalli - 625 023.

291. M.S.Chellamuthu Trust 643, K.K.Nagar, Madurai, Pin - 625 020.

2. Voluntary Health Services, Tamil Nadu.

Tripura

293. Kalyan Samiti President, Gangail Road, Melarnath Agartala, Agartala, Tripura - 799 001.

294. Association For Social Health In India General Secretary, No. 3, Second Lane, Joynagar, Agartala, Tripura - 799 001.

Uttar Pradesh

295. Akhil Bhartiya Mahila Udhog Kalyan And Shiksha Samiti (ABMUKSS) Director, 55-C, B-12 A, Sector-34, Dawal Giri, Noida, Uttar Pradesh - 201 301.

296. Nirvan President, D-2059, Indira Nagar, Lucknow, Uttar Pradesh - 226 016.

297. Association For Social Health in India Secretary, Rani Hotel Building, Begam Bridge, Meerut, Uttar Pradesh - 250 001.

298. Dr. Bheem Rao Ambedkar Shiksha Niketam Secretary, Mangaripatti, Ghazipur District, Panchrukahan Village, Uttar Pradesh - 233 307.

299. Gramya Vikas Sewa Sansthan Secretary, 20-B/4 A/1, Allapur, Allahabad, Uttar Pradesh - 211 006.

300. Kashi Club Secretary, Ganges Bhavan, D-14/8, Dasawadesh Road, Varanasi, Uttar Pradesh.

301. Nur Manzil Psychiatric Centre Director, Lal Bagh, Lucknow, Uttar Pradesh - 226 001.

302. U.P.Rana Beni Madhav Jan Kalyan Samiti Secretary, Ekta Sadan, Gulab Road, Raebareli, Uttar Pradesh - 229 001.

303. Hasrat Mohani Charitable Society General Secretary, 88/441, Humayun Bagh, Kanpur, Uttar Pradesh - 208 001.

304. Shri Kanchilal Shastri Samarak Sansthan Director, C-49, New Azad Nagar, Kalyanpur, Kanpur, Uttar Pradesh - 208 017.

305. Adrash Janata Shiksha Samiti Piri, Karchana, Allahabad.

306. Akhil Bhartiya Azad Sewa Sansthan Azad Villa, Daligunj, Lucknow - 20.

307. Association for Social Health in India Jagriti Counselling Centre, Agrawal Building, Near Old Baghpat Stand, Delhi Road, Meerut - 250 002.

308. Bhartiya Samaj Sewa Sansthan Baraf Khana, Mishri Ki Bagh Chowk, Lucknow - 3.

309. Bijnor Sewa Sansthan Mandawali, Sandu, Distt. Bijnore, Uttar Pradesh.

310. Dwaba Kalyan Samiti, Allahabad.
311. Gram Sewa Niketan 295/23, Ashrafabad, Lucknow.
312. Indian Red Cross Society Distt. Branch, 53, Bahadurganj, Allahabad.
313. Jan Kalyan Avam Nari Uthan Samiti, 104, Sahabganj, Faizabad.
314. Jeeyan Jyoti Society Alambagh, Samar Vihar Colony, Lucknow.
315. Khandwari Devi Shikshan Samiti Chehniya Janpath, Varanasi, U.P.
316. Mahila Chetna Samiti Varanasi, U.P.
317. Pratagarh Mahila Kalyan Evam Shiksha Samiti, Pratapgarh, Deokali, Pratapgarh.
318. Prerna Samiti C-390, Rajaji Puram, Lucknow - 226 017, U.P.
319. Prerna Gramya Vikas Sansthan Vill. Kuberi Khera, P.O. Ichauli, Distt. Rai Bareli.
320. Saket Mahila Mandal Kalyan Samiti Muttiganj, Nawabganj P.O., Gonda, U.P.
321. Smt. Kaushalya Devi Purva Madyamic Vidhalaya Shivpur, Timrua, Hardoi, Distt.-Etawa.
322. Social Welfare Organisation Teachers Colony Road, Lalla Babu Chauraha, Bulandshahr.
323. Social And Economic Development Institution Indira Nagar, Lucknow.
324. Shanti Sarvodaya Sansthan Shanti Kunj, Mch. Mewatiyan, Tarabganj Road, Gonda - 271 001.
325. Ratan Gram Vikas Samiti Gram - Jahidpur, P.O. Shahabad, Rampur.
326. Sarai Nahar Khan Odhyogic Samiti Badaun P.O., Sanai Nahar Khan, Badaun - 243 601.
327. Sarvajanik Shikshan Samiti Puran Nagar, 565 E/180, Alam Bagh, Lucknow - 5.
328. Sarvajanik Shiksonoyan Sansthan Allipur, Hardoi - 241 001.
329. Shakti Sadhana Sansthan Tarinpur, Distt. Sitapur, Pin - 261 001.
330. Shaheed Memorial Society E-1690, Rajaji Puram P.O. Distt. Lucknow - 226 017.
331. Shri Ganga Prasad Smarak Mahila Kalyan Sansthan 32, Subhash Nagar, Kunda, Pratapgarh - 230 204.
332. Uttrakhand Shoshit Mahila Sansthan Vikas Nagar, Dehradun, U.P.

West Bengal

333. West Bengal Voluntary Health Association Executive Secretary, 19A, Dr. Sundri Mohan Avenue, Calcutta, West Bengal - 700 014.

334. Emmanuel Ministries - Arunoday Midway Home 48 - Ripon Street, Calcutta, West Bengal - 700 016.
335. Bikash Bharati Welfare Society Senior Manager, 20/1 B, Lalbazar Street, Calcutta, West Bengal - 700 001.
336. Prabhudha Bharati Shishutirtha General Secretary, Vill. Khirinida, District Midanpore, P.O. Krishnapriya, West Bengal - 721 140.
337. Women's Co-ordinating Council Honorary Secretary, 5/1, Red Cross Palace, Calcutta, West Bengal - 700 062.
338. National Federation of Parents for Drug-Free Youth Secretary, 90, M.G. Road, Haridevpur P.O., Calcutta, West Bengal - 700 082.
339. Elmhirst Institute of Community Studies Honorary Secretary, Nababithika, Andrewspalli, District Birbhum, Santiniketan, West Bengal - 731 235.
340. Council For Advancement For Rural And Downtrodden Bagnan Station Road (North), P.O. Bagnan, Distt. Howrah.
341. Institute For Psychological And Educational Research 27, Circus Avenue, West Bengal.
342. Ramakrishna Welfare Foundation 132/12, Narkeldanga Main Road, Calcutta - 700 054.
343. SPYM 33, N.B. Giri Road, Darjeeling - 734 101.
344. Sir Syed Group of Schools 71/1 C, Diamond Harbour Road, Calcutta - 700 023.
345. Vivekananda Education Society 13/3, Kali Charan Dutta Road, Calcutta - 700 061.
346. West Bengal SCs/STs and Minority Welfare Association Ravindra Nagar, Midnapore.

UNIT 7 LIST OF STD CLINICS*

ANDHRA PRADESH

1. Andhra Medical College, Vishakapatnam
2. Rangaraya Medical College, Kakinada
3. Guntur Medical College, Guntur- 522 001
4. Siddhantha Medical College, Vijayawada
5. Osmania Medical College, Hyderabad
6. Gandhi Medical College, Secunderabad
7. Kaktiya Medical College, Warangal- 596002
8. Kurnool Medical College, Kurnool
9. S.V.R. Medical College, Tirupathi
10. Head Quarter Hospital Eluru, West Godavari District- 534001
11. Head Quarter Hospital, Khamman- 507001
12. D.S.R. Govt. Hospital, Nellore- 524001
13. Distt. H.Q. , Machili Patnam, Karishan. District- 521001.
14. H.Q. Hospital, Cuddapah- 516001
15. H.Q. Hospital, Mahboobnagar- 509001
16. H.Q. Hospital, Anapuri- 515001
17. Supdt. H.Q. Hospital, Vizagaram
18. Supdt. H.Q. Hospital, Ongole, Parkasam Distt.
19. Supdt. H.Q. Hospital, Chittoor
20. Supdt. Kamla Nehru Hospital, Naga Arjun Nagar Distt. Nalgonda- 508001
21. Supdt. Govt. Hospital, Srikakulam- 532001
22. Supdt. Govt. Civil Hospital, Jagityal , Karimnagar
23. Supdt. H.Q. Hospital, Medak- 502001
24. Supdt. H.Q. Hospital, Nizamabad
25. ESI hospital Sanathnagar, Hyderabad
26. Road Transport Corporation Hospital, Taranka, Hyderabad
27. Railway Hospital, Secunderabad

ASSAM

1. Guwahati Medical College, Guwahati
2. Silchar Medical College, Silchar
3. Assam Medical College, Dibrugarh
4. Civil Hospital, Dhuri
5. Civil Hospital, Goalpara

BIHAR

1. Darbhanga Medical College, Leharia Sarai
2. S.K. Medical College, Muzzafarpur
3. Patna Medical College, Patna
4. Rajindra Medical College, Ranchi
5. M.G.M. Medical College, Jamshepur
6. Patliputra Medical College, Dhanbad

7. Medical College, Bhagalpur
8. Magadh Medical College, Gaya
9. Nalanda Medical College, Patna
10. Sadar Hospital, Hazaribagh
11. Sadar Hospital, Madhubani
12. Sadar Hospital, Mongyr
13. Sadar Hospital, Ara
14. Sadar Hospital, Biharsarif
15. Sadar Hospital, Rohtash
16. Sadar Hospital, Devdhar

DELHI

1. A.I.I.M.S., New Delhi
2. M.A.M.C., New Delhi
3. U.C.M.S., New Delhi
4. Suchetra Kriplani Medical College, Delhi
5. V.D. Clinic, Hindu Rao Hospital, Delhi
6. Dr. R.M.L. Hospital, New Delhi
7. Dindayal Upadhyia Hospital, Harinagar, New Delhi
8. Regional STD Teaching Training and Research Centre, Safdarjung Hospital, New Delhi
9. STD Clinic, Lalkuan, New Delhi
10. STD Clinic, Roshnara Road, New Delhi.

GOA

1. Goa Medical College, Panaji
2. STD Clinic, Civil Hospital, Panaji
3. STD Clinic, Civil Hospital, Vascodagama- Baina
4. STD Clinic, Goa Margao, Goa

GUJARAT

1. B. J. Medical College, Ahmedabad
2. Municipal Medical College, Ahmedabad
3. Medical College, Baroda
4. M.P. Shah Medical College, Jamnagar
5. Govt. Medical College, Surat
6. STD Clinic, Civil Hospital, Nadiad
7. STD Clinic, M.C.G. Hospital, Navasari
8. STD Clinic, Civil Hospital, Rajkot
9. Sir. T. Hospital, Bhavnagar
10. Civil, Hospital, Amrohi
11. STD Clinic, Civil Hospital, Patam, Mehasana
12. STD Clinic, Civil Hospital, Gandhi Nagar
13. STD Clinic, Rana Rajender Singh Hospital, Bmhosnelimdi
14. STD Clinic, General Hospital ESI, Bapunagar
15. STD Clinic, Civil Hospital, Surat

HARYANA

1. Govt. Medical College, Rohtak
2. STD Clinic, Govt. Hospital, Panipat
3. STD Clinic, Govt. Hospital, Faridabad
4. STD Clinic, Govt. Hospital, Sonapat
5. STD Clinic, Govt. Hospital, Bhiwani
6. STD Clinic, Govt. Hospital, Bahadurgarh

7. STD Clinic, Govt. Hospital,
Hissar

HIMACHAL PRADESH

1. L.G.M.C., Shimla

2. STD Clinic, Civil Hospital,
Rahru

3. STD Clinic, Civil Hospital,
Junga

4. STD Clinic, Civil Hospital,
Kumar Sain

5. STD Clinic, Civil Hospital,
Dhami

6. STD Clinic, Civil Hospital,
Throsh

7. STD Clinic, Civil Hospital,
Manidduh

8. STD Clinic, Civil Hospital,
Jauzbal

9. STD Clinic, Civil Hospital,
Rampur

10. STD Clinic, Civil Hospital,
Baghi

11. STD Clinic, Civil Hospital,
Chopal

12. STD Clinic, Civil Hospital,
Kothi

13. STD Clinic, Civil Hospital,
Suni

14. STD Clinic, Civil Hospital,
Sarhan

15. STD Clinic, Civil Hospital,
Chargoem

16. STD Clinic, Civil Hospital,
Matina

17. STD Clinic, Civil Hospital,
Theog

18. STD Clinic, Civil Hospital,
Sundernagar

19. STD Clinic, Civil Hospital,
Sanj

20. STD Clinic, Civil Hospital,
Joginder Nagar

21. STD Clinic, Civil Hospital,
Karso

22. STD Clinic, Civil Hospital,
Karsog

23. STD Clinic, Civil Hospital,
Mandi

24. STD Clinic, Civil Hospital,
Chora

25. STD Clinic, Civil Hospital,
CHC Baldwara

26. PHC Bagsaid, Thunag

27. STD Clinic, Civil Hospital,
R.H. Saudhole

28. STD Clinic, Civil Hospital,
Shillai

29. STD Clinic, Civil Hospital,
Narag

30. STD Clinic, Civil Hospital,
Rajgarh

31. STD Clinic, Civil Hospital,
Sangrha

32. STD Clinic, Civil Hospital,
Nahan

33. STD Clinic, Civil Hospital,
Ponta Sahib

34. STD Clinic, Civil Hospital,
Dadahu

35. STD Clinic, Civil Hospital,
Chandi

36. STD Clinic, Civil Hospital,
Keylong

37. STD Clinic, Civil Hospital,
Bhkaza

38. STD Clinic, Civil Hospital,
Markand

39. STD Clinic, Civil Hospital,
Jhanduta

40. STD Clinic, Civil Hospital,
Bilaspur

41. STD Clinic, Civil Hospital,
Ghumavwin

42. STD Clinic, Civil Hospital, Simla
 43. STD Clinic, Civil Hospital, Kinnaur
 44. STD Clinic, Civil Hospital, CHC Nichar
 45. STD Clinic, Civil Hospital, Narag, Distt. Sirmor
 46. STD Clinic, Civil Hospital, Manali
 47. STD Clinic, Civil Hospital, Banjar
 48. STD Clinic, Civil Hospital, Kullu
 49. STD Clinic, Civil Hospital, Nirhad
 50. STD Clinic, Civil Hospital, Anni
 51. STD Clinic, Civil Hospital, PHC, Jari
 52. STD Clinic, Rural Hospital, Pukhri
 53. STD Clinic, Civil Hospital, Chamba
 54. STD Clinic, PHC, Bhatri
 55. STD Clinic, Rural Hospital, Marmour
 56. STD Clinic, Civil Hospital, Killar Panji
 57. STD Clinic, Civil Hospital, Solan
 58. STD Clinic, PHC, Dharampur
 59. STD Clinic, Civil Hospital, Arki
 60. STD Clinic, Civil Hospital, Chandi
 61. STD Clinic, Civil Hospital, Kandaghat
 62. STD Clinic, Distt. Hospital, Hamirpur
 63. STD Clinic, Distt. Hospital, Dharamsala
 64. STD Clinic, Distt. Hospital, Raigarh, Distt. Sirmor
 65. STD Clinic, Distt. Hospital, Tissa, Distt. Chamba
 66. STD Clinic, Distt. Hospital, Markad, Distt. Bilaspur
- JAMMU & KASHMIR**
1. Govt. Medical College, Srinagar
 2. Govt. Medical College, Jammu
 3. STD Clinic, Hospital, Riase
 4. STD Clinic, Civil Hospital, Ramnagar, Distt. Udhampur
 5. STD Clinic, Civil Hospital, Udhampur
 6. STD Clinic, Civil Hospital, Anant Nag
 7. STD Clinic, Civil Hospital, Shimoga
- KARNATAKA**
1. Mysore Medical College, Mysore
 2. Bangalore Medical College, Bangalore
 3. Karnataka Medical College, Hubli
 4. Medical College, Bellary
 5. Distt. Hospital, Belgaum
 6. Distt. Hospital, Bidar
 7. General Hospital, Chickamagalore
 8. Distt. Hospital, Chitradurga
 9. C.G. Hospital, Devangere
 10. Distt. Hospital, Mercara
 11. Distt. Hospital, Dharwar
 12. KMC Hospital, Hubli
 13. Distt. Hospital, Gulbarga
 14. S.C. Hospital, Hassan
 15. S.N.R. Hospital, Kolar

16. Distt. Hospital, Mandya
17. General Hospital, Kolegal
18. Distt. Hospital, Raichur
19. M.C. Gann Hospital, Shimoga
20. Distt. Hospital, Tumkur
21. Distt. Hospital, Karwar
22. General Hospital, Ankola
23. General Hospital, Udipi
24. Bowering & Lady Curzen Hospital, Bangalore
25. Distt. Hospital, Bellary
26. General Hospital, Robertson Pet. K.G.F., Kolar Distt
27. General Hospital, Soudathi, Belgaum Distt.
28. General Hospital, Harvey, Dharwar Distt.
29. Distt. Hospital, Bijapur
30. Wenlock Hospital, Mangalore

KERALA

1. Medical College, Trivandrum
2. Medical College, Kottayam
3. Medical College, Calicut
4. Medical College, Trissur
5. Distt. Hospital, Quillon
6. Distt. Hospital, Palakkad
7. Distt. Hospital, Manjeri
8. General Hospital, Ernakulim
9. Distt. Hospital, Kannur
10. Distt. Hospital, Wayanad, Menantoddy
11. Taluk H.Q. Hospital, Thodupuzha, Idukki
12. Taluk H.Q. Hospital, Trivandrum
13. M.C.H. Hospital, Alappuzha
14. G.I. Hospital, Trivandrum

15. Distt. Hospital, Alappuzha
16. Distt. Hospital, Pathanamtehitte
17. M.C.H. Hospital, Kozhikode
18. General Hospital, Kozhikode
19. Distt. Hospital, Kasargode
20. Distt. Hospital, Kollam
21. Taluk H.Q. Hospital, Kanjirappally
22. Distt. Hospital, Painavu
23. Distt. Hospital, Kanjangad

MADHYA PRADESH

1. Govt. Medical College, Jabalpur
2. G.R. Medical College, Gwalior
3. M.G.M. Medical College, Indore
4. Gandhi Medical College, Bhopal
5. S.S. Medical College, Rewa
6. Pt. J.L.N. Medical College, Raipur
7. STD Clinic Civil Hospital, Sidhi
8. STD Clinic Civil Hospital, Jagdalpur
9. STD Clinic Civil Hospital, Surguja
10. STD Clinic Civil Hospital, Bilaspur
11. STD Clinic Civil Hospital, Chattarpur
12. STD Clinic Civil Hospital, Rajnanadgoan
13. STD Clinic Civil Hospital, Shahdol
14. STD Clinic Civil Hospital, Satna
15. STD Clinic Civil Hospital, Jhabua

16. STD Clinic Civil Hospital, Indore
17. STD Clinic Civil Hospital, Barwani
18. STD Clinic Civil Hospital, Khargome
19. STD Clinic Civil Hospital, Khandwa
20. STD Clinic Civil Hospital, Burmanpur
21. District Hospital, Dewas
22. District Hospital, Ratlam
23. District Hospital, Shajapur
24. District Hospital, Mandsaur
25. District Hospital, Ujjain
26. District Hospital, Shivpuri
27. District Hospital, Guna
28. District Hospital, Morena
29. District Hospital, Bhind
30. District Hospital, Sagar
31. District Hospital, Damolt
32. District Hospital, Panna
33. District Hospital, Tikamgarh
34. District Hospital, Sehore
35. District Hospital, Raisen
36. District Hospital, Rajgarh
37. District Hospital, Vidisha
38. District Hospital, Betul
39. District Hospital, Hoshangabad
40. District Hospital, Katni
41. District Hospital, Narsimhapur
42. District Hospital, Chindwara
43. District Hospital, Seoni
44. District Hospital, Mandla
45. District Hospital, Balaghat
46. District Hospital, Raigarh

47. District Hospital, Durg
48. District Hospital, Kanker
49. District Hospital, Dantewara

MAHARASHTRA

1. Principal, Grnt Mdical College, Mumbai
2. Principal, Seth G.S. Medical College, Mumbai
3. Principal, T.N. Medical College, Mumbai
4. Principal, T.M. Medical College, Mumbai
5. Principal, B.J. Medical College, Pune
6. Principal, A.F.M.C. Poona Armed Force
7. Principal, Miraj Medical College, Miraj
8. Principal, Dr. V.M. Medical College, Sholapur
9. Principal, Indira Gandhi, Medical College, Nagpur
10. Govt. Medical College, Nagpur
11. Govt. Medical College, Aurangabad
12. Govt. Medical College, Nanded
13. STD Clinic, Civil Hospital, Thane
14. STD Clinic, Civil Hospital, Chandrapur
15. STD Clinic, Civil Hospital, Amravati
16. STD Clinic, Civil Hospital, Buldhana
17. STD Clinic, Civil Hospital, Bhandara
18. STD Clinic, Civil Hospital, Ahmednagar
19. STD Clinic, Civil Hospital, Akola

- 20 STD Clinic, Civil Hospital, Dhule
- 21 STD Clinic, Civil Hospital, Jalgaon
- 22 STD Clinic, Civil Hospital, Kolhapur
- 23 STD Clinic, Civil Hospital, Nasik
- 24 STD Clinic, Civil Hospital, Satara
- 25 STD Clinic, Civil Hospital, Wardha
- 26 STD Clinic, Civil Hospital, Yavatmal
- 27 STD Clinic, Municipal Corporation, Greater Bombay
- 28 STD Clinic, Municipal Corp., Pune
- 29 STD Clinic, G.T. Hospital, Mumbai
- 30 STD Clinic, St. George Hospital, Mumbai
- 31 STD Clinic, District Hospital, Gadchirole
- 32 STD Clinic, Distt. Hospital, Beed
- 33 STD Clinic, Distt. Hospital, Latur
- 34 STD Clinic, Distt. Hospital, Osmanabad
- 35 STD Clinic, Distt. Hospital, Jalna
- 36 STD Clinic, Distt. Hospital, Parbhani
- 37 STD Clinic, Distt. Hospital, Raigad
- 38 STD Clinic, Distt. Tatnagiri

ORISSA

1. S.C.B. Medical College, Cuttack
2. V.S.S. Medical College, Burla

3. M.K.C.G. Medical College, Behrampur
4. STD Clinic, H. Q., Puri
5. STD Clinic, H. Q., Balasore
6. STD Clinic, H. Q., Dhenkanal
7. STD Clinic, H. Q., Sambalpur
8. STD Clinic, H. Q., Baripada
9. STD Clinic, H. Q., Keonjhar
10. STD Clinic, H. Q., Bolangir
11. STD Clinic, H. Q., Phulbani
12. STD Clinic, H. Q., Koraput
13. STD Clinic, H. Q., Bhawanipatna
14. STD Clinic, H. Q., Sundergarh
15. STD Clinic, Sub-Divisional Hospital, Rayagada
16. STD Clinic, H. Q., Ganjan
17. STD Clinic, H. Q., Kalahandi
18. STD Clinic, H. Q., Mayurbhanj
19. STD Clinic, Civil Hospital, Bhubaneswar

PONDICHERRY

1. JIPMER, Pondicherry- 605006
2. STD Clinic, J.I.A. Disp, Odiamsalai- 605001
3. STD Clinic, Govt. General Hospital, Karaikal
4. Skin & STD Dept. General Hospital, Pondicherry- 605006.

PUNJAB

1. Medical College, Amritsar
2. Medical College, Patiala
3. Medical College, Faridkot
4. STD Clinic, Civil Hospital, Bhatinda

5. STD Clinic, Civil Hospital, Jalandhar
 6. STD Clinic, Civil Hospital, Ludhiana
 7. STD Clinic, Civil Hospital, Ferozpur
- RAJASTHAN**
1. S.M.S. Medical College, Jaipur
 2. S.P. Medical College, Bikaner
 3. R.N.Y. Medical College, Udaipur
 4. Dr. S.N. Medical College, Jodhpur
 5. J.L.N. Medical College, Ajmer
 6. STD Clinic, Distt. Hospital, Alwar
 7. STD Clinic, Distt Hospital, Barmer
 8. STD Clinic, Distt Hospital, Bundi
 9. STD Clinic, Distt Ganganagar
 10. STD Clinic, Distt Hospital, Kota
 11. STD Clinic, Distt Hospital, Swai Modhopur
 12. STD Clinic, Distt Hospital, Beawar
 13. STD Clinic, Distt Hospital, Bharatpur
 14. STD Clinic, Distt General Hospital, Jalore
- TAMIL NADU**
1. Madras Medical College, Madras
 2. Stanely Medical College, Madras
 3. Kalpauk Medical College, Madras
 4. Medical College, Chingalput
 5. Thanjavur Medical College, Thanjavur
 6. Medical College, Coimbatore
 7. Madurai Medical College, Madurai
 8. Tirunevilli Medical College, Tirunevilli
 9. STD Clinic, Govt. H.Q. Tiruchirapalli
 10. STD Clinic, Govt. Hospital, Karur
 11. STD Clinic, Govt. H.Q. Nahaikkal
 12. STD Clinic, Govt. H.Q. Cuddalore, South Arcot
 13. STD Clinic, Govt. Hospital, Thanjavur
 14. STD Clinic, Govt. H.Q. Parjakulum, Madurai
 15. STD Clinic, Govt. H.Q. Dindigul, Anna Distt.
 16. STD Clinic, Govt. H.Q. Palani, Anna Distt.
 17. STD Clinic, Govt. H.Q. Padukottai
 18. STD Clinic, Govt. Hospital, Saukarkoli Nelai Kottabomam
 19. STD Clinic, Govt. H.Q. Tuticovin Chidambranar
 20. STD Clinic, Govt. Hospital, Koilpatti, Chidambranar
 21. STD Clinic, Govt. H.Q. Knachepuram Chengai
 22. STD Clinic, Govt. H.Q. Hospital, Dr. M.G.R. Distt. Rameshawram
 23. STD Clinic, Govt. H.Q. Hospital, Virdunagar
 24. STD Clinic, Govt. H.Q. Hospital, Sivaganga
 25. STD Clinic, Govt. Hospitalm Erode, Periyar

26. STD Clinic, Govt. H.Q.
Vellore Distt. North Arcot
 27. STD Clinic, Govt. Hospital,
Tirupathur, North Arcot.
 28. STD Clinic, Govt. Hospital,
Dharampuri
 29. STD Clinic, Govt. Hospital,
Krishnagiri
 30. STD Clinic, Govt. H.Q.
Ootocammund, Nilgiris
 31. STD Clinic, Govt. Hospital,
Coonor
 32. STD Clinic, Govt. H.Q.
Tirupur, Coimbatore
 33. STD Clinic, Govt. H.Q.
Nagercoil
 34. STD Clinic, Govt. H.Q.
Paddamanabhapuram,
Kanyakumari
 35. STD Clinic, Govt. Hospital,
Udumalpet, Distt. Coimbatore
 36. STD Clinic, Govt. H.Q.
Ramathpuram
 37. STD Clinic, Govt. Hospital,
Gopichettipakyam Distt.
Periyar
 38. STD Clinic, Govt. Hospital,
Phirphani
 39. STD Clinic, Govt. Hospital,
Royapettah, Madras
 40. STD Clinic, Govt. Hospital,
Usilampatti
 41. STD Clinic, Govt. H.Q.
Thiruvanaamalai
 42. STD Clinic, Govt. Hospital,
Kumbakonam
 43. STD Clinic, Govt. Hospital,
Karur
 44. STD Clinic, Govt. Hospital,
Kallakurichi
 45. STD Clinic, Govt. Hospital,
Thirupattur
 46. STD Clinic, Govt. H.Q.
Tenkasi
- UTTAR PRADESH**
1. S.N. Medical College, Agra
 2. M.L.N. Medical College,
Allahabad
 3. J.N. Medical College, Aligarh
 4. Institute Of Medical Science,
BHU, Varanasi
 5. G.S.V.M. Medical College,
Kanpur
 6. M.C.B. Medical College,
Jhansi
 7. K.G. Medical College,
Lucknow
 8. B.R.D. Medical College,
Gorakhpur
 9. STD Clinic, Civil Hospital,
Unnao
 10. STD Clinic, Civil Hospital,
Agra
 11. STD Clinic, Civil Hospital,
Hamirpur
 12. STD Clinic, Civil Hospital,
Fiazabad
 13. STD Clinic, Civil Hospital,
Gaziabad
 14. STD Clinic, Civil Hospital,
Rai Bareli
 15. STD Clinic, Civil Hospital,
Gaziabad
 16. STD Clinic, Civil Hospital,
Shaharanpur
 17. STD Clinic, Civil Hospital,
Bareilly
 18. STD Clinic, Civil Hospital,
Moradabad
 19. STD Clinic, Civil Hospital,
Nainital
 20. STD Clinic, Civil Hospital,
Almora

21. STD Clinic, Civil Hospital, Pithoragath
 22. STD Clinic, Civil Hospital, Dehradun
 23. STD Clinic, Civil Hospital, Tehri Garhwal
 24. STD Clinic, Civil Hospital, Chamoli
 25. STD Clinic, Civil Hospital, Uttar Kashi
 26. STD Clinic, Civil Hospital, Balia
 27. STD Clinic, Civil Hospital, Pauri Garhwal
 28. STD Clinic, Civil Hospital, Fraukhabad
 29. STD Clinic, Civil Hospital, Varanasi
 30. STD Clinic, Civil Hospital, Fatehgarh
 31. STD Clinic, Civil Hospital, Azamgarh
 32. STD Clinic, Civil Hospital, Badaun
 33. STD Clinic, Civil Hospital, Jalaun
 34. STD Clinic, Civil Hospital, Mirzapur
 35. STD Clinic, Civil Hospital, Pratapgarh
 36. STD Clinic, Civil Hospital, Sultanpur
 37. STD Clinic, Civil Hospital, Gonda
 38. STD Clinic, Civil Hospital, Basti
 39. STD Clinic, Civil Hospital, Sonbhadra
 40. STD Clinic, Civil Hospital, Jhansi
 41. STD Clinic, Civil Hospital, Gorakhpur
 42. STD Clinic, Civil Hospital, Kanpur
 43. STD Clinic, Civil Hospital, Fatehpur
 44. STD Clinic, Civil Hospital, Allahabad
- WEST BENGAL**
1. Medical College, Calcutta
 2. R.G. Medical College, Calcutta
 3. N.R.S. Medical National Medical College, Calcutta
 4. Calcutta National Medical College, Calcutta
 5. B.S. Medical College, Bankura
 6. North Bengal Medical College, Siniguri
 7. Serologist & Chemist Examiner, 3 Kyd Street, Calcutta
 8. STD Clinic, S.D. Hospital, Dishnipur Distt., Bankura
 9. STD Clinic, C.M. Hospital, Asansole
 10. STD Clinic, S.D. Hospital, Kalna Distt. Burdwan
 11. STD Clinic, General Hospital, Oaskshin, Dinajpur
 12. STD Clinic, Distt. Hospital, Darjeeling
 13. STD Clinic, S.D. Hospital, Jalpaiguri
 14. STD Clinic, S.D. Hospital, Kurseong distt. Darjeeling
 15. STD Clinic, S.D. Hospital, Chioswarh Distt. Hoogly
 16. STD Clinic, S.D. Hospital Chandernagar, Distt, Hoggly
 17. STD Clinic, M.R. Pangwa Hospital, South 24 Paragangs

18. STD Clinic, Howrah General Hospital, Howrah
19. STD Clinic, S.D. Hospital, Purulia Distt. Purulia
20. STD Clinic, S.D. Hospital, Malda
21. STD Clinic, S.D. Hospital, Barsat Distt. 24 Paraganas
22. STD Clinic, S.D. Hospital, Ghatal, distt. Midnapur
23. STD Clinic, Distt. Hospital, Ranaghat Distt, Murshidabad
24. STD Clinic, Distt. Hospital, Midnapore
25. STD Clinic, General Hospital, Behrampur Distt. Murshidabad
26. STD Clinic, S.D. Hospital, Basirhat Distt. 24 Pargana
27. STD Clinic, B.B. Bose Hospital, Barackpore Distt. 24 Pargana
28. STD Clinic, Distt. Hospital, North Dinapur, Raiganj
29. Burdwan Medical College, Burdwan
30. STD Clinic, Distt. Hospital, Birbhum

CHANDIGARH

1. Director, PGI of Medical Education and Research, Chandigarh
2. STD Clinic, General Hospital, Chandigarh

MANIPUR

1. Regional Medical College, Imphal
2. STD Clinic, Civil Hospital, Churanchandpur
3. STD Clinic, Civil Hospital, Ukhrul
4. STD Clinic, Civil Hospital, Imphal

5. STD Clinic, Civil Hospital, Chandel
6. STD Clinic, Civil Hospital, Senapati
7. STD Clinic, Civil Hospital, Tamenglong
8. STD Clinic, Civil Hospital, Thoubal
9. STD Clinic, Civil Hospital, Bishnupur

SIKKIM

1. STD Clinic, and Skin Clinic, Gangtok

MIZORAM

1. STD Clinic, Civil Hospital, Aizawal, distt. Mizoram
2. STD Clinic, Civil Hospital, Lungcel
3. STD Clinic, Civil Hospital, Saihachimtungpur

NAGALAND

1. STD Clinic, Naga Hospital, Kohima
2. STD Clinic, Civil Hospital, Mokuchung
3. STD Clinic, Civil Hospital, Tuensang
4. STD Clinic, Civil Hospital, Suhenbote
5. STD Clinic, Civil Hospital, Wokha
6. STD Clinic, Civil Hospital, Mon
7. STD Clinic, Civil Hospital, Dimapur

ARUNACHAL PRADESH

1. STD Clinic, Sub- Divisional Hospital, Tawang
2. STD Clinic, Sub- Divisional Hospital, Naharlagun

TRIPURA

1. STD Clinic, Civil Hospital, Kailashar
2. STD Clinic, Gundari Hospital, Tripurandhr Udaipur (South)
3. STD Clinic, G.B. Hospital, Agartala Tripura (West)

MEGHALAYA

1. STD Clinic, Civil Hospital, Shillong
2. STD Clinic, Civil Hospital, Jowai

3. STD Clinic, Civil Hospital, William Nagar
4. STD Clinic, Community Health Centre, Nagostoin
5. STD Clinic, Baghmara Community Health Centre South Garo Hills Distt.
6. STD Clinic, Matrang Distt. Hospital, West Khasi Hills Distt.

ANDAMAN AND NICOBAR ISLANDS

1. STD Clinic, G.B. Pant Hospital, Portblair

Source: NACO (1999) Country Scenario 1997-98; NACO, Ministry of Health and Family Welfare, Govt. of India.

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* G. Mahesh & Gracious Thomas

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* G. Mahesh, JNU, New Delhi
Prof. Gracious Thomas, IGNOU, New Delhi

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Author - Huddart, Jenny ed. Lyons, Joyce V. ed.
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1) AIDSNET

A quarterly SHARAN Newsletter of the Programme on AIDS for
Christian Agencies

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- 4) HEALTH FOR THE MILLIONS
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- 5) HEALTH ACTION
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- 6) ICMR BULLETIN
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- 7) BODHI
Editor
Bulletin on Drug & Health Information (BODHI)
254, Lake Town, Calcutta 700-089.
Email : tha@cal.vsnl.net.in
- 8) SAFE MOTHERHOOD
A Newsletter of Worldwide Activity
The Department of Reproductive Health & Research,
WHO, 1211 Geneva 27, Switzerland
Email: safemotherhood@who.ch.
- 9) ISSUES IN MEDICAL ETHICS
C/o Foundation for Humanisation,
P.O. Box 26922, Santacruz (W),
Mumbai- 400 054.
Email: medical-ethics@hotmail.com
- 10) MEDICO FRIEND CIRCLE BULLETIN
Manisha Gupta, 11 Archana Apts.
163, Solapur Road, Hadapsar, Pune - 411 028.

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Health Literature National Medical Library
Directorate General of Health Services
Ansari Nagar, Ring Road, New Delhi- 29
- 12) Youth Information
Indian Committee of Youth Organisation
F-13, NDSE- One, New Delhi - 49
Email: icy@iname.com
- 13) Women Link
The Department of Publication
Indian Social Institute
10, Institutional Area, Lodhi Road
New Delhi- 3.
- 14) Health Action
The Catholic Health Association of India
4435/36/4, Makhan Lal Street, (1st floor),
7, Ansari Road, Daryaganj, (Nisham Lal Nursing Home)
N.D. 2
- 15) HEALTH UPDATE
Society for Health Education and Learning
Package (HELP)
D-31, Defense Colony, N.D. 4.
Email: savitri@iasdlot.vsnl.net.in
- 16) Indian Journal of STD
The Editor -in- chief
Indian Journal of Sexually Transmitted Diseases
C-32, Peeyush Path,
Bapu Nagar, Jaipur- 302 015 India.

