



SAARC Tuberculosis and HIV/AIDS Centre

HIV and AIDS IN THE SAARC REGION AN UPDATE 2006

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Anti Retroviral Therapy
CSW	Commercial Sex Worker
DNA	Deoxyribonucleic Acid
F	Female
FSW	Female Sex Worker
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
M	Male
MSM	Man having Sex with Man
MSW	Male Sex Worker
MTCT	Mother to Child Transmission
NACO	National AIDS Control Organization
NACP	National AIDS Control Programme
NGO	Non Governmental Organization
NTP	National TB Programme
PLWH	People Living with HIV
SAARC	South Asian Association for Regional Cooperation
STC	SAARC TB and HIV/AIDS Centre
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infection
TB	Tuberculosis
UN	United Nations
UNAIDS	United Nation's Programme for AIDS
USA	United States of America
WB	World Bank
WHO	World Health Organization

Foreword

The STC has been coordinating the National efforts of SAARC Member States in their fight against HIV and AIDS. Along with other regular activities the Centre brings out regular reports and publications with a view to disseminate information in the field of TB and HIV/AIDS.

Present document *HIV & AIDS in the SAARC Region – An Update 2006* incorporates an updated information on HIV and AIDS. This is the fourth annual report on HIV & AIDS in the SAARC Region. It includes information on HIV and AIDS, basic epidemiology of HIV with natural history and situation of HIV/AIDS in the SAARC Member States. It also includes the epidemiological analysis of reported data on HIV infection from SAARC Member States. Chapter on impact of HIV has also been added. I hope this information will help Member States and people who are engaged in the field of HIV and AIDS and people interested in HIV/AIDS control.

STC is grateful to SAARC Member States for their cooperation and support in compilation of this report. STC would like to thank the Epidemiologists and experts within Member States, WHO, UNAIDS and other relevant organizations who have generated and shared the epidemiological data and facts utilized for this report.

I am very much thankful to former Deputy Director, Dr. Rano Mal Piryani and Epidemiologist, Dr. Lochana Shrestha for preparing this report. I also thank the General Services Staff for their support in preparation of this report.

STC is very much grateful to His Excellency Mr. Chenkyab Dorji, Secretary General, SAARC, Mr. Mohamed Naseer, Director and other Directors of SAARC Secretariat for their guidance. STC is also thankful to other staff of SAARC Secretariat for their cooperation in this regard.

Dr. Kashi Kant Jha
Director
SAARC TB and HIV/AIDS Centre

HIV and AIDS IN THE SAARC REGION- An Update 2006

1. Background

The South Asian Association for Regional Cooperation (SAARC) comprises Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. SAARC is a manifestation of the determination of the people of South Asia to work together towards finding solutions to their common problems in a spirit of friendship, trust and understanding and to create an order based on mutual respect, equity and shared benefits.

SAARC Tuberculosis (TB) and HIV/AIDS Centre (STC) is one of the Regional Centres of SAARC, located in Kathmandu, Nepal. The Heads of State or Government of Member Countries of SAARC at their Fifth Summit held in Male from 22 to 23 November 1990 decided that SAARC Tuberculosis Centre would be set up in Nepal. It is established in 1992 and become fully functional in 1994. The initial mandate of the centre was to work for prevention and control of TB & HIV related TB in the Region by coordinating the efforts of the National Tuberculosis Control Programs of the Member States. But later on its mandate has been extended to work for prevention & control of HIV/AIDS and TB/HIV co infection in the Region. Now, the centre has been working for prevention and control of TB and HIV/AIDS in the Region by coordinating the efforts of the National Tuberculosis Control Programs (NTPs) and National AIDS Control Programs (NACPs) of Member States. The Centre has been renamed as **SAARC TB & HIV/AIDS centre** in November 2005.

One of the main functions of this centre is to collect, collate, analyze and disseminate latest relevant information in the field of TB and HIV/AIDS control in the region and elsewhere. In this regard the Centre has started to prepare and publish annual **SAARC Regional Epidemiological Reports on HIV/AIDS (& TB)** since 2003. This particular report is on the HIV & AIDS situation in the SAARC region and is the fourth of its kind.

2. Introduction

The SAARC Member States are developing countries with diverse religious and cultural beliefs and practices. In addition to countries with varied epidemiological patterns of human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) – moderate versus low prevalence countries and different predominant HIV risk behaviors(s)- countries in the region also have extremely diverse capabilities to develop and support public health prevention and control programmes. In reviewing the current epidemiology of HIV and AIDS within the SAARC region, this diversity needs to be fully appreciated. Despite of these diversities, Member States are committed to take joint actions and contain HIV and AIDS epidemic.

Through implementation of pilot basis surveillance systems for HIV prevalence, as well as sexual and injecting risk behaviors by some Member States, understanding of the many diverse HIV epidemics and their determinants in this region has improved substantially. Still now overall HIV prevalence in the SAARC Member States remains low, but there are major public health concerns regarding the future growth potential of HIV epidemic within the region.

The epidemic is not homogeneous either within the region or within countries. Some countries are more affected than others and at country level there are variations in infection levels between different provinces, states or districts and between urban and rural areas. Actually the national picture is made up of a series of epidemics with their own characteristics and dynamics.¹

This report presents an overview of the HIV pandemic and a more detailed description of its epidemiology within the SAARC region. In addition to that this report also contains a brief history of epidemic, general information, basic epidemiology of HIV and AIDS, impact of HIV and AIDS and contribution of STC towards control of HIV/AIDS in the region.

3. General Information about HIV and AIDS

3.1. What is HIV?

HIV stands for "Human Immunodeficiency Virus". It is a retrovirus that infects cells of the human immune system (mainly CD4 positive cells and macrophages-key components of the cellular immune system), and destroys or impairs their function. Infection with this virus results in the progressive depletion of the immune system, leading to "immune deficiency".²

The immune system is said to be "deficient" when it can no longer fulfill its role of fighting off infection and diseases. Immuno-deficient people are much more vulnerable to a wide range of infections, most of which are very rare among people without immune deficiency. Diseases associated with severe immunodeficiency are known as 'opportunistic infections, because they take advantage of a weakened immune system. ²

3.2. What is AIDS?

AIDS stands for 'Acquired Immune Deficiency Syndrome' and describes the collection of symptoms and infections associated with acquired deficiency of the immune system. Infection with HIV has been established as the underlying cause of AIDS. "**Acquired**" means neither innate nor inherited but transmitted from person-to-person; "**immune**" is the body's defense system; "**deficiency**" means not working to the appropriate degree; and "**syndrome**" means a group of signs and symptoms. The term AIDS applies to the most advanced stages of HIV infection. Because HIV progressively destroys the immune system, without any treatment most people, particularly in resource-constrained settings, will die within a few years of the first signs of AIDS. ^{2, 3, 4}

3.3. What are the symptoms of HIV (infection)?

Most people infected with HIV do not know that they have become infected, because no symptoms develop immediately after the initial infection. Some people have a glandular fever-like illness (with fever, rash, joint pains and enlarged lymph nodes), which can occur at the time of seroconversion. Seroconversion refers to the development of antibodies to HIV and usually takes place between 45 and 90 days after an infection has occurred. ²

Despite the fact that HIV infection does not cause any initial symptoms, an HIV-infected person is highly infectious and can transmit the virus to another person. The only way to determine whether HIV is present in a person's body is by doing an HIV test.²

In fact when HIV infects a cell, it may lie inactive for years and most of the people infected with HIV does not show any symptoms or may show only minor illness for 7-10 years. These people are infected with HIV, they can spread the infection to others but still they do not have AIDS.^{3, 5, 6}

3.4. When does a person have AIDS?

After the initial asymptomatic period, the virus gradually becomes activated and breaks down the human body's natural defense mechanisms leaving it a prey to other opportunistic infections and other conditions including cancers that characterize AIDS.^{5, 7}
(For details, please see *Natural History of HIV and AIDS*)

3.5. HIV Transmission

3.5.1. How HIV is transmitted

The main modes of HIV transmission are:

- Unprotected sexual intercourse (anal and vaginal) and oral sex;
- Contaminated blood and blood products, tissues and organs;
- Mother to child transmission (MTCT).⁵

Worldwide the most common route of HIV transmission is through unprotected sexual intercourse. Using anal route, presence of other sexually transmitted diseases (STD) (such as genital ulcers and discharges) and having multiple sex partners increase the risk of transmission. Blood borne HIV transmission occurs through contaminated blood or blood product transfusion, injections with contaminated needles and syringes, and the use of non-sterile instruments for piercing of ear, nose or skin. HIV is also transmitted from infected mother to their children during pregnancy; during childbirth or even through breast-feeding.

3.5.2. How HIV is not transmitted

The lack of knowledge about how HIV is not transmitted can often lead to irrational fears and tendency to stigmatize or discriminate against people living with HIV and AIDS. There is no evidence that HIV is transmitted through casual contact with an HIV-infected person at home, at work or socially. The following activities will not transmit the virus:

- Shaking hands, hugging or kissing;
- Coughing or sneezing;
- Sharing food, eating or drinking utensils;
- Visiting a hospital;
- Using common toilets or swimming pools;
- Getting bites of mosquitoes or other insects.
- Caring of AIDS patients also does not carry risk of HIV transmission.^{5, 6, 7}

3.5.3. Who is at risk?

Anyone who is exposed to the following can contract HIV:

- Unprotected sexual intercourse with an infected person - this includes oral sex
- Contaminated blood, blood products and tissues
- From infected mother to child - during pregnancy, labour and breastfeeding

3.6. What is the outlook?

Infection can be prevented but there is still no cure for HIV. However, the disease is no longer an imminent death sentence thanks to the major advances in HIV research and drug development over recent years.

With treatment, people with HIV can live for decades with the condition.

3.7. Prevention of HIV Transmission

By practicing healthy life style in every aspect, HIV transmission can be prevented. Every religion has guided its followers how to lead a risk free and healthy life style including sexual life (e.g. avoidance of premarital and extramarital sex, and avoidance of anal and oral sex).

Modern medical science also supports those guidelines. In addition to that medical science teaches us how to practice risk free medical care (e.g. sterilization of medical & surgical equipment and screening of blood before transfusion). Now it depends upon us: if we want to stop HIV transmission we must follow those guidelines and practice those teachings.

AIDS can be prevented

- By being mutually faithful to sex partner
- By using only HIV screened blood or blood products when required
- By using new Needles, Syringes, Blades, Razor
- By avoiding injectable drugs and needle sharing
- By using a condom for safer sex (condom prevents unwanted pregnancy and spread of HIV & STDs)^{5, 6, 7}
- By participating in PMTCT programme for delivering of baby from HIV infected mother.

Things to remember regarding condom use

- Use good quality condoms properly and consistently
- Avoid using condoms which are dry/brittle, sticky, discolored or date expired
- Store condoms in a cool and dry place out of direct sunlight.
- **It is not the condom on its own - it is the appropriate use of condom that produces benefit to the users.**

There is a great and urgent need

- *to promote behaviors which enable the population to practice safer sex, and*

- *to provide services such as condoms, STD treatment, and safe blood supply.*

3.8. How can it be treated?

The mainstay of treatment is with antiretroviral drugs. They will not cure HIV but can delay the onset of AIDS and help the person to remain healthy for longer. There are four main groups of antiretroviral drugs. Each attacks HIV in a different way, but all work by stopping the virus from replicating:

- Non-Nucleoside Reverse Transcriptase Inhibitor - these block an enzyme, called reverse transcriptase, which HIV uses to make a DNA copy of itself once it has entered a human cell
- Nucleoside/Nucleotide Reverse Transcriptase Inhibitors - these make sure the DNA copy is faulty
- Protease Inhibitors - prevent the production of mature, infectious virus particles in infected human cells by blocking an enzyme called protease
- Fusion Inhibitors - stop HIV from entering human cells where they would replicate

A combination of a few of these drugs is usually recommended and they are taken for the rest of the person's life. This combination, called HAART or highly active antiretroviral therapy, has improved life expectancy significantly. Although they are very effective, antiretroviral drugs can have unwanted side effects such as nausea. Also, the treatment may stop working if the virus mutates in a way that makes it resistant to the drugs.

Some combinations of antiretroviral treatments can also reduce the chance that a person who has been exposed to HIV will become infected. This is called post-exposure prophylaxis and the drugs must be taken immediately after a person has been exposed to HIV - within hours preferably.

It is also possible to treat and even prevent some of the opportunistic infections that occur alongside HIV/AIDS.

Other important aspects of care include prevention of onwards transmission of HIV to others (between sexual partners and from mother to child, for example), regular testing of CD4 count to check how far the disease has progressed and what HIV treatment is needed, plus palliative care during the end stages of the disease.

Scientists are working to find a vaccine against HIV, but as yet no effective vaccine is available.

4. Brief History of HIV Epidemic

A pattern of highly unusual infections in otherwise healthy young adults not responding to usual treatment emerged in the United States in 1981. This pattern, or syndrome, (symptom complex) was caused by an unknown entity that apparently attacked the body's immune system. It became known as AIDS. Between 1983 and 1984 researchers isolated a new virus responsible for AIDS and named it as HIV.^{5, 6, 7}

Though AIDS was first recognized in the United States in 1981, it is clear that AIDS cases had occurred in several parts of the world before 1981. Evidence now suggests that the AIDS epidemic began at roughly the same time in several parts of the world, including the U.S.A. and Africa.^{5, 6, 7}

Although homosexual men from the United States and other developed countries were the first reported cases of AIDS worldwide, the scenario rapidly changed into that of global epidemic (pandemic). By early 1989, more than 140000 AIDS cases including men, women and children had been officially reported to WHO from around the world.⁶ According to the latest estimate as of end 2005 an estimated 38.6 million people around the world were living with HIV.⁸ During the year 2005 an estimated 4.1 million people acquired new infection. The epidemic claimed an estimated 2.8 million lives in 2005.⁸

5. Basic Epidemiology of HIV

With the exception of HIV transmission from mother to child and via blood /blood products, tissues or organs, all other HIV transmission occurs as a result of those human behaviors(s) that place an individual at risk of acquiring HIV infection. The primary risk behaviors that place a person at significant risk of acquiring HIV infection include the sharing of drug injecting equipment and/or having unprotected sexual intercourse with multiple sex partners. Only those persons who are involved in some HIV-risk behaviors(s) or whose sex partner is involved in some HIV-risk behaviors(s) are at risk of acquiring HIV infection via sexual intercourse.⁹

The risk of HIV transmission via sexual intercourse is increased many fold by the presence of other facilitating factors such as:

- multiple sex partners (a pattern of concurrent or overlapping sex partners);⁹
- a high frequency of sex partner exchange;⁹
- concurrent other STI – a person with an untreated STI, particularly involving ulcers or discharge, is, on average, 6-10 times more likely to pass on or acquire HIV;²
- use of anal route for sexual intercourse –transmission through anal sex has been reported to be 10 times higher than by vaginal sex;² and
- new or recent HIV infections are very infectious compared with HIV infections of longer duration.⁹

Several epidemiological studies have shown that male circumcision is associated with a reduced rate of HIV acquisition.^{3, 10, 11}

6. Natural History of HIV Infection

6.1. Progression from asymptomatic HIV infection to clinical illness and AIDS

AIDS is a severe disease syndrome that represents the late clinical stage of infection with HIV. Initial infection with HIV is indicated by the presence of HIV-specific antibodies, often without any other signs or symptoms. A substantial minority of infected persons, however, experiences a short, mononucleosis-like illness (malaise, tiredness, headache, abdominal discomfort, anorexia, swelling of lymph nodes and fever) about 2-5 weeks after infection. During this acute phase of infection,

there may be a significant depression of the cellular immune system (immune system is body's natural defense mechanism which protects the body against disease) and infected persons at this early stage are considered extremely infectious. Subsequently, the immune system rebounds to generally normal levels and the infected person becomes asymptomatic for periods ranging from many months to many years.⁹

HIV infection attacks the cellular immune system. Continued damage to the immune system eventually makes HIV-infected individuals susceptible to various opportunistic infections and cancers. Initial illnesses related to the increasing immune deficiency caused by HIV are generally mild to moderate in severity, and tend to be nonspecific. The first infections described in patients with AIDS were due to ubiquitous (ever-present) organisms that do not usually cause disease in healthy persons; the cancers that developed in AIDS patients were of types that had been diagnosed only rarely in the past. Subsequently, it became clear that persons with HIV infection could contract almost any common or uncommon infectious disease, or some malignancies, because of their immune deficiency.⁹

The time period of progression from HIV infection to symptomatic disease is highly variable: symptoms may occur within a year, although rarely, or may take more than 10 years to appear. Over a variable time period from many months to many years, infected persons begin to develop clinical disease related to progressively increasing immune deficiency. Early symptoms may include swollen lymph nodes, night sweats, fever, diarrhea, profound weight loss, fatigue and uncommon infections. Continued destruction of the immune system leads to AIDS, which is characterized by life-threatening opportunistic infections and cancers.⁹

6. 2. Clinical staging

The majority of people infected with HIV, if not treated, develop signs of AIDS within 8-10 years. AIDS is identified on the basis of certain infections, grouped by the World Health Organization (WHO):²

- Stage I HIV disease is asymptomatic and not categorized as AIDS
- Stage II (includes minor mucocutaneous manifestations and recurrent upper respiratory tract infections)
- Stage III (includes unexplained chronic diarrhea for longer than a month, severe bacterial infections and **pulmonary tuberculosis**) or
- Stage IV (includes Toxoplasmosis of the brain; Candidiasis of the esophagus, trachea, bronchi or lungs, and Kaposi's sarcoma) HIV disease is used as indicators of AIDS.

Most of these conditions are opportunistic infections that can be treated easily in healthy people.

In addition AIDS is also defined on the basis of a CD4 positive T cell count of less than 200 per cubic mm of blood.²

<p>Till now there is neither any vaccine to prevent the AIDS nor any treatment to cure AIDS, presently available treatment can only extend life. So for the moment prevention of transmission of infection remains the only method of control.</p>
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6. 3. Survival time after diagnosis of AIDS

The survival time after onset of severe AIDS-characteristic illness is also variable. Prior to the development of effective anti-HIV (anti-retroviral) drug treatment, average survival time was about 2-4 years in most developed countries and about 6 months or less in developing countries. The shorter survival periods in developing countries were most likely due to diagnosis at a later stage of disease and limited access to adequate supportive medical care.⁹

7. Situation of HIV and AIDS

7.1. Global summary of HIV and AIDS

In just 25 years, HIV has spread relentlessly from a few widely scattered "hot spots" to virtually every country in the world, infecting 65 million people and killing 25 million. Nearly twenty-five years of experience with HIV prevention and ten years of experience with effective antiretroviral therapy have produced mountains of evidence about how to prevent and treat HIV.

Current estimates suggest that at the end of 2005, 38.6 (33.4-46.0) million people around the world were living with HIV. An estimated 4.1 (3.4-6.2) million people acquired the HIV virus (infection) in 2005. The AIDS epidemic claimed 2.8 (2.4-3.3) million lives in 2005 (The UNAIDS & WHO estimates published in 2006 Report on the Global AIDS Epidemic are lower than those published in the AIDS epidemic update-December 2005). Table 1 & 2.

The epidemic remains extremely dynamic, growing and changing character as the virus exploits new opportunities for transmission. There is no room for complacency anywhere. Virtually no country in the world remains unaffected. Overall, the HIV incidence rate (the proportion of people who have become infected with HIV) is believed to have peaked in the late 1990s and to have stabilized subsequently, notwithstanding increasing incidence in several countries.

The number of people living with HIV continues to rise, despite the fact that effective prevention exist. All the estimates using the following table and also in this report are based on updated estimation methodologies and the latest available data unless otherwise mentioned. Hence current estimates cannot be compared directly with that of previously published reports. According to latest estimates the total number people living with HIV, globally are shown in table 1.

Table 1: Adults (15+) and children living with HIV, end 2003 and end 2005 globally by region (according to latest estimate) ⁸

Region	2005		2003	
	Adults (15+) and children living with HIV	Adult (15-49) Prevalence (%)	Adults (15+) and children living with HIV	Adult (15-49) Prevalence (%)
Sub-Saharan Africa	24.5 (21.6-27.4) million	6.1 (5.4-6.8)	23.5 (20.8- 26.3 million)	6.2 (5.5-7.0)
North Africa & Middle East	440 000 (250 000-720 000)	0.2 (0.1-0.4)	380 000 (220 000- 620 000)	0.2 (0.1-0.3)
Asia	8.3 (5.7-12.5) million	0.4 (0.3-0.6)	7.6 (5.2-11.3) million	0.4 (0.2-0.6)
Oceania	78 000 (48 000- 170 000)	0.3 (0.2-0.8)	66 000 (41 000-140 000)	0.3 (0.2-0.7)
Latin America	1.6 (1.2-2.4) million	0.5 (0.4-1.2)	1.4 (1.1-2.0) million	0.5 (0.4-0.7)
Caribbean	330 000 (240 000-420 000)	1.6 (1.1-2.2)	310 000 (230 000-400 000)	1.5 (1.1-2.0)
Eastern Europe & Central Asia	1.5 million (1.0 – 2.3 million)	0.8 (0.6-1.4)	1.1 million (790 000-1.7 million)	0.6 (0.4-1.0)
North America Western & Central Europe	2.0 (1.4-2.9 million)	0.5 (0.4-0.7)	1.8 (1.3-2.7 million)	0.5 (0.3-0.6)
Total	38.6 (33.4-46.0) million	1.1 (0.9-1.2)	36.2 (31.4-42.9) million	1.0 (0.8-1.2)

Source: 2006 Report on the Global AIDS Epidemic

Note: The ranges around the estimates in this table define the boundaries (low to high estimates) within which the actual numbers lie, based on the best available information. These ranges are more precise than those of previous years' estimate. These are all according to latest estimate.

Table 2: Adults and children newly infected with HIV and deaths due to AIDS in 2003 and in 2005 globally by region (according to Latest estimate) ⁸

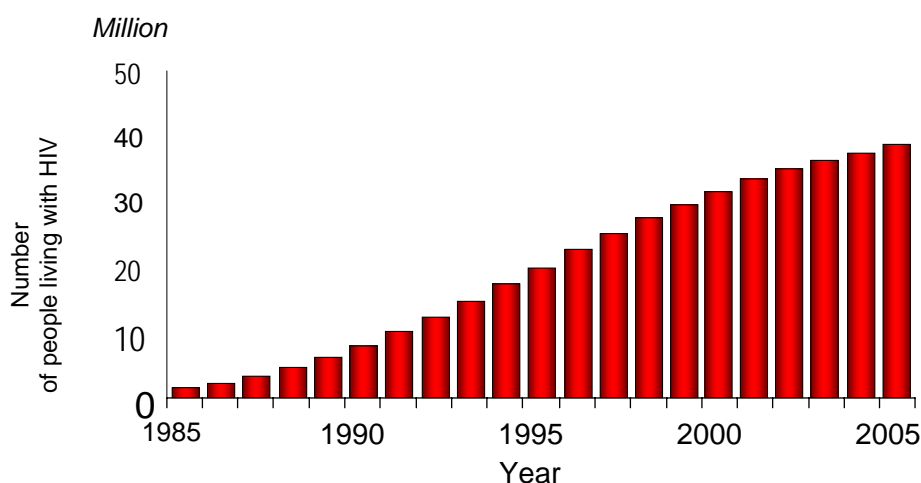
Region	Adults (15+) and children newly infected with HIV		Adult (15+) & Child deaths due to AIDS	
	2005	2003	2005	2003
Sub-Saharan Africa	2.7 (2.3 -3.1) million	2.6 (2.3-3.0) million	2.0 (1.7-2.3) million	1.9 (1.7-2.3) million
North Africa & Middle East	64 000 (38 000-210 000)	54 000 (31 000-150 000)	37 000 (20 000-62 000)	34 000 (18000-57 000)
Asia	930 000 (624 000-2.4 million)	860 000 (560 000-2.3 million)	600 000 (400 000-850 000)	500 000 (340 000 –710 000)
Oceania	7 200 (3 500-55 000)	9 000 (4 300-69 000)	3400 (1 900- 5 500)	2 300 (1 300-3 600)
Latin America	140 000 (100 000-420 000)	130 000 (95 000-310 000)	59 000 (47 000-76 000)	51 000 (40 000- 67 000)
Caribbean	37 000 (26 000—54 000)	34 000 (24 000-47 000)	27 000 (19 000-36000)	28 000 (19 000-38 000)
Eastern Europe & Central Asia	220 000 (150 000-650 000)	160 000 (110 000- 440 000)	53 000 (36 000-75 000)	28 000 (19 000-39 000)
North America Western & Central Europe	65 000 (52 000-98 000)	65 000 (52 000-98 000)	30 000 (24 000-45 000)	30 000 (24 000-45 000)
Total	4.1 (3.4-6.2) million	3.9 (3.3-5.8) million	2.8 (2.4-3.3) million	2.6 (2.2-3.1) million

Source: 2006 Report on the Global AIDS Epidemic

Note: The ranges around the estimates in this table define the boundaries (low to high estimates) within which the actual numbers lie, based on the best available information. These ranges are more precise than those of previous years' estimate. These are all according to new estimate

Estimated number of people living with HIV globally, 1985–2005

Figure 1



Source: 2006 Report on the Global AIDS Epidemic

One point is to be kept in mind while considering the number of PLWH in any particular year, that this figure is the result of addition of new HIV infection and subtraction of new deaths due to AIDS in that year to and from the previous year's figure of PLWH. For example,
 $PLWH \text{ at end } 2005 = (PLWH, \text{ end } 2004 + \text{New HIV infection in } 2005 - \text{Deaths due to AIDS in } 2005)$.

7.2. HIV and AIDS in Asia

Although overall national HIV infection levels in Asia are low compared with some other continents, notably Africa, but the populations of many Asian nations are so large that even low national HIV prevalence means large number of people are living with HIV.

Latest estimates show some 8.3 million [5.7 million –12.5 million] people (2.4 million among adult women [1.5 million –3.8 million]) were living with HIV in Asia at the end of 2005 —more than two-thirds of them in one country, **India**. In Asia, an estimated 180 000 [75 000 –390 000] children were living with HIV. Approximately 930 000 [620000 –2.4 million] people were newly infected with HIV in 2005, while AIDS claimed approximately 600 000 [400000 –850 000] lives. Table 3

Table 3: HIV & AIDS estimates in Asia, end 2002 and end 2004

Year	Adults (15+) and children living with HIV	Adult (15-49) Prevalence (%)	Adults (15+) and children newly infected with HIV	Adult (15+) & Child deaths due to AIDS
2005	8.3 (5.7-12.5 M)	0.4 (0.3-0.6)	930 000 (624000-2.4 M)	600 000 (400 000-850 000)
2003	7.6 (5.2-11.3 M)	0.4 (0.2-0.6)	860 000 (560000-2.3 M)	500 000 (340 000 –710 000)

Source: 2006 Report on the Global AIDS Epidemic

Asia is not just vast but diverse, and HIV epidemics in the region share that diversity, with the nature, pace and severity of epidemics across the region.⁸

HIV epidemic in this region remains largely concentrated among injecting drug users, sex workers, men who have sex with men, clients of sex workers and their sexual partners. But the region is also under threat of generalization of the epidemic.¹

7.3. HIV and AIDS in the SAARC Region

All the SAARC countries are reporting cases of HIV and AIDS and the epidemic is spreading rapidly in most of the countries. India has the single largest proportion of HIV positive cases within its border. On the basis of available information it can be assumed that around 6 (5.87) million estimated HIV infected people are living within the region second highest after Sub Saharan Africa.¹

The danger for SAARC region rests in the low 'general population' prevalence rates, which may be undermining the gravity of the situation. Such low rates conceal dangerously elevated 'concentrated' infection rates within high-risk groups such as CSW, MSM, IDU etc. The fact is that despite the low prevalence rates within this region, the factors are in place to spread HIV epidemic farther and faster than in any other region globally. The existence of high-risk group behaviors, migrant workers, truckers, mobile populations in search of sexual pleasure, drugs, and commerce, the unequal status of women, the lack of population awareness of 'basic' risks and prevention strategies, the trafficking of women and young girls within the sex trade, the high rates of STIs etc., all make for an explosion of HIV epidemic within the region. The country specific HIV/AIDS estimates are given in Table 4 & Figure 2:

Table 4: Estimated number of people living with HIV in SAARC Region, end 2005¹

Country	Estimated Population (Approximately)	HIV Prevalence Rate (%) among Adults	Estimated No. of PLWH	Adult (15+) PLWH	Women (15+) PLWH	AIDS Deaths
Bangladesh	141822000	<0.1 (<0.2)	11000(6400– 18000)	11000 (6400– 18000)	1400 (710– 2500)	500 (<1000)
*Bhutan	2163000	<0.1 (<0.2)	500 (<2000)	500 (<2000)	100 (<200)	100 (<200)
**India	1103371000	0.9(0.5– 1.5)	5700000 (3400000–9400000)	5600000 (3400000–9300000)	1600000 (820000–2800000)	(270000–680000)
Maldives	329000	<0.2	***60	60	12	12
Nepal	27133000	0.5(0.3– 1.3)	75000 (41000– 180000)	74000 (40000 – 180000)	16000 (7500 – 40000)	5100 (2800– 8400)
Pakistan	157935000	0.1(0.1– 0.2)	85000(46000– 210000)	84000 (45000– 210000)	14000 (6600 – 36000)	3000 (1700 – 4900)
Sri- Lanka	20743000	<0.1 (<0.2)	5000 (3000–8300)	5000 (3000– 8300)	1000 (<1000)	500 (<1000)
Regional	1453496000	< 0.9	5876560	5774560	1632512	-

Source: 2006 Report on the Global AIDS Epidemic

*Population of Bhutan as per country report is 6,98,950

**Estimated number of adults (15-49) living with HIV end of 2005 was 5.206 million with prevalence of 0.91% in estimated adult population of 571.76 million (Source: HIV/AIDS Epidemiological, Surveillance & Estimation report for the year 2005, published in April 2006 by National AIDS Control Organization, Ministry of health & Family Welfare, Govt. of India)

*** On assumption from previous data

Reported HIV and AIDS Cases by SAARC Member Countries

In the SAARC region first HIV/AIDS cases were reported in 1986 by India and Pakistan and by 1993 all SAARC countries started reporting these cases. Update available information on cumulative number of reported HIV and AIDS cases by SAARC countries is given in Table 5.

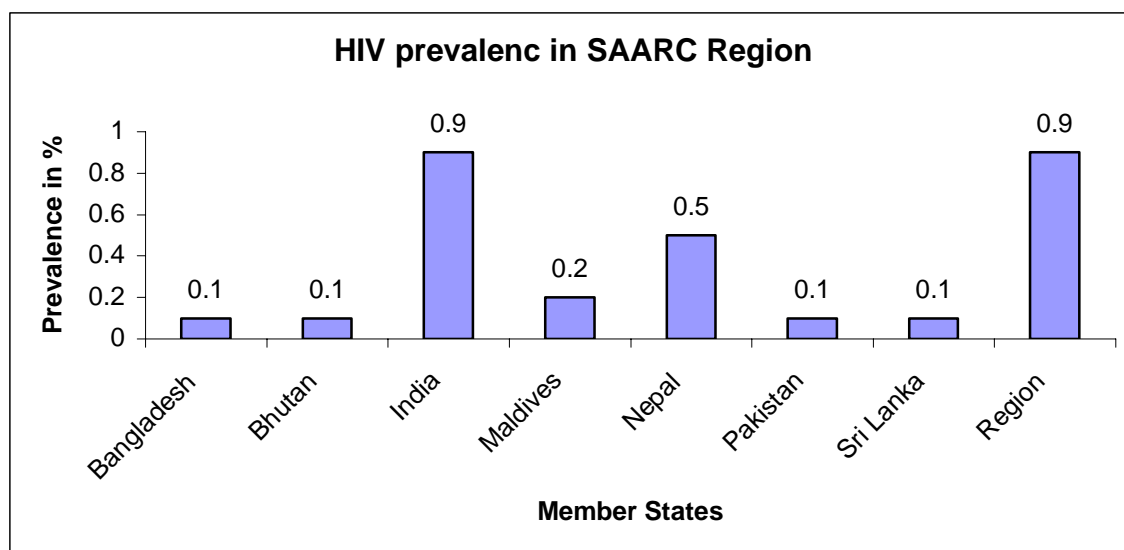
Table 5: Cumulative No. of reported HIV & AIDS Cases by SAARC Member States ¹²⁻¹⁸

Country	HIV positive including AIDS	AIDS out of total HIV+	Death due to AIDS	As of	1s case detected
Bangladesh ¹²	465	87	44	Dec. 2004	1989 (HIV +)
Bhutan ¹³	77	09	18	Dec 2005	1993 (AIDS)
India ¹⁴	-	111608	-	July 2005	1986 (AIDS)
Maldives ¹⁵	13#	10	10	Jun. 2006	1991 (AIDS)
Nepal ¹⁶	6990	1085	336	June 2006	1988 (AIDS)
Pakistan ¹⁷	3393	346	-	June 2006	1986 (AIDS)
Sri Lanka ¹⁸	674	194	136	June 2005	1987 (HIV +)*

Total HIV infected (June 2006) Maldivian 13 and Expatriates 188

* HIV first reported in a foreigner in 1986; First Sri Lankan with HIV detected in 1987

Figure 2



Bangladesh

Bangladesh is a relatively small coastal country in south central Asia. To the South, Bangladesh has an irregular coastline fronting the Bay of Bengal and shares land borders with India and Myanmar. It is one of the most densely populated countries in the world, with the highest densities occurring in and around the capital city of Dhaka. It is also a predominantly rural country, with only about one-quarter of the population living in urban areas. The estimated total population of the country in 2004 was about 139215 thousands.¹⁹ (Global TB Report – WHO)

Although national HIV prevalence remains under 1%, there are risk factors that could fuel the spread of HIV among high-risk groups. Prevalence is higher in risk groups such as sex workers, injecting drug users and men having sex with men. Prompt and vigorous action is needed to strengthen the quality and coverage of HIV prevention programs and prevent the virus from taking hold.

State of the epidemic on HIV/AIDS

The first HIV positive case in this country was detected in 1989.

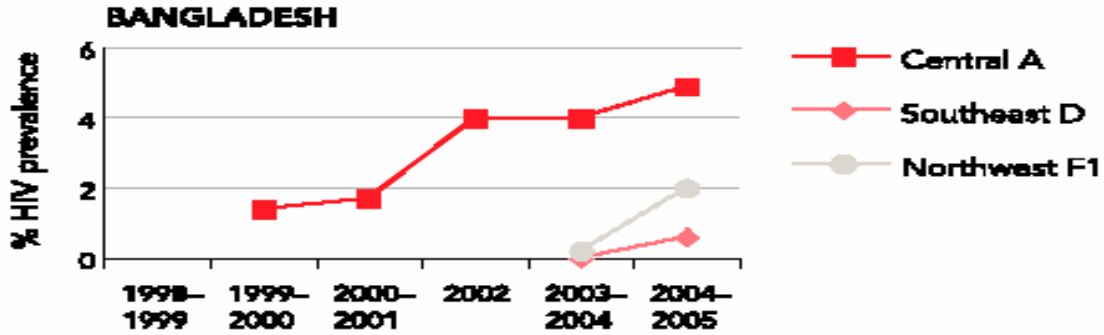
Latest estimates, using sentinel surveillance data, suggest that as of end-2005, the estimated number of people living with HIV was 11000 (6400-18000). Bangladesh's sixth round of sentinel surveillance (2004-2005) showed an overall prevalence of 0.6%. Significant underreporting of cases occurs due to the country's limited voluntary testing and counseling capacity, and the social stigma attached to HIV and AIDS.

While overall HIV prevalence is still low, prevalence is higher in risk groups such as sex workers, injecting drug users and men having sex with men. Unsafe injecting drug practices have caused HIV infection levels in injecting drug users to increase from 1.7% to 4.9% between 2000–2001 and 2004–2005 in a central surveillance site, shown in fig.1 below. A large proportion of injecting drug users (as many as one in five in some regions) report buying sex and among them, fewer than one in ten consistently used a condom during commercial sex in the previous year (Ministry of Health and Family Welfare Bangladesh, 2005). This level of infection among IDUs poses a significant risk as the infection can spread rapidly – and is spreading - within the group, then through their sexual partners and their clients into the general population. Another concern is the significant number of IDUs in the country who sell their blood professionally.

All of the known HIV- risk behaviors and factors- FSW, MSM, IDU, and "high" rates of STI - are acknowledged to be present in Bangladesh. As a result, there is increasing concern that marked epidemic spread of HIV might occur in a manner similar to that documented in several neighboring countries (parts of India, Myanmar, and Thailand). Hence though it is considered as low prevalence country, it couldn't put this country in low risk of developing expanded epidemic due to interlinking of different high risk groups as shown in Fig 4.

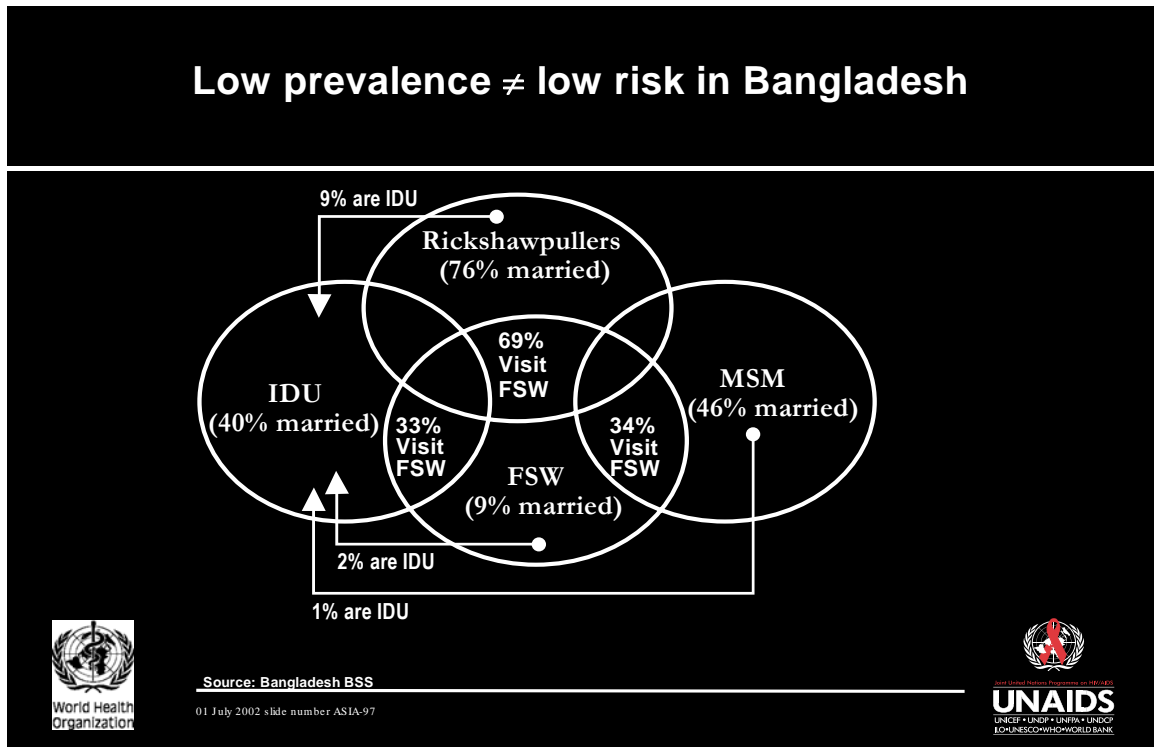
The quality and coverage of prevention initiatives aimed at reducing transmission through injecting drug use and commercial sex require strengthening.

Figure 3: HIV Prevalence among injecting drug users in Bangladesh 1998-2005



(source: National HIV serological surveillance, 2004-2006, national AIDS/STD control program, ministry of health and Family welfare, Bangladesh)

Figure 4: Low prevalence ≠ Low risks in Bangladesh²²



Reported HIV positive cases with epidemiological analysis¹²

According to country report of National AIDS and STD control Programme, Bangladesh, as of December 2004 the cumulative number of reported HIV positive cases became 465 in which male

population predominates, M:F= 5.3:1 (Table15). Eighty-seven HIV infected persons developed AIDS of which 44 died.

Table 6: Cumulative No. of reported HIV positive cases as of December, 2004, Bangladesh

Sex	Cumulative no. of reported HIV + cases	
	Number	(%)
Male	484	82.6
Female	73	15.7
Sex unknown	8	1.7
Total	465	100

RISK AND VULNERABILITY (World Bank Report – April 2006)

Bangladesh is vulnerable to an expanded HIV/AIDS epidemic due to the prevalence of behavior patterns and risk factors that facilitate the rapid spread of HIV. Risk factors include:

Large Commercial Sex Industry: There are over 105,000 male and female sex workers in Bangladesh. Brothel-based female sex workers reportedly see around 18 clients per week, while street-based and hotel-based workers see an average of 17 and 44 clients per week respectively.

Low Levels of Consistent Condom Use: The majority of brothel-based sex workers report some sex without condoms with their clients. Country-wide, brothel-based sex workers report consistent condom use with 2.8% of their regular clients, and 5.2% with new clients. Among the clients, who include rickshaw pullers and truckers, only 1.5 to 4.6% report having consistently used condoms when buying sex from female sex workers.

Sexually Transmitted Infections: Syphilis rates have shown marginal decline over recent years. However recent surveillance data shows 44 percent of the female IDUs are also sex workers and have a higher prevalence of syphilis (9.2% prevalence compared with 2.9% of male IDUs). The high rates of syphilis and other STIs confirm the low level of condom use and the presence of other risky sexual behaviors that facilitate the spread of the HIV infection.

Needle-sharing among Injecting Drug Users: More than 70% of injecting drug users in central Bangladesh routinely share needles. Hepatitis C prevalence rates of 83 % have been found among IDUs. This is comparable to levels in countries that are experiencing a concentrated and growing HIV epidemic.

Lack of Knowledge among General Population: While knowledge of HIV is nearly universal among sex workers and their clients, it is inadequate among the general population.

High level of stigma associated with people living with HIV and AIDS.

Bhutan

The Kingdom of Bhutan is a sovereign kingdom in the Himalayas, bounded by India, Tibet, and China. Bhutan's rugged mountains and dense forests long rendered it inaccessible to the outside world until well into the 20th century. The building of a road network connecting Bhutan with India in the 1960s finally brought to an end Bhutan's historic isolation. From that time, Bhutan embarked on Programmes to build roads and hospitals and to create a system of secular education. Its governmental institutions were also modernized.⁹ Its estimated total population in 2004 was about 2116000.¹⁹

The Himalayan Kingdom of Bhutan, though isolated geographically, is not impervious to HIV/AIDS. Increasing cross-border migration and international travel, combined with behavioral risk factors of the population, mean Bhutan could face rapid growth of HIV. As the epidemic is at a very early stage, there is still time for vigorous action to stop its spread.

State of the epidemic on HIV/AIDS

The first case of HIV in Bhutan was reported in 1993. UNAIDS estimates that about 100 people were living with HIV/AIDS at the end of 2003, which would amount to a prevalence of less than 0.01 percent of the population (WB). Though the country is in low prevalence at present, it is under stage of moving towards generalized epidemic as data on reported cases shows that there are increasing numbers of housewives and children are getting infection year-wise.

Reported HIV Positive cases

As of December 2005 – a total of 77 cases have been detected and confirmed, among them 39 were males and 38 were females with male to female ratio is 3.5:1. Out of the reported cases 18 have died.

Among the sub groups of population it can be seen that 22% of reported cases are consisted of housewives and 14.2% are uniformed services, as shown in table 8.

Heterosexual route is the primary mode of transmission among reported cases as shown in Figure 7, and about half of the detected cases got infected in Thimphu and Phuntsholing.

The infected persons range in age from 25 to 39 years as shown in figure 6, with men slightly outnumbering women. The average age of infected women is about 23 years significantly lower than the average age for infected men, which is 32 years. As shown in Fig 5 it can be seen that there are increasing trends in HIV cases in Bhutan, which alert the country to take the steps ahead for the control of spread of HIV.

People living with HIV in Bhutan come from diverse occupational backgrounds. They are farmers, government servants, and female sex workers, in addition to those returning from other countries.

Half the infections are reported from Thimphu, the capital, and Phuentsholing, a bustling commercial town bordering the Indian state of West Bengal.

Among the reported HIV cases, HIV infected with pulmonary TB found to be 5 cases and extra pulmonary TB cases nil.

Table 7: Cumulative No. of reported HIV positive cases, as of Dec. 2005

Condition	Male	Female	Total
HIV positives (including AIDS)	39	38	77
AIDS (out of total HIV)	6	3	9
Deaths	14	4	18

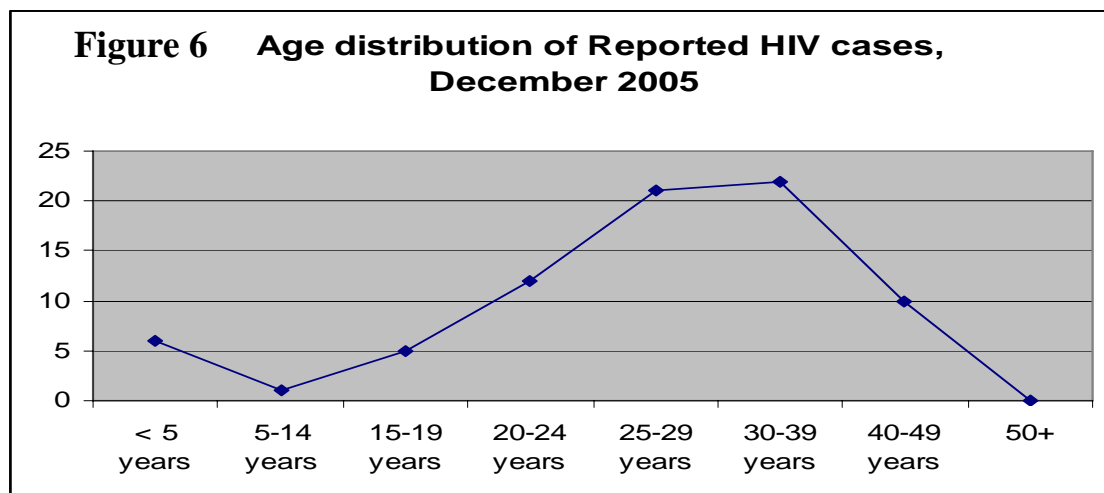
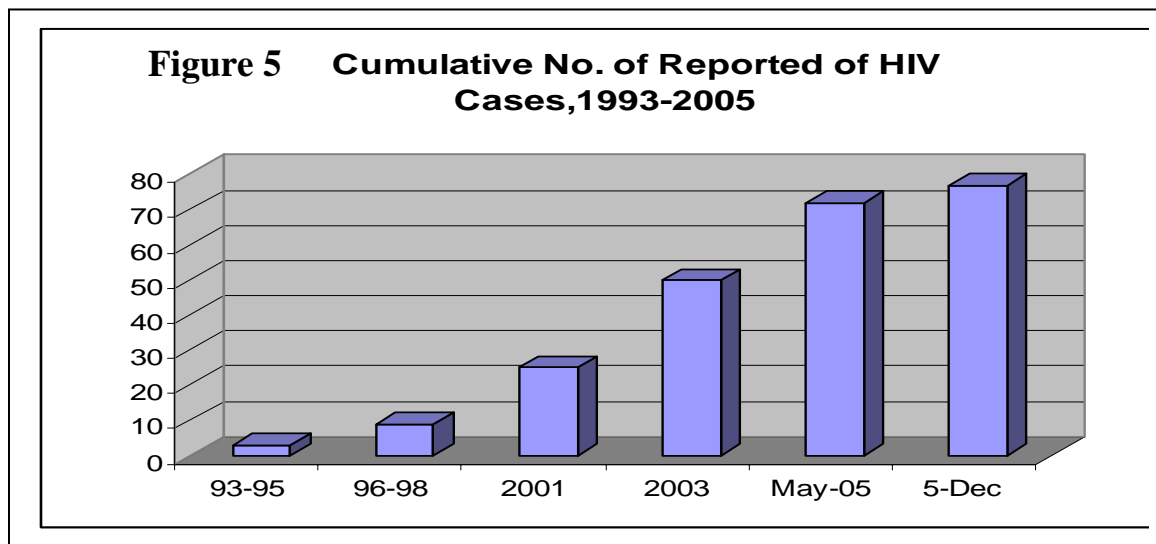
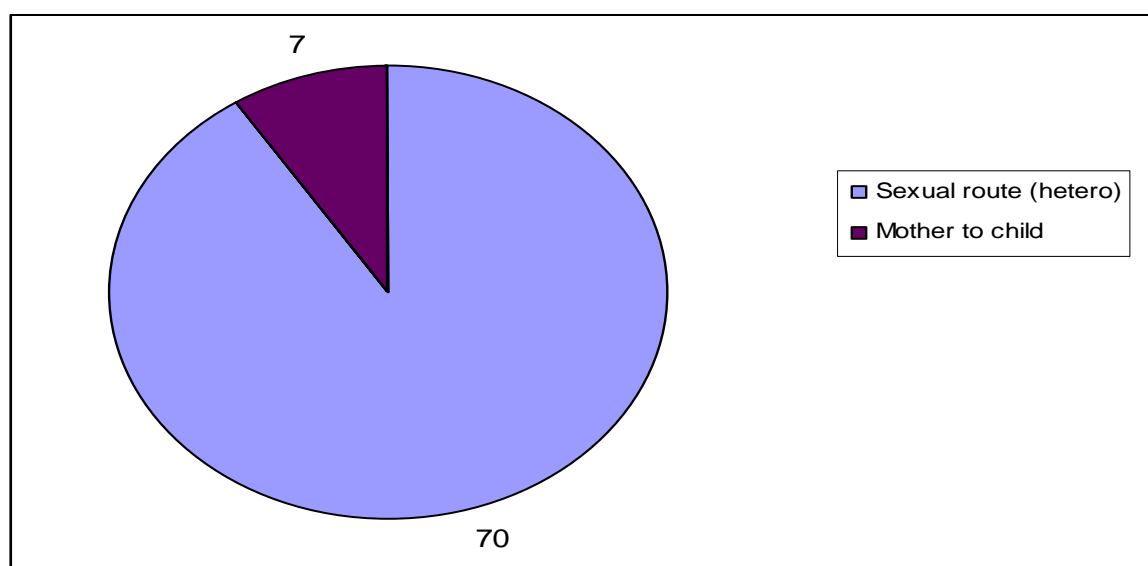


Table 8: Sub groups of population among reported HIV cases, Dec. 2005

Sub-Groups	Total cases
Pregnant women	07
Blood Donors	09
House wives	17
CSW	07
Children	07
TB patients	07
Uniformed Services	11
Others	12
Total	77

Figure 7: Mode of transmission of HIV, December 2005



RISK AND VULNERABILITY (World Bank Report – March 2006)

Despite Bhutan’s low HIV prevalence, a number of factors give rise for concern: (World Bank)

Prevalence of Sexually Transmitted Infections (STIs): The presence of STIs among the population increases the risk of HIV infection. Although the exact magnitude of STIs in the country is not known, gonorrhoea, the most common, has an estimated annual incidence of about 2 percent among the adult population. Syphilis, on the other hand, for which all blood donors and pregnant women are screened, shows a slightly lower rate.

Spread of Commercial Sex Work: While the border town of Phuentsholing, with its thriving commercial sex, remains a high transmission zone, sex work is perceived to be spreading to Bhutan’s interior districts of

Paro, Tongsa, and Mongar. The construction of hydropower plants and the expansion of road networks have led to a growing number of migrant laborers, truckers, and transport workers whose living conditions are often conducive to commercial and casual sex.

Risk of Substance Abuse: Substance abuse is also associated with a higher risk of HIV infection. Although there are no studies on substance abuse in Bhutan, alcohol consumption in the country is extensive, and there are indications of the growing use of amphetamines, particularly among young people. Nevertheless, heroin and injecting drug use are currently minimal in Bhutan, unlike in neighboring Nepal, northeastern India, and southern China.

Less Rigid Sexual Norms: Sexual norms for both men and women are perceived to be less stringent in Bhutan than in other South Asian countries. Multiple concurrent relationships and casual sexual encounters are thought to be common among the general population. On the other hand, the Bhutanese Government's open discussion of sexual health issues, unlike in other countries of the region, is a positive factor.

High Mobility: Mobility, especially of unattached men, leads to increased risks for HIV transmission through commercial and casual sex. Four groups of mobile populations are the focus of HIV-prevention efforts. These include international travelers, such as students and businessmen, military personnel, migrant workers from neighboring countries, and mobile professionals, such as truck drivers and traders. However, the extent to which these groups engage in risky behavior and their level of exposure to HIV is unknown and requires further study.

Porous Borders: Although Bhutan is geographically isolated, its growing trade with neighboring China, northeastern India, Nepal, and Bangladesh has rendered its borders increasingly porous. With Nepal and the northeastern Indian states of Manipur, Nagaland, and Mizoram facing "concentrated" HIV epidemics, the high levels of mobility across these borders point to an urgent need for the countries to share information and collaborate on HIV/AIDS prevention efforts.

Misconceptions Among Young People: Bhutan has a young population. Some 45 percent of its people are under 15 years of age, and about 63 percent are below 25. A 2002 survey of high school students found that although HIV awareness was high, misconceptions abound.

India

It is one of the largest countries in southern Asia. Geographically it is the seventh largest and second most populous nation in the world. Its estimated total population in 2004 was 1087124 thousands¹⁹ with over half a billion in the 15-49 year-old age group. India shares land borders with Bangladesh, Bhutan, China, Myanmar, Nepal, and Pakistan. The shift of population from rural to urban areas is slower in India than in most developing countries, but one-fourth of the total population is in urban areas.⁹

India has among the highest number of persons living with HIV/AIDS in the world to-day; although the overall prevalence remains low i.e. 0.9%. The aggregate data shows that there is multiple and diverse HIV sub-epidemics in the country. 6 States, four in southern India and two in north eastern India have generalized epidemics. These six States account for nearly 80% of all reported AIDS cases. Three States have concentrated epidemics and the rest of the states in India have low level epidemics. Heterosexual route is the predominant mode of transmission, followed by injecting drug use. A significant proportion of new infections are occurring in women who are married and who have been infected by husbands. A major challenge is to strengthen and decentralize the program to the state and district levels to enhance commitment, coverage and effectiveness of program for sex workers and their clients, men who have sex with men and injecting drug users.

State of the epidemic on HIV/AIDS

The evidence of HIV was first documented in Chennai in southern India in 1986. From then by the end of 2005, there were an estimated 5.2 million 15-49 years PLWHAs in India.

¹Although the overall prevalence of HIV is below 1% i.e. 0.9 %, due to the large population size, India has a large number of people living with HIV/AIDS, second only to South Africa. Heterosexual route is the predominant mode of transmission, followed by injecting drug use.

The aggregate data shows that there is multiple and diverse HIV sub-epidemics in the country. Of the 35 States of India, 6 States, four in southern India (Andhra Pradesh, Tamil Nadu, Maharashtra, Karnataka) and two in north eastern India (Manipur and Nagaland) have generalized epidemics with HIV prevalence rate of above 1% among pregnant women. These six States account for nearly 80% of all reported AIDS cases in the country. Three States/Union Territories (Gujarath, Goa and Pondicherry) have concentrated epidemics and the rest of the states in India have low level epidemics.

In the southern States, heterosexual transmission accounts for majority of the reported cases, whereas in the north-eastern states of injecting drug use is the predominant mode of transmission, where the prevalence among injecting drug users in 2003 was 24% -the lowest levels detected among this group in that state since 1998.. More than 50% of the CSWs in urban southern States are infected.

In the six States with generalized epidemics, the HIV prevalence among pregnant women has remained constant over the last three years, indicating that the epidemic may have stabilized.

Overall, most HIV infections (more than 80% of reported AIDS cases) (NACO, 2005) are due to unprotected heterosexual intercourse, and a significant proportion of them are in women. Injecting drug use is the main driver of the HIV epidemics in the north-eastern states of India and recent information indicates the increasing elsewhere, Chennai, Mumbai, new Delhi (NACO 2005). Meanwhile little is known about the role of sex between men in India's epidemic although available information indicated the sex between men is common in some states of India. The future size of India's HIV epidemic will depend particularly on the effectiveness of program for sex workers and their clients, men who have sex with men and injecting drug users (Kang et al., 2005).

Of total estimated numbers, 600,000 PLWHAs are in need of antiretroviral therapy but less than 30,000 are currently receiving ART. The Government of India launched the national antiretroviral programme in April 2004. The national ART programme will be scaled up as human and financial resources become available.

With a high prevalence of TB infection in India, the problem of TB related to HIV infection also poses a major public health challenge; particularly in the high HIV burden States. The exact magnitude of HIV among TB patients is unknown as routine surveillance of HIV among TB patients is not undertaken.

The prevalence of the infection in all parts of the country highlights the spread from urban to rural areas and from high-risk groups to the general population^{1, 9}

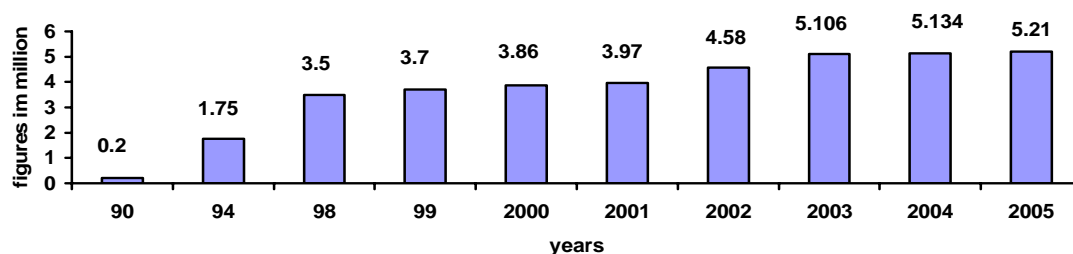
HIV Estimates

Since 1998, data from the HIV surveillance is used to estimate the number of HIV infections in the country, by taking into account certain assumptions. These assumptions were evolved after a series of consultations with national and international experts.

In 2005, the total number of sentinel sites stands at 703 and this includes 175 STD sites, 391 ANC sites, 30 IDU sites, 18 MSM sites, 83 FSW sites, 4 TB sites and 1 migrant.²⁰

The estimated number of HIV infections for the year 2005 is 5.21 million. Estimates of PLWH in India for the year 1990-2005 are shown in figure 8.

Figure 8: HIV Estimates for the year 1990, 1994 & 1998-2005 ^{14, 21}



As evident from the data indicated above, India continues to be in the category of low prevalence countries with overall prevalence of less than 1%. However, there are sub-national epidemics in various parts of the country with the evidence of high prevalence of HIV among both STD clinic attendees and antenatal clinic attendees.

With about 25% of the total population, urban area accounts for more than 41% of the total estimated HIV infections. About 39% of the total HIV infected people were females, M : F ratio being 1.57 : 1, and there was no significant sex difference of HIV infection between rural and urban areas which is shown in below table.

Table 9: Distribution of HIV infected population (Lakhs) by sex and residence (urban–rural)

Residence	Male	Female	Total (%)	M/F Ratio
Urban	13.29	7.98	21.27 (41.43)	1.67
Rural	18.03	12.04	30.07 (58.57)	1.50
Total	31.32	20.02	51.34 (100.00)	1.57

Reported HIV cases in India with epidemiological analysis ¹⁴

As reported to the National AIDS control organization (NACO), the cumulative number of HIV cases as of 31 July 2005 was 111608.

Epidemiological analysis of reported AIDS cases reveals that:

- Disease is affecting mainly the people in sexually active age group. About 89% of the cases are in the age group of 15-49 years (Table 10 & figure 11).
- Males account for 70.8% of AIDS patients and females 29.2%, the M : F ratio being 2.4:1. The proportion of female cases is increasing (Figs. 9 and 10).
- The predominant mode of transmission of infection in the AIDS patients is through heterosexual contact (86%) followed by perinatal transmission (3.6%), IDUs (2.4%), blood & blood products (2%) & in 6 % of cases, history of mode of transmission was not available (Figure 12).
- The most predominant opportunistic infection among AIDS patients is tuberculosis, indicating a potential future high spread of the HIV-TB co-infection.
- In the HIV sentinel surveillance, 200 5, data from 703 sentinel sites, regarding year wise trend in HIV infection in different population groups indicate that HIV prevalence among ANC population has remained less than 1% whereas, HIV prevalence among STD population as more than 5% and among commercial sex worker and injecting drug users has remained around 10% (Fig. 13).

Table 10: Age and sex distribution of reported AIDS cases in India as of 31 July 2005

Age group	Male	Female	Total
0-14 yrs	2 860	1 994	4 854
15-29 yrs	21 782	14 405	36 187
30-44 yrs	48 342	14 508	62 850
45+ yrs	6 057	1 660	7 717
Total	79 041 (70.8%)	32 567 (29.2%)	111 608 (100%)

Figure 9: Cumulative No. of reported AIDS cases in India, Feb-2004 & July-2005

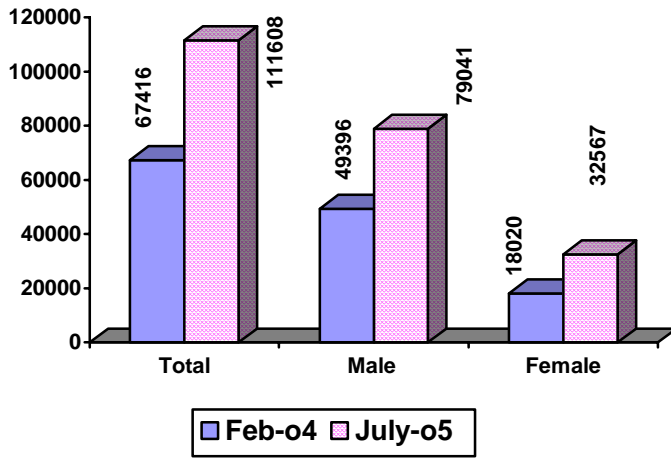


Figure 10: Sex distribution of reported AIDS cases in India as of 31 July 2005

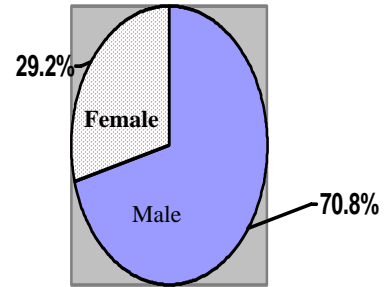


Figure 11: Age and Sex distribution of AIDS cases in India as of 31 July 2005

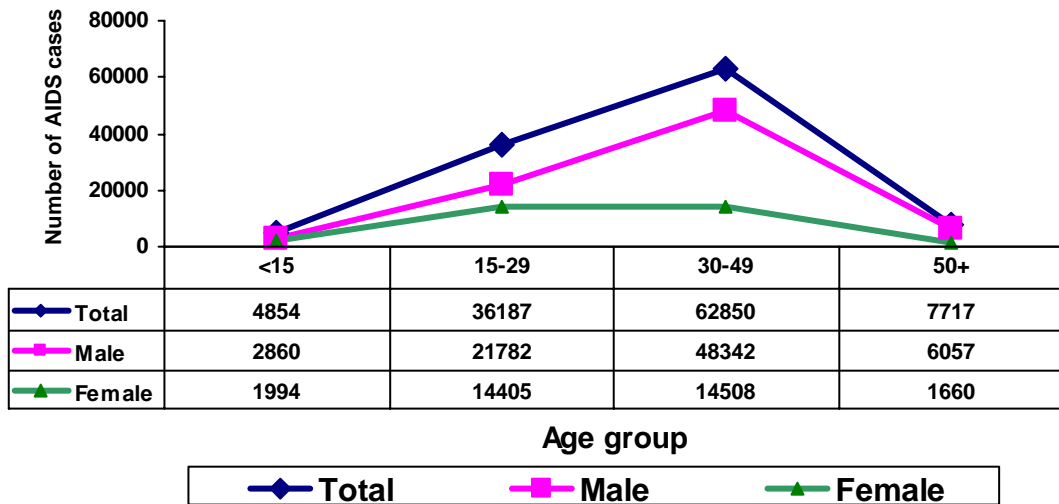


Figure 12: Risk/Transmission categories of AIDS cases in India, as of 31 July 2005

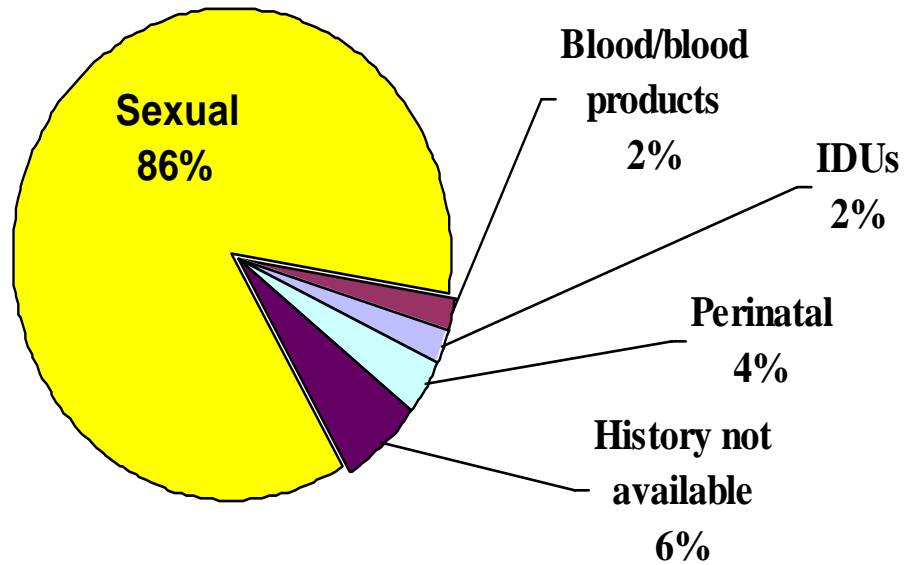
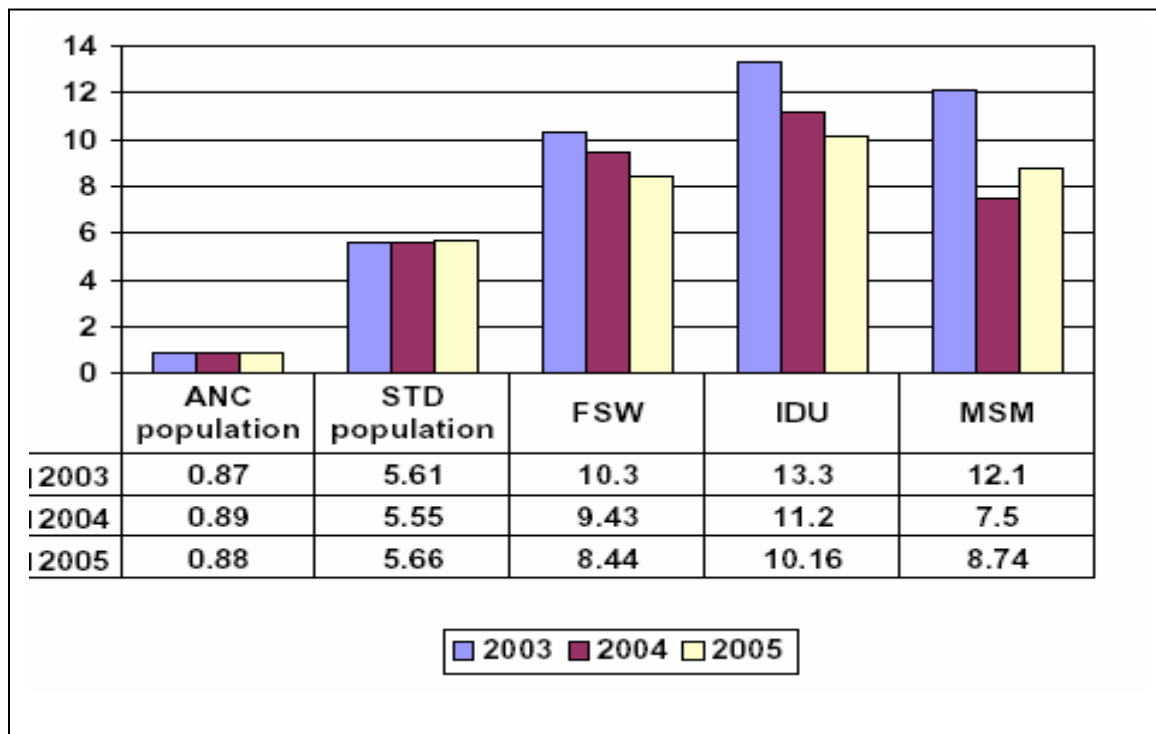


Figure 13: Year wise trend in HIV prevalence percentage among different population groups in India (2003-2005)



RISK AND VULNERABILITY (World Bank Report – June 2005)

several factors put India in danger of experiencing a rapid spread if effective prevention and control measures are not scaled up and expanded throughout the country. These risk factors include:

Unsafe Sex and Low Condom Use: In India, sexual transmission is responsible for 86 percent of reported AIDS cases. HIV-prevalence rates are highest among sex workers and their clients, injecting drug users, and men who have sex with men (many of whom are married). Clients of sex workers occupies the predominate categories for the total reported HIV infections.

The recent finding that 26% of sex workers in the city of Mysore (Karnataka) were HIV-positive is not surprising given that just 14% of the women used condoms consistently with clients and that 91% of them never used condoms during sex with their regular partners (Reza-Paul, 2005). In Mumbai, by contrast, available data suggest that sporadic and piecemeal efforts to promote condom use during commercial sex have not been as effective; there, HIV prevalence among female sex workers has not fallen below 52% since 2000 (NACO, 2004b). Surveys carried out in various parts of India in 2001 found that 30% of street-based sex workers did not know that condoms prevent HIV infection.

Migration and Mobility: Migration for work for extended periods of time takes migrants away from the social environment provided by their families and community. This can place them outside the usual normative constraints and thus more likely to engage in risky behavior.

Injecting Drug Use (IDU): Studies indicate that many drug users are switching from inhaling to injecting drugs. This phenomenon is more localized in the Northeastern states of India, and injecting drug users show sharp increases in HIV prevalence. Forty-one percent of IDUs in a national survey reported injecting with used needles or syringes. Of those who cleaned their needles and syringes, only three percent used an effective method such as alcohol, bleach, or boiling water. Appropriate strategies are also needed to address the double impact of drug use and unsafe sexual practices.

Low Status of Women: Infection rates have been on the increase among women and infants in some states. As in many other countries, unequal power relations and the low status of women, as expressed by limited access to human, financial, and economic assets, weakens the ability of women to protect themselves and negotiate safer sex, thereby increasing vulnerability.

Widespread Stigma: Stigma towards people infected with HIV/AIDS is widespread. The misconception that AIDS only affects men who have sex with men, sex workers, and injecting drug users strengthens and perpetuates existing discrimination. The most affected groups, often marginalized, have little or no access to legal protection of their basic human rights. Addressing the issue of human rights violations and creating an enabling environment that increases knowledge and encourages behavior change are thus extremely important to the fight against AIDS.

Maldives

The Maldives is a small independent island nation consisting of a chain of about 1,300 small coral islands and sand banks (roughly 202 of which are inhabited), grouped in clusters, or atolls in the Indian Ocean. Tourism, fisheries, shipping and construction are the major industries.³⁰ Tourism is a fast growing sector of the economy. Resort islands, and modern hotels in Male attract increasing numbers of tourists during the winter months.⁹ Its population was estimated to be about 321,000 in 2004.

The Maldives took action against HIV/AIDS before the first domestic case was reported in 1987 and, as a result, has so far kept the threat to a minimum. With few resources currently required for treatment, the Maldives has the opportunity to focus on better understanding risk factors, such as sexual practices and drug use and accessibility to health services, and translating this knowledge into improved action in the ongoing HIV/AIDS program.

State of the epidemic on HIV/AIDS

The estimated prevalence among adult population (15-49) was less than 0.1%.²² This suggests that Maldives is a low HIV prevalence country with a very small magnitude of HIV epidemic. But despite this low level of HIV epidemic the country is not free of risk or vulnerability factors that may worsen the situation if proper attention is not given.

No HIV infected cases were identified in sero-surveys conducted between 1997 and 2002 among 785 laboratory service at tenders, 1258 pregnant women, 3378 travelers, and 31251 blood donors. In 2002, an STI survey conducted among ANC attendees found the prevalence of various infections to be as follows: Candida (11.5%), gonorrhoea (4.1%), HSV2 (3.4%), Chlamydia (2.9%), Hepatitis B (1.3%), and HIV (0%).

The important risk factors that can worsen the HIV/AIDS situation in Maldives are:^{22, 30}

- High mobility of the Maldivian for search of work-both internal and external
- Mobility of students for higher education in abroad
- High proportion (about 1/3rd) of population below 35 years of age
- High level of tourism and large number of expatriate workers
- Presence of High Risk Behavior such as drug abuse and multiple sex partners with low condom use
- High rate of divorce and marriage also indicates increase number of sex partner exchange
- High prevalence of thalassemia requiring frequent blood transfusion
- Prevalence of STI

Reported HIV positive cases of Maldives

From 1991 to June 2006, 201 HIV positive cases have been documented in Maldives. Expatriate workers account for most of the documented infections. Among 201, expatriate are 188, 13 are

Maldivian, 11 male & 2 female till now, 10 have died. All HIV positive cases detected so far were in the age group of 20-45 years. (NHA & S control programme – Male).

RISK AND VULNERABILITY (World Bank Report – July 2006)

Mobility: Many Maldivian citizens go abroad for education and work and are away from their families for long periods of time. More information is needed on the risk behaviors that these citizens may engage in while they are away from the support of their families.

Sexual Practices: High rates of divorce and remarriage in the Maldives create exposure to large sexual networks capable of transmitting HIV and other STDs. Since HIV symptoms often do not appear for many years, people who are unaware that they are infected may infect many of their serial spouses and casual sex partners.

Drug Use: Drug-related arrests have increased 40 times from 1977 to 1995 in the Maldives, most likely paralleling an increase in drug use. Drug use is a risk factor for HIV/AIDS in Maldives.

Dispersed Population: Maldivian inhabit 200 of the 1,200 islands that make up their country. This dispersed population creates barriers to educating people on HIV/AIDS, distributing condoms, and treating people for STDs that increase transmission of AIDS. A UN study in 2000 revealed that in the smaller islands 55 percent of the population has no radio, and 86 percent have no television in the home. Many small islands have no bookstore, and access to newspapers is irregular.

Tourism Employment: The Maldivian tourist economy employs about 5,000 immigrant workers, mainly from India and Sri Lanka. These workers, far from their support systems, families, and usual sexual partners, are vulnerable to participating in high-risk behaviors such as sex without a condom and sex with commercial sex workers.

External Tourism: In 1998, almost 400,000 tourists visited the Maldives, one and a half times the entire population of the Maldives. The great influx of people from all over the world represents a potential route of introduction of HIV and high-risk behaviors such as injecting drug use and unsafe sex.

Nepal

Nepal is landlocked sharing borders with India and China. It is made up of 75 districts divided into five different development regions (Far- Western, Mid-Western, Western, Central and Eastern). The population of Nepal in 2004 was estimated to be 26591000.¹⁹ The urban population in Nepal is mostly concentrated in the Kathmandu valley. Nepal has a market economy largely based on agriculture and tourism.²²

In Nepal, the topography, environmental degradation, poverty and economic migration are linked and they combine with other factors to increase the vulnerability to HIV.²³

Nepal is facing rapid increases in HIV prevalence among high risk groups such as sex workers and injecting drug users. Nepal's poverty, political instability and gender inequality, combined with low levels of education and literacy make the task all the more challenging, as will the denial, stigma, and discrimination that surround HIV/AIDS.

State of the epidemic on HIV/AIDS

The first HIV infection in Nepal was identified in 1988. During the early 1990s, HIV seroprevalence surveys detected HIV infections among STI patients and FSW throughout most regions in Nepal. IDUs in Nepal were initially believed to share injection equipment in relatively small and isolated networks. However, since the mid-1990s, an explosive increase in HIV infection (infecting about one-half of all IDU throughout the country and near about two-third in the Kathmandu valley) has occurred (Figure 14).^{23, 25}

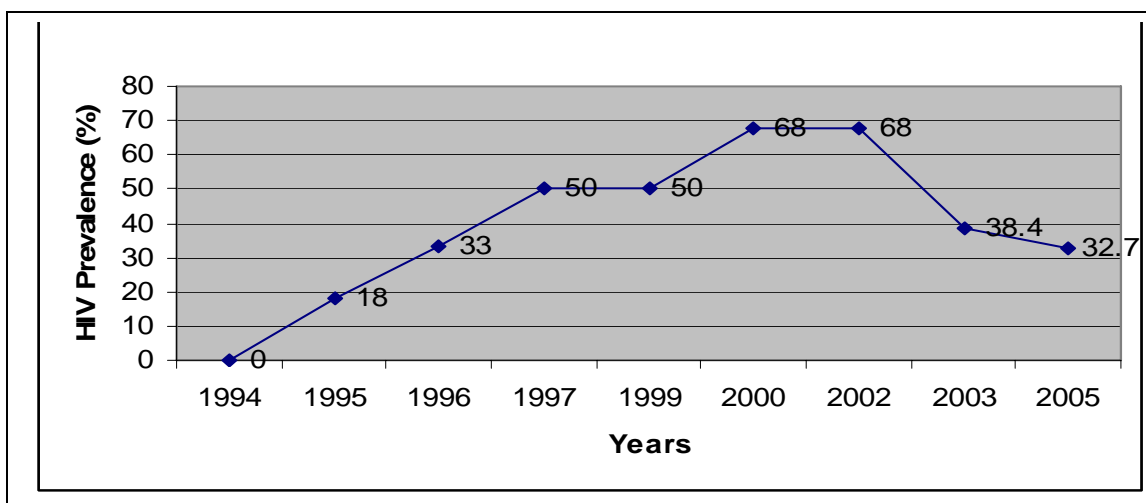
Nepal's HIV epidemic is largely concentrated in high-risk groups, especially female sex workers (FSW) and IDUs. Injection drug use appears to be extensive in Nepal and to significantly overlap with commercial sex. Another important factor is the high number of sex workers who migrate or are trafficked to Mumbai, India to work, thereby increasing HIV prevalence in the sex workers' network in Nepal more rapidly.

According to a WHO/UNAIDS estimate at the end of 2003, 940 children below the age of 15 in Nepal were living with HIV/AIDS. UNICEF estimates that AIDS has orphaned 2500 children and the numbers are expected to increase in the years to come.

National Summary information on HIV/AIDS, by end of 2005: (NCASC, programme)

Number of Adults (15-49) LWHA	70,256
Adult Prevalence (15-49)	0.55%
Number of Women (15-49) LWHA	15,310 (22%)
HIV Prevalence rate in IDUs	32.7%
HIV prevalence rate in sex worker	3.8%
HIV prevalence rate in client of SW	2.1%
HIV Prevalence among MSM	3.6%

Figure 14: Year wise HIV prevalence trend among IDUs



Reported HIV cases as of June 2006 ¹⁶

As reported to the National Centre for AIDS and STD control, Teku, Kathmandu, Nepal, the cumulative number of HIV positive cases as of June 2006, was 6990 (Table 11). Among them 73% were males and 27% were females with a male: female ratio of 2.7:1. Out of these total HIV positive cases, 1085 were full blown AIDS cases; 71% males and 28% females, (M: F= 2.5:1). A Total of 336 deaths due to AIDS were reported.

Table 11: Reported HIV and AIDS cases in Nepal as of June 2006

Condition	Male	Female	Total	New cases in June 2006
HIV positive including AIDS	5012(71%)	1978(28%)	6990	340
AIDS out of total HIV +	787 (72%)	298 (27%)	1085	38

Epidemiological analysis of reported HIV positive cases reveals that:

- Currently, males account for 71 % of HIV/AIDS patients with the male: female ratio being 2.5:1. On year wise analysis of data on reported cases of male and female, it reflected to be increasing trend of infection among female along with male.
- Disease is affecting mainly the people in sexually active age group. Nearly 96 % of the cases are in the age group of 15-49 years (Table 10 & Figure 9).
- About 54% of the reported HIV positive cases belong to clients of sex workers followed by IDUs (19.55%), sex workers (11.34%) and housewives (13%) (Table 11 & Figure 10).

Figure 15: Age wise distribution of HIV positives. June 2006

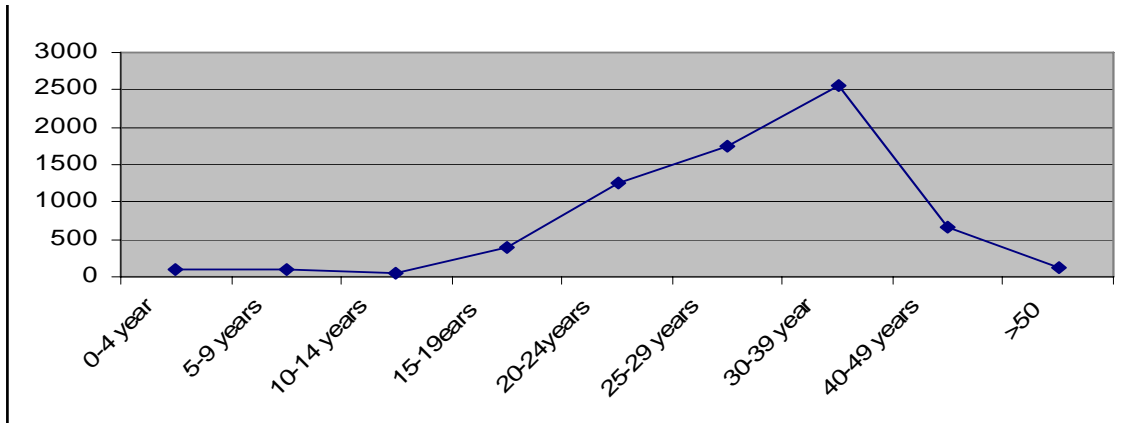


Figure 16: Year wise trend of Male and Female HIV Positive in Nenal

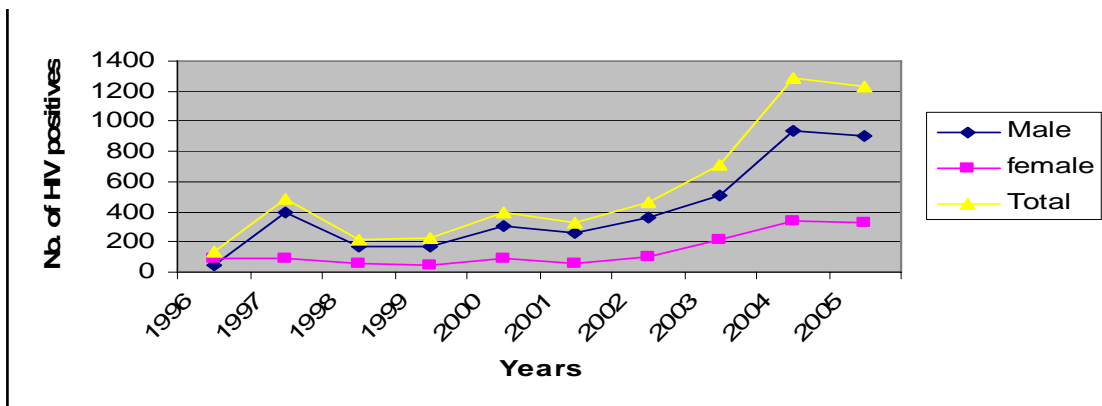
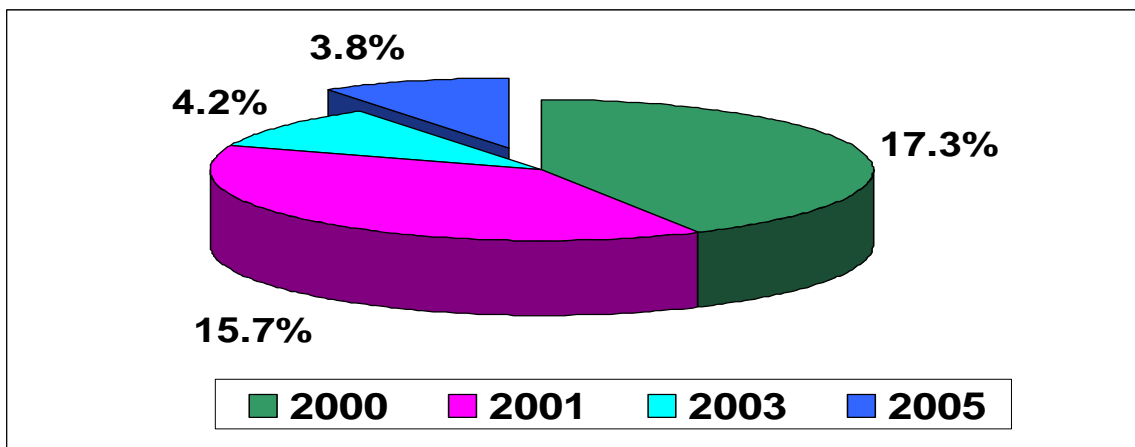


Fig 17: Year wise HIV Prevalence among FSWs:



Among the subgroups the proportion of children and housewives are in increasing trends (Figure 18), indicating the spread of HIV infection from high-risk groups to general population. The clients of sex workers comprising about 54% of the HIV infected people are the major contributors in transmitting the infection from sex workers to house wives (mothers) and then to children. The proportion of IDU, the most badly affected high-risk group in Nepal is also showing increasing trend. These IDUs some of whom visits sex workers and also lead conjugal lives are the substantial transmitter of HIV infection to mother & children.

Figure 18: Year wise trend of HIV positive among sub group population.

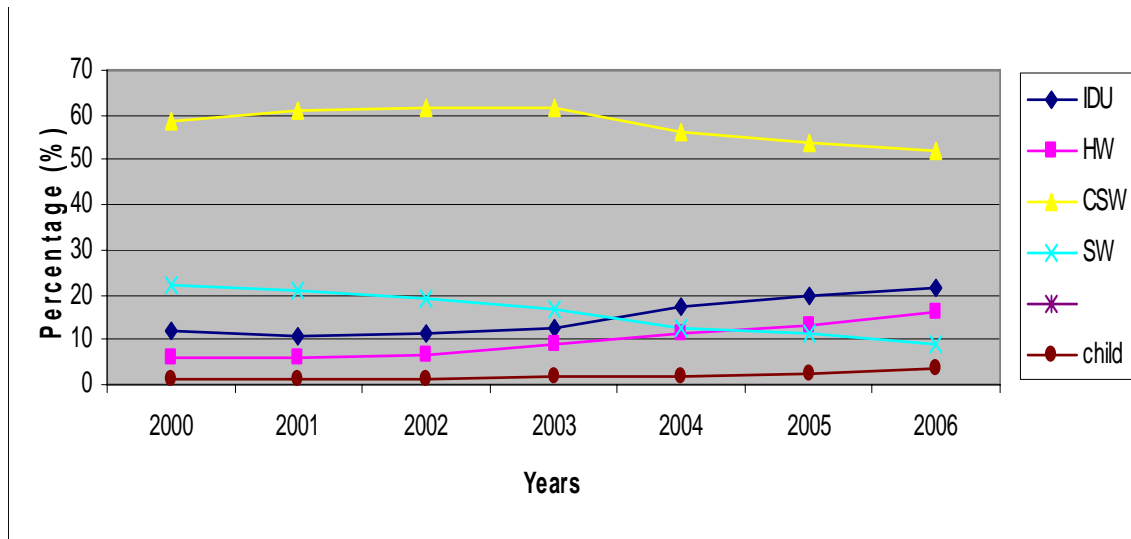
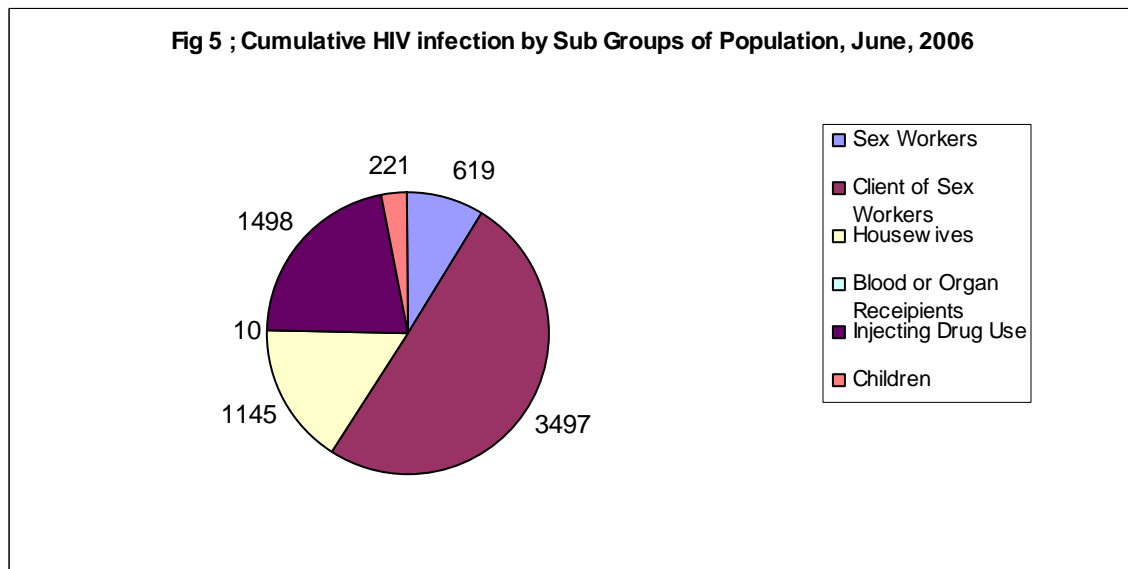


Figure 19: Cumulative HIV infection by Sub-group of population, June 2006



Risk and Vulnerability (World Bank report - April 2006)

Nepal's epidemic will continue to grow if immediate and vigorous action is not taken and will be largely driven by injection drug use and sex work. Major risk factors are as follows:

Continued Spread among Injecting Drug Users: In most Asian countries, IDUs are the first community to be affected by HIV. Nepal was the first developing country to establish a Harm Reduction Program with needle exchange for IDUs. However, due to the program's limited coverage, the impact on HIV spread among this group is also limited. HIV prevalence among male IDUs increased from 2% in 1991 to 68% in 2001 in Kathmandu valley and fell to 52% in 2005. Nationwide HIV prevalence among IDUs is 32.7%.

Trafficking of Female Sex Workers: Due to their highly marginalized status in society, female sex workers in Nepal have limited access to proper information about reproductive health and safe sex practices. Cultural, social, and economic constraints bar them from negotiating condom use with their clients or obtaining legal protection and medical services. Almost 60 percent of their clients, who are mainly transport workers, members of the police or military, wage earners, and migrant workers, do not use condoms. While nationally, HIV prevalence among FSWs is four percent, infection rates among street-based sex workers in the Kathmandu valley are between 15 and 17 percent. Nationally, clients of FSWs have an estimated HIV prevalence rate of two percent. A major challenge to HIV control in the country is the trafficking of Nepalese girls and women into commercial sex work in India, and their return to Nepal. About 50 percent of Nepal's FSWs previously worked in Mumbai, India, and some 100,000 Nepalese women continue to engage in the practice there.

Changing Values among Young People: Young people are increasingly vulnerable to HIV due to changing values, group norms, and independence. Girls, even if they have knowledge about HIV/AIDS and other Sexually Transmitted Infections (STIs), do not have the means of protecting themselves due to their traditionally lower social status. Teenagers, although apparently highly aware of the HIV risk (based on behavioral surveys), do not necessarily translate this awareness into safe sex practices. A high prevalence of premarital sex exists, with 20 percent of teenagers considering it acceptable among young people.

High Rates of Migration and Mobility: Estimates of internal and external migration for seasonal and long-term labor range from 1.5 to 2 million people. It is necessary for the economic survival of many households in both rural and urban areas. Removal from traditional social structures, such as family, has been shown to promote unsafe sexual practices, such as having multiple sexual partners and engaging in commercial sex. Studies carried out in some mountain districts neighboring India have revealed that 7 to 10 percent of male migrants are HIV positive.

Low Awareness among Men Who Have Sex with Men (MSM): Although accurate data on sex between men are not available, a recent report suggests that MSM activity in Nepal is not different from the MSM activities of the rest of the South Asia region. The knowledge of safe sex and condom use is low among this community. Furthermore, many men who have sex with men are also married, which puts their spouses at risk of becoming infected with HIV. The Blue Diamond Society is a Non-governmental Organization (NGO) founded in 2001 to address the needs of Nepal's sexual minorities. It provides community-based sexual health, HIV/AIDS, and advocacy services for local networks of sexual minorities.

Pakistan

Pakistan is Asia's seventh largest country occupying the northwestern portion of the Indian subcontinent. It is bounded to the west by Iran, to the north by Afghanistan, to the northeast by China, to the east and southeast by India, and to the south by the Arabian Sea. The estimated population in 2004 was about 154794 thousand.¹⁹

Although the estimated HIV/AIDS burden is low and around 0.1 percent of the adult population - there has been an outbreak of HIV among injecting drug users and MSM in Karachi. Without vigorous and sustained action, Pakistan runs the risk of experiencing the rapid increase in HIV/AIDS among vulnerable groups seen elsewhere. It still has a window of opportunity to act decisively to prevent the spread of HIV/AIDS.

State of the epidemic on HIV/AIDS

The evidence of HIV was first documented in Pakistan in 1986. As of end 2005, UNAIDS had an estimated 85000 people (adults and children) living with HIV with 0.1% HIV prevalence level that can be considered low.¹ (UNAIDS 2006 report)

Until recently, Pakistan was classified as a low-prevalence country with many risk factors that could lead to the rapid development of an epidemic. In 2004, a concentrated outbreak of HIV was found among Injecting Drug Users (IDUs) in Karachi, where over 20 percent (one in four) of those tested were found to be infected. High levels of HIV infection - 4 percent - were also found among men who have sex with men (MSM) in the city. The infection rate among Hijras was 2 percent. Nonetheless, HIV prevalence among other high risk groups in Karachi and all vulnerable populations in Lahore is still low - below 1 percent. The findings underline the risk of an escalating epidemic. (UNAIDS 2006 report)

Though HIV prevalence appears to be low in Pakistan but the risk seems to be high. Because the presence of a number of vulnerabilities and risky behavioral patterns may cause emergence of a widespread epidemic in near future if an urgent, prioritized and coordinated action could not be taken.

Reported HIV cases as of Sept. 2005 with epidemiological analysis:

By September 2005, the cumulative number of total reported HIV/AIDS cases was 3073 among them 332 were AIDS cases and HIV positive cases were 2741³. Distribution of reported cases of 2005 is as follows:

• HIV Positive – 2741
1. 69.5% of HIV positive are between 20-49 years
2. 44.1% acquired through sexual contact
3. Male to female ratio is 7:1
• AIDS Cases – 332
1. 83.7% of total AIDS cases are between 20 to 49 years
2. 69.3% acquired through sexual contact
3. Male to female ration is 6:1

Epidemiological analysis of reported AIDS cases

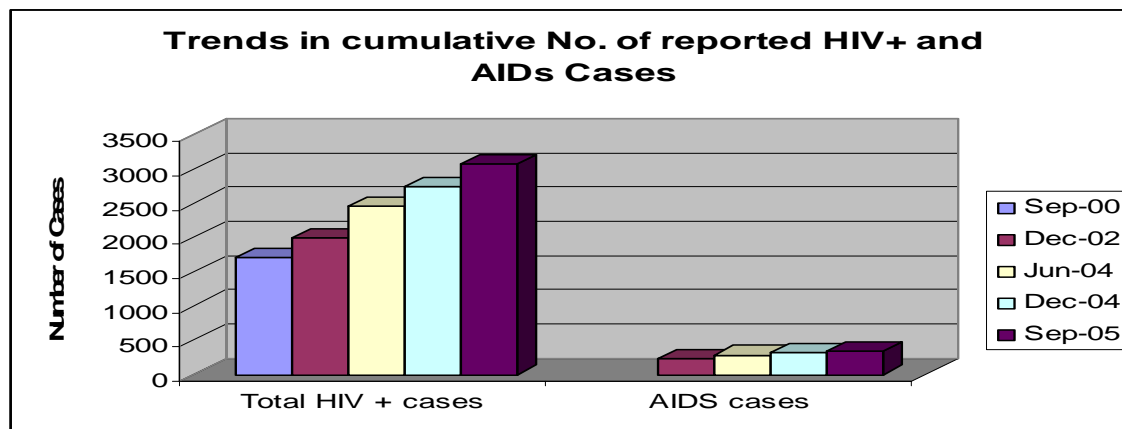
- Disease is affecting mainly the people in sexually active age group. About 69.5% of HIV positives and 83.7% of total AIDS cases are in the age group of 20-49 years
- The M : F ratio 7:1 in HIV positives and 6:1 in AIDS cases. Males are found to be effected more than female.
- The predominant mode of transmission of infection is through heterosexual contact followed by injecting drug using evidenced by current available data.

Latest country report shows that as of December 2004, the total number of reported HIV positive cases (including AIDS) were 2741. Among them 310 were full-blown AIDS cases. Number of reported deaths due to AIDS (as of December 2004) was 148. Of the total 2741 cases 12 % were females.¹⁷ Reported number of HIV and AIDS cases from September 2000 to Sept 2005 are shown in Table 12 & figure 13.

Table 12: Cumulative No. of Reported HIV and AIDS cases, Pakistan, Sept/2000 – Sept/2005

As of	Total HIV+ cases	AIDS cases out of HIV+ cases
6 Sept. 2000 ²⁶	1 699	Data not available
Dec. 2002 ²²	1 998	233
June 2004 ²²	2 462	286
Dec. 2004 ¹⁷	2 741	310
Sept 2005	3073	332

Fig 20: Year wise trends in cumulative No. of reported HIV and AIDS cases



RISK FACTORS AND VULNERABILITY (World Bank Report – June 2005)

There are serious risk factors that put Pakistan in danger of facing a rapid spread of the epidemic if immediate and vigorous action is not taken:

Outbreaks Among Injecting Drug Users (IDUs): The number of drug dependents in Pakistan is currently estimated to be about 500,000, of whom an estimated 60,000 inject drugs. An outbreak of HIV was discovered among injecting drug users in Larkana, Sindh, where, out of 170 people tested, more than 20 were found HIV positive. In Karachi, a 2004 survey of Sexually Transmitted Infections among high risk groups found that more than one in five IDUs was infected with HIV. These represent the first documented epidemics of HIV in well-defined vulnerable populations in Pakistan.

HIV Infection Among Men who have Sex with men (MSM): Lahore had an estimated 38,000 MSM in 2002. The MSM community is heterogeneous and includes Hijras (biological males who are usually fully castrated), Zenanas (transvestites who usually dress as women) and masseurs. Many sell sex and have multiple sexual partners. The 2004 STI survey found that 4 percent of MSMs in Karachi were infected with HIV, as were 2 percent of the Hijras in the city.

Unsafe Practices among Commercial Sex Workers (CSW): Commercial sex is prevalent in major cities and on truck routes. Behavioral and mapping studies in three large cities found a CSW population of 100,000 with limited understanding of safe sexual practices. Furthermore, sex workers often lack the power to negotiate safe sex or seek treatment for STIs. Recent findings indicate that although HIV prevalence remains below 1 percent, female sex workers (FSWs) and their clients report low condom use. Less than half the FSWs in Lahore and about a quarter in Karachi had used condoms with their last regular client.

Inadequate Blood Transfusion Screening and High Level of Professional Donors: It is estimated that 40 percent of the 1.5 million annual blood transfusions in Pakistan are not screened for HIV. In 1998, the AIDS Surveillance Center in Karachi conducted a study of professional blood donors—people who are typically very poor, often drug users, who give blood for money. The study found that 20 percent were infected with Hepatitis C, 10 percent with Hepatitis B, and 1 percent with HIV. About 20 percent of the blood transfused comes from professional donors.

Large Numbers of Migrants and Refugees: Large numbers of workers leave their villages to seek work in larger cities, in the armed forces, or on industrial sites. A significant number (around 4 million) are employed overseas. Away from their homes for extended periods of time, they become exposed to unprotected sex and are at risk for HIV/AIDS.

Unsafe Medical Injection Practices: Pakistan has a high rate of medical injections - around 4.5 per capita per year. Studies indicate that 94 percent of injections are administered with used injection equipment. Use of unsterilized needles at medical facilities is also widespread. According to WHO estimates, unsafe injections account for 62 percent of Hepatitis B, 84 percent of Hepatitis C, and 3 percent of new HIV cases.

Low Levels of Literacy and Education: Efforts to increase awareness about HIV among the general population are hampered by low literacy levels and cultural influences. In 2001, the illiteracy rate of Pakistani women over 15 years old was 71 percent.

Vulnerability Due to Social and Economic Disadvantages: Restrictions on women's and girls' mobility limits access to information and preventive and support services. Young people are vulnerable to influence by peers, unemployment frustrations, and the availability of drugs. In addition, some groups of young men are especially vulnerable due to the sexual services they provide, notably in the transport sector. Both men and women from impoverished households may be forced into the sex industry for income.

Sri-Lanka

Sri-Lanka is an island country in the Indian Ocean, separated from the south- eastern coast of peninsular India. Its estimated population in 2004 was approximately 20.5 million, with about 54% within the 15-49 year old age group.²⁹ The Sinhalese are the predominant ethnic group, constituting about three quarters of the population. Other ethnic groups include the Tamils and the Muslims.⁹

UNAIDS estimated the number of people living with HIV/AIDS in 2005 to be 3,500 and has classified Sri Lanka as a low prevalence country with an estimated adult prevalence rate of less than 0.1%. Heterosexual transmission is the most common mode of transmission (85%) while homosexual/bisexual transmission accounts for 11% of infections

State of the epidemic on HIV/AIDS

In Sri Lanka, HIV infection was first reported in a foreigner in 1986. The first Sri- Lankan infected with HIV was reported in 1987 and the first indigenously transmitted HIV case was reported in 1989. In the 2003 sentinel surveillance round, HIV prevalence was 0.3%-1% among STD clinic attendees, 0.2% among female sex workers and 0.3% among TB patients. No sample was found positive for HIV among 603 truck drivers tested. Similarly, among 2,618 military personnel tested, no one was found positive.

The estimated number of People Living with HIV/AIDS in Sri Lanka as of 2005 end is 3500. (UNAIDS/WHO report, 2005)

Reported HIV/AIDS cases with epidemiological analysis

According to official statistics, there are currently 712 people in Sri Lanka living with HIV with 98 new cases in end of 2005. As of 30 June 2005, the cumulative number of HIV positive cases reported to the National STD/AIDS control Programme (NSACP) was 674; 402 (60%) males and 272 (40%) females (Table 13 & Figure 14). Among them, 194 persons were reported as having AIDS. Reported number of AIDS deaths was 136.¹⁸ The yearly reported cases clearly show an increasing trend (Figure 15).

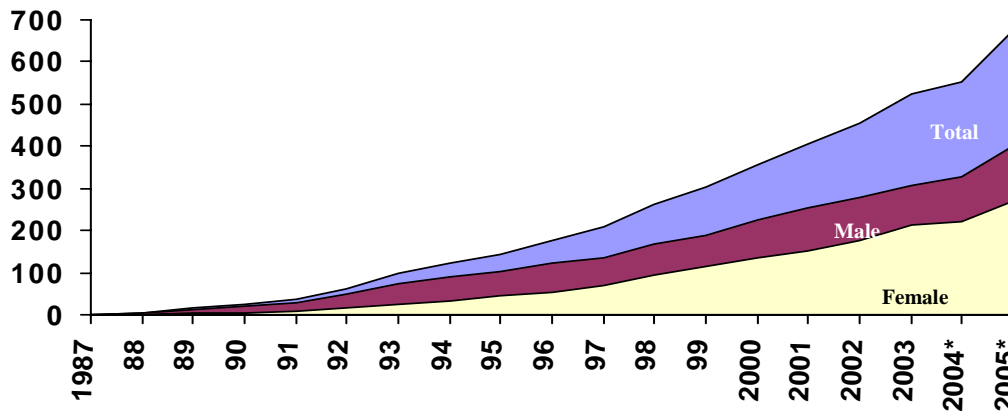
Table 13: Cumulative No. of reported HIV & AIDS cases, Sri Lanka, as of 30 June 2005

Condition	Male	Female	Total
HIV + including AIDS	402 (60%)	272 (40%)	674
AIDS	-	-	194
Death due to AIDS	-	-	136

Heterosexual transmission is the most common mode of transmission (85%) while homosexual/bisexual transmission accounts for 11% of infections. Transmission of HIV/AIDS through blood transfusion has been low. In the year 2004 a total of 190,260 blood units were tested of which only 6 were positive (3.2 per 100,000). Perinatal transmission is around 3%. Age and sex distribution of the reported HIV positive cases are available up to June 2004 and the cumulative

number was 552. Of the 552 reported cases, age was available for 507 (about 92%) cases. Of these, >90% were in the 15-49 year age group (Table 14). In the first 5 years of the epidemic, the male to female ratio was 3.2:1, which decreased to 2:1 in the following 5 years. At the end of December 2000, it was 1.6: 1, and as of 30 June 2004 it became 1.48:1.²² According to data as of June 2005 the ratio became 1.5:1. ¹⁸ This trend indicates a gradual increase in the number of female HIV positive cases in comparison to male cases. Year wise sex distribution of the reported HIV positive cases is shown in the figure 23 and on this basis, figure 24 shows the number of women infected with HIV for every 100 HIV infected men by span of time. The increased number of infection in women will lead to increased mother-to- child transmission of the virus.

Figure 21: Cumulative number of reported HIV positive cases, 1987- June 2005



* up to June

Figure 22: Reported HIV cases, 1987 - 2004 with linear trend line ¹⁸

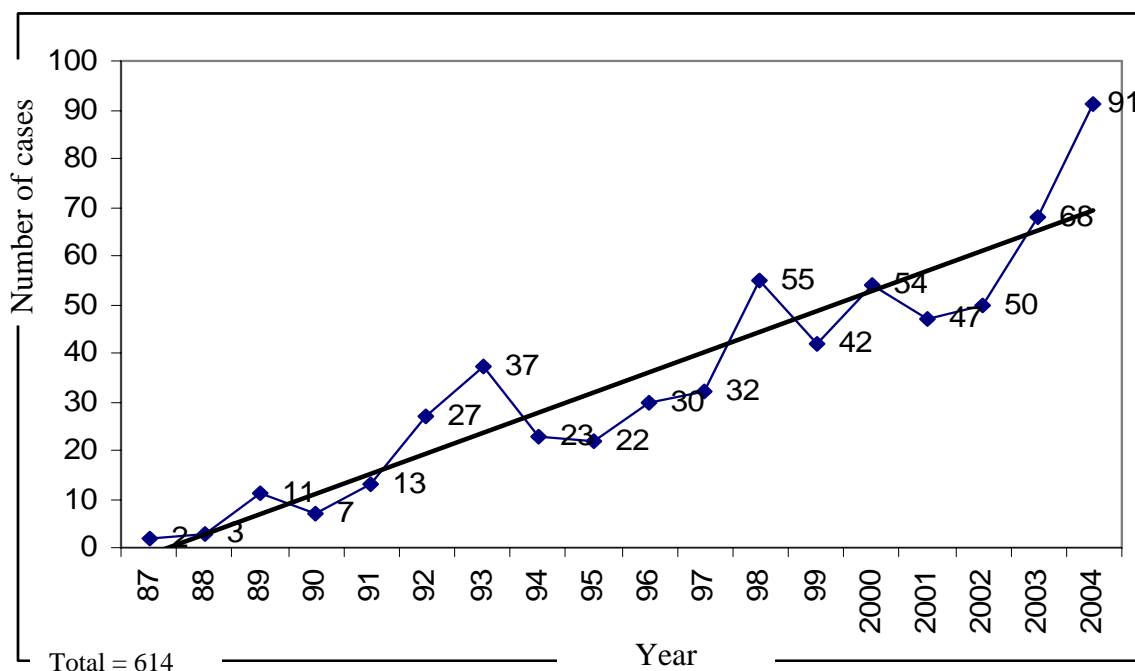


Table 14: Cumulative number of reported HIV positive cases by age & sex, June 2004

Age	Male	Female	Total
0-9	9	3	12
-14	1	0	1
-19	0	1	1
-24	16	17	33
-29	39	28	67
-34	65	47	112
-39	57	48	105
-44	54	27	81
-49	35	23	58
50+	25	12	37
Unknown	28	17	45
Total	329 (59.6%)	223 (40.4%)	552

Figure 23: Reported HIV positive Cases in Sri Lanka by sex, 1987-2003 with linear trends

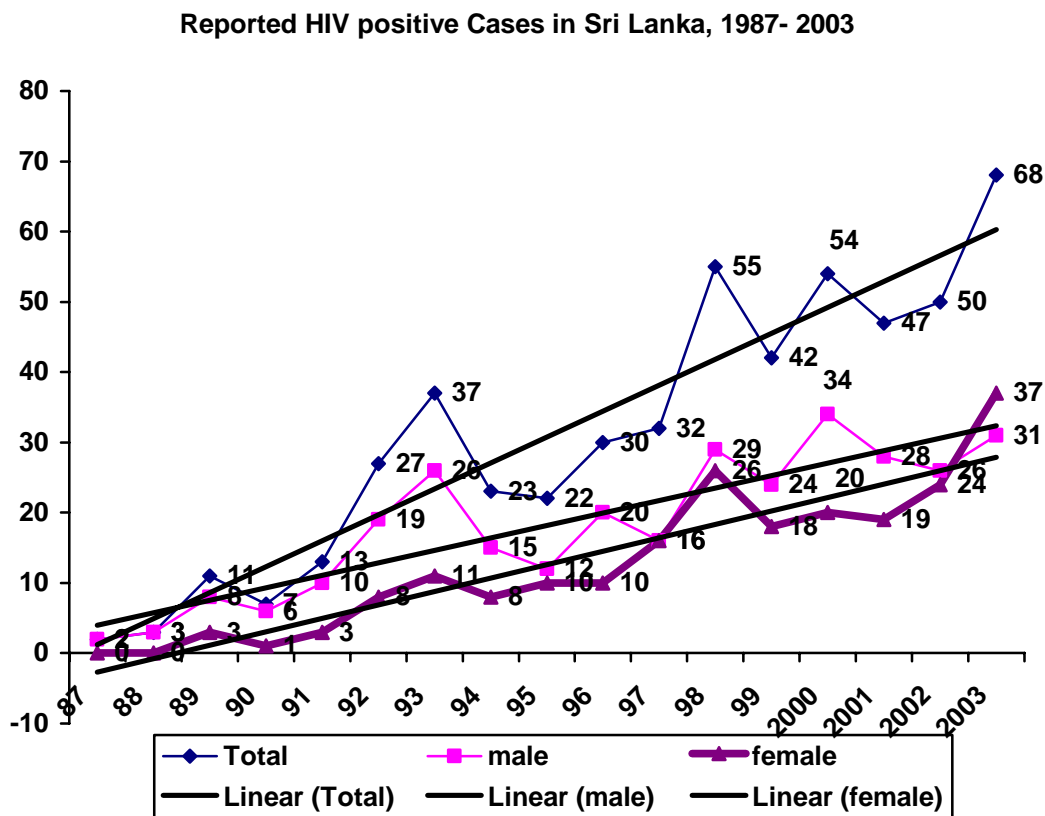
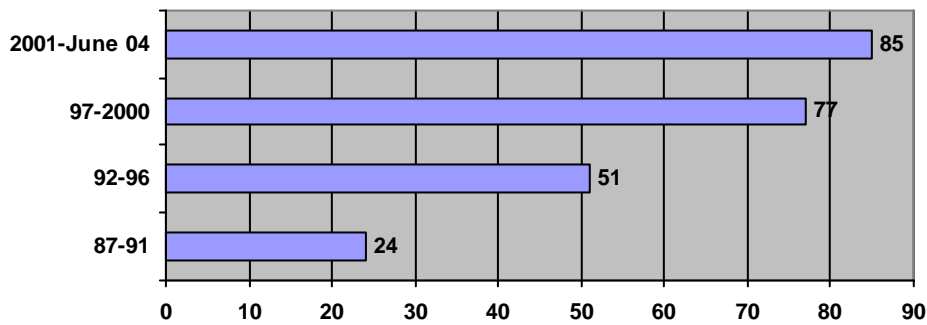


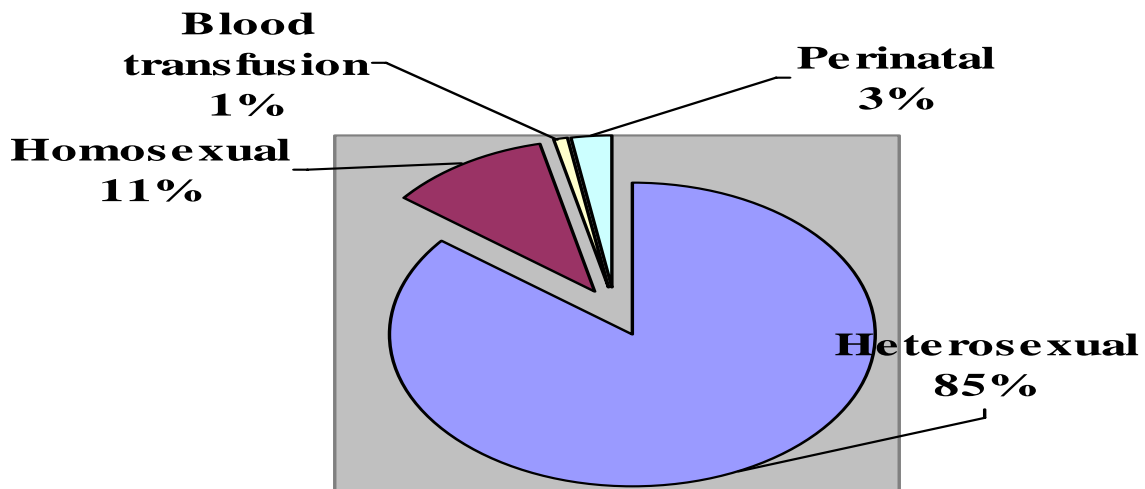
Figure 24: Number of women infected with HIV for every 100 HIV infected men



Transmission categories

The mode of transmission of reported HIV positive cases was available for 419 cases. Of these, over 96% of cases were sexual (85.4 % heterosexual and 11% homosexual). Twelve (2.9%) cases were reported as perinatally transmitted (Figure 18).

Figure 25: Transmission categories of HIV positive cases in Sri Lanka, 1987-June 2004 (n=419)



Trend of HIV infection

Though the reported data may suffer from under-reporting, these data do indicate an increasing trend in HIV infection in Sri Lanka and number of female cases is gradually increasing (Figures 16 &17). Although this country is considered a low HIV prevalence country within the South Asia region, there is no room for complacency. Prevention activities have to be intensified and sustained to prevent further spread of HIV.

TB and HIV Co-infection

Million Co-Infected

A total of 12 million people worldwide are co-infected with both diseases, with a majority of them living in Southern Africa. In sub-Saharan Africa, where the majority of all global AIDS cases exist, two-thirds of TB patients are co-infected with AIDS. TB is the biggest killer of people with AIDS, Shortening their lives by six to 24 months. As the HIV/AIDS epidemic spread within SAARC countries, the incidence of TB will also rise⁴¹.

HIV-AIDS and TB Epidemics: A Vicious Cycle

- One in three HIV-infected people worldwide are co-infected with the TB bacterium.
- TB is responsible for the death of one out of every three people with HIV/AIDS worldwide.
- People who are HIV-positive and infected with TB are 30 times more likely to develop active TB than people who are HIV-negative.
- The TB bacterium enhances HIV replication and might accelerate the natural progression of HIV infection.
- Because of the increased spread of HIV in sub-Saharan Africa, the number of TB cases in that region will double to 4 million new cases per year soon after 2005.

Consequences of TB/HIV Co-infection on national TB control programme within the SAARC region include increased caseload, low TB cure rates, and high case fatality rates during treatment, under diagnosis of TB, the potential of high default rates and the accelerated emergence of drug resistant TB. Hence, early TB and HIV diagnosis, treatment and management are increasingly vital in the management of the dual epidemics within South Asia.

Development of surveillance system for collection of epidemiological data is crucial for understanding the TB and HIV/AIDS epidemic and for development and evaluation for the programs related to the two major public health problems of the SAARC member countries. There is limited information to delineate the magnitude of the TB/HIV co-infection in SAARC region.

However, the data gathered from studies on HIV seropositivity among adult TB patients does provide an insight on the magnitude of this problem.

In Asia where HIV epidemic is at an early stage, surveillance data show that the rates of HIV infection had remained lower in-patients with TB compared to that seen in Africa⁴².

In India different studies conducted at different times regarding HIV sero-positivity in TB patients showed a wide variation ranging from 0.4% in a study in Delhi to 28.75% in a study conducted in Pune. Moreover, periodic studies conducted in India from some centres indicate that the HIV prevalence is rapidly increasing among TB patients.(ref) In Sri Lanka, HIV Sentinel Sero Surveillance Survey in 2005 showed HIV prevalence 0.13% among TB patients⁴³. In Nepal study conducted at two centers, 2005 showed HIV prevalence 1.55% among TB patients⁴⁴. There is lacking of official data on the magnitude of the TB/HIV co infection in other member states of SAARC region.

Impact of HIV

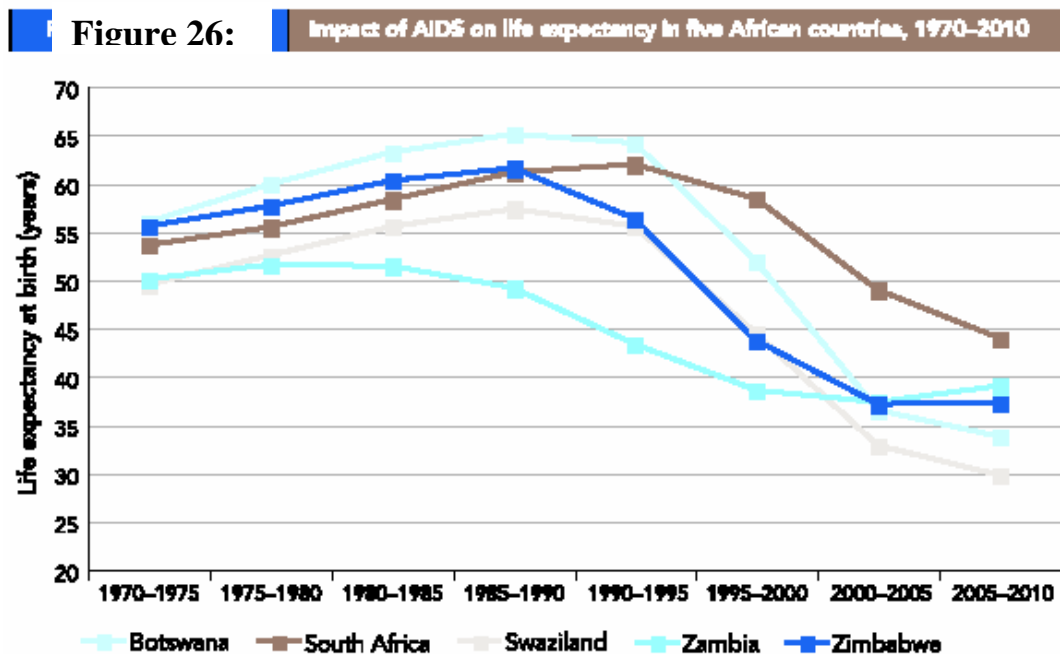
In the approximately 25 years since AIDS emerged as a major health emergency, the epidemic has had a serious, and in many places devastating, effect on human development.

Countries that fail to bring the epidemic under control risk becoming locked in a vicious circle as worsening socioeconomic conditions render people, enterprises and communities even more vulnerable to the epidemic.

The epidemic comes in successive waves, with the first wave being HIV infection, followed several years later by a wave of opportunistic diseases, and later still by a wave of AIDS illness and then death (Barnett and Whiteside, 2002). The final wave affects societies and economies at various levels, from the family and community to the national and international levels. None of the highly affected countries have yet hit the peak of the third wave nor advanced very far into the fourth, and as one study put it (Bell et al., 2003). Below a brief depiction of the impacts of HIV is given.

Impact on Population and population structure

Current projections suggest that by 2015, in the 60 countries most affected by AIDS, the total population will be 115 million less than it would be in the absence of AIDS. Africa will account for nearly three-quarters of this difference in 2050, and although life expectancy for the entire continent will have risen to 65.4 years from the current 49.1 years, it will still be almost 12 to 17 years less than life expectancy in other regions of the world (UN Population Division, 2005b). The modeled impact on life expectancy in some of the hardest-hit countries can be seen in Figure below.



Source: United Nations Population Division (2004). World Population Prospects: The 2004 Revision, database.

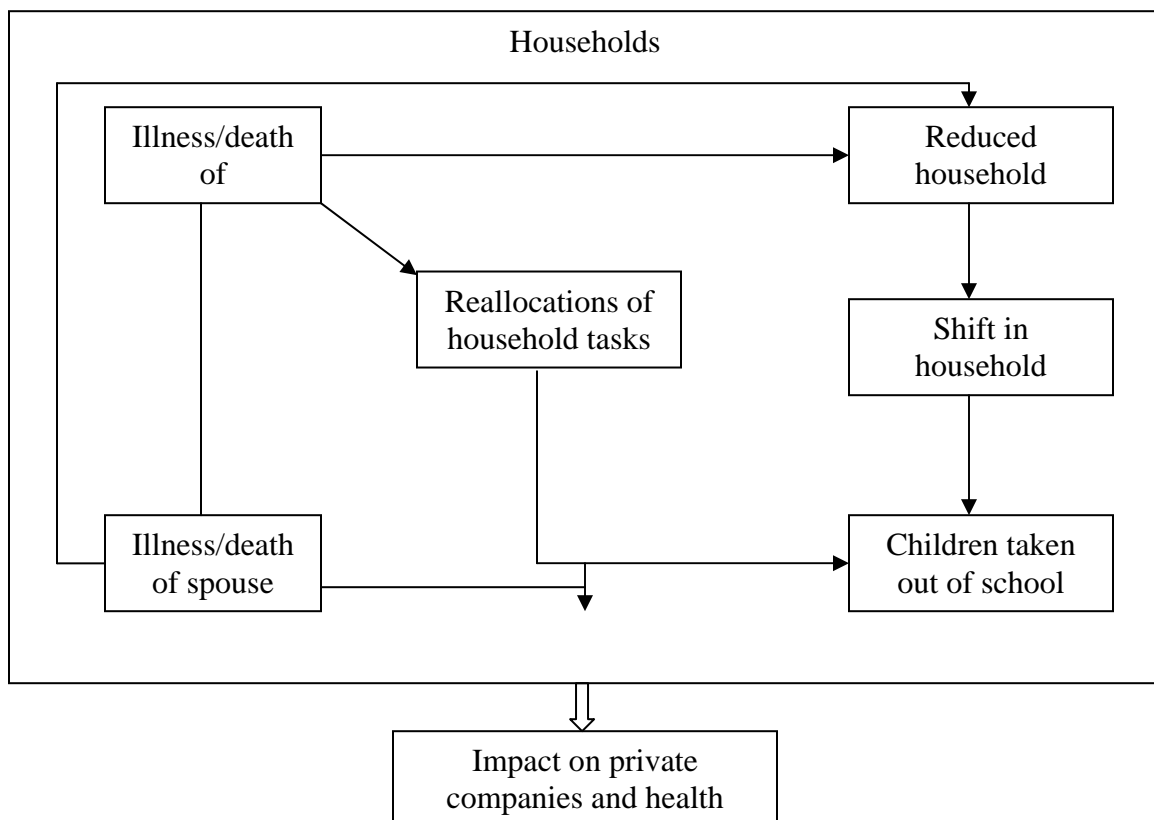
Impact on household: ³⁴

Impact of HIV and AIDS on households can be very severe

- a. Presence of HIV and AIDS will dissolve the household - as parents die children are sent to relatives for care and upbringing
- b. Loss of family income
 - i. Affected person cannot earn
 - ii. Other persons also have to direct more time and effort away from income generating activities.
 - iii. Care related expense and
 - iv. Funeral related expense collectively push affected household deeper into poverty
- c. Children especially girls are removed from schools as school uniforms and fees become unaffordable and their (children) labor and income-generating potential are required in the household
- d. Savings are used up or assets are sold
- e. Composition of household tends to change with fewer adults of prime working age

Implications of having 'AIDS in the family' have been documented in many parts of the world. They range from increased medical costs and expenditures on funerals to withdrawal of family members from work or school to look after those who are ill. Research in New Delhi, India, found that average monthly expenditures exceeded income among families of people living with HIV, partly because of a doubling in purchases of medicines. While these families spent less on entertainment and on children's education to cope with rising care, support and treatment costs due to HIV, most were also forced to sell assets and borrow from friends and relatives (ILO, 2003).

Figure 27: Impact of HIV/AIDS on Rural Households in Asia (UNAIDS - Asia)



Impact on household food security: ³⁴

- HIV/AIDS poses a potentially major threat to food security and nutrition, mainly
- f. By diminishing the availability of food (due to falling production, and loss of family labour, land, live stock and other assets) and
 - g. By reducing access to food as households have less money

Impact on health sector: ³⁴

- h. In all affected countries HIV epidemic is bringing additional pressure to bear on the health sector. In countries where per capita health expenditure is low, extending prevention and care for STIs, counseling and testing, prevention of mother-to child transmission services and HIV treatment and care strain health budgets and systems.
- i. Health – care services face different levels of strain, depending on the number of people who seek services, the nature of the demands for health care, and capacity to deliver that care.
 - i. In early stages, HIV infected person (often experiencing common bacterial infections) tend to use primary health care and outpatient services.
 - ii. As HIV infection progresses to AIDS, there is an increase in total hospitalizations related to HIV/AIDS.
 - iii. Demands for community rooted home-based care. This needs also extra training and manpower.

Impact on Education sector: ³⁴

Deduction in school enrolment is one of the most visible effects due to

- j. Removal of children from school to care for parents and family members
- k. Inability to afford school fees and other expenses
- l. Increased child mortality due to AIDS
- m. Decreased birth rate due to AIDS related infertility
- n. Less number of teachers due to death of teachers both male and female due to AIDS
- o. Skilled and experienced teachers are not easily replaced
- p. Death of administrator
- q. Demands on the health and welfare services might divert resources from education to other sectors.

The latest UNESCO report on progress towards the EFA goals set at the World Education Forum in Dakar in 2000 indicates that, despite steady improvement, current rates of progress in school enrolments need to quadruple in sub-Saharan Africa and double in south Asia to reach the 2015 goal. Currently, only 64% of children in Africa and 83% of children in south and west Asia are enrolled in primary school (UNESCO, 2006).

Impact on enterprises and workplaces:

HIV epidemic causes declining profit and productivity in the affected enterprises and workplaces. ³⁴

Impact on Women:

Women in sub-Saharan Africa are infected with HIV more often and earlier in their lives than men. Young women aged 15–24 are between two and six times as likely to be HIV-positive than men of a similar age. This evens out in older age groups, but it highlights the vulnerability of young women and girls and unequal power relations in many societies.

Although in most parts of the world women live longer than men, AIDS has driven female life expectancy below that of men in four countries: Kenya, Malawi, Zambia and Zimbabwe (UN Population Division, 2005b). Empirical evidence supports the existence of gender differences in mortality. For example, a recent three-year study in Zambia, which involved almost 19 000 people between the ages of 15 and 59, found that 61% of all deaths (i.e. for any cause) occurred among women, and that women on average died at younger ages than did men (Chapoto and Jayne, 2005). In addition HIV affects women's fertility, reducing it as much as 25–40%. This may be for a variety of reasons, from co infection with other sexually transmitted infections to increased rates of spontaneous abortion (UN Population Division, 2005a).

Impact on TB epidemiology and TB control: ^{37, 38, 39, 40}

HIV drives the TB epidemic in several ways. HIV infection enhances and promotes the progression of both recently acquired and latent TB infection to clinical TB disease. HIV has become the most potent risk factor for reactivation of latent tuberculosis infection to active clinical disease. If HIV status is negative, lifetime risk of developing active TB is 5-10%; but if positive with HIV, then lifetime TB risk may be up to 60% (Figure 22). Consequently the TB control programme has to face the following difficulties:

- Increased case load of active TB attributable to HIV
- Increased HIV related morbidity and mortality in TB patients; in 2003, 4.7% of total TB deaths (22969/511679) in SAARC region were HIV attributed (Table 18).
- High rates of adverse drug reactions during TB treatment
- Higher default rates and lower cure rates
- Increased risk of TB transmission (including nosocomial transmission)
- Increased emergence of drug resistance
- Increased burden on TB services
- Delay of access to health services for TB suspects due to the stigma of HIV & AIDS

Figure 28: Life time risk of tuberculosis among HIV positive & HIV negative individuals

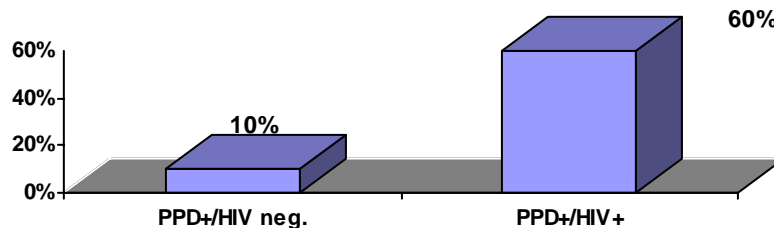


Table 15 Estimated HIV attributed TB mortality in SAARC region, 2003

Country	Number of Deaths due to TB		HIV attributable deaths
	Including HIV +	Excluding HIV +	
Bangladesh	83 533	83 467	66
Bhutan	467	466	1
India	352 085	329 915	22 170
Maldives	7	7	0
Nepal	7 399	7 138	261
Pakistan	66 503	66 037	466
Sri Lanka	1 685	1 680	5
Total	511 679	488 710	22 969

TB/HIV co-epidemic exerts negative impact not only on TB control programme but also on existing AIDS control programme; the impacts (on AIDS control programme) are as follows:

- Increased case load of active TB among people living with HIV
- TB may accelerate the progression of HIV-related immuno-suppression.
- Increased morbidity and mortality from TB among PLWH
- Difficulties with diagnosing TB among PLWH owing to the different clinical presentations of HIV related TB
- Increased burden on HIV services.

The fact is that while each infection delivers debilitating impacts, the personal and societal burden of the TB/HIV co-infection surpasses either disease on its own. However, the impact of this co epidemic can be dealt. For this, both programmes need to be keen to cultivate opportunities for collaboration, and a joint effort employing different but complementary strategies.

Activities of STC towards control of HIV/AIDS in the SAAR Region:

1. SAARC Consultative Meeting on TB and AIDS
2. Workshop Relating to Research on TB and HIV in SAARC
3. Training Programme for Strengthening IEC Activities with Special Emphasis on TB and HIV
4. SAARC-CIDA Workshop on HIV/AIDS/TB Control
5. SAARC Workshop for Preparation of Strategic Long-term Plan of STC for TB and HIV/AIDS Control in the Region
6. SAARC Seminar for Compilation and Updating Advocacy on IEC Material Relating to TB and HIV/AIDS
7. Meeting to Formulate Guidelines for Migratory Population for TB and HIV/AIDS Control in SAARC Countries
8. SAARC Consultative Meeting for TB & HIV/AIDS Programme Manager
9. Meeting for Epi-network Under SAARC-Canada Regional HIV/AIDS TB Project
10. Regional Workshop of Nodal Officer from SAARC Member Country (for TB, HIV/AIDS, TB/HIV Co-infection)
11. Regional Workshop to Develop SAARC Regional TB/HIV Co-infection Strategy under SAARC-Canada Regional TB & HIV/AIDS Project

12. SAARC Regional Workshop on TB/HIV Co-infection on Fixed Dose combinations in TB Treatment Regimen/Protocol
13. Situation Analysis of TB Control Activities and Observation of HIV/AIDS Control
14. First SAARC Conference on TB, HIV/AIDS and Respiratory Diseases
15. Joint SAARC-UNAIDS Regional Expert Group Meeting to Develop SAARC Regional Strategy on HIV/AIDS
16. SAARC Regional Meeting of National HIV/AIDS Control Programme Manager
17. Situation Analysis of Quality Assurance in TB and HIV/AIDS Control Activities, Epidemiological Lab Network in Bhutan
18. SAARC Training on Data Management of TB & HIV/AIDS Control Programme

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