- CHAPTER 2 -

HIV/AIDS AS A SOCIAL PHENOMENON

2.1 INTRODUCTION

HIV/AIDS is currently one of the most devastating health conditions affecting the health of millions throughout the world. Globally it is noted that since AIDS was first described in 1981, well over 20 million lives have been lost, and tens of millions people-increasingly women and young people–are now living with HIV. Most face the prospect of sickness, destitution and premature death (UNAIDS, 2005: 1).

As the world enters the third decade of the AIDS epidemic, the evidence of its impact is undeniable. The health and social implications of HIV/AIDS on human development are extensive. It is robbing countries of the resources and capacities on which human security and development depend. In the hardest-hit countries, it is erasing decades of health, economic and social progress-reducing life expectancy by years, deepening poverty, and contributing to and exacerbating food shortages. HIV/AIDS in combination with other crises is driving even larger parts of the nation towards destitution (UNAIDS, 2002: 4; UNAIDS, 2004: 1).

The world at large is affected with almost 42 million people already living with HIV/AIDS. By far the most affected areas, the developing countries, have the highest number of people living with the disease and more people are newly infected with the virus daily. In 2003, almost five million people became newly infected with HIV; the greatest number in any one-year since the beginning of the epidemic (UNAIDS 2004: 1-2).

A significant proportion of individuals living with HIV/AIDS reside in Africa. According to Johnson and Morris (2003: 2) about 15 000 infections occur daily throughout the world and more than 95% are in developing countries. This proportion is set to grow ever further as infection rates continue to rise in Africa. In 2003 alone, an estimated 3 million

people became newly infected with HIV. However, the impact differs from one society to the other. In some countries, where information and resources are more readily available, the spread of HIV is being contained. In poorer countries where there is less access to information, lack of education, inequality, poor health systems, lack of help and advance treatment, the disease is continuing to spread at alarming rate (Avert, 2005: 1; UNAIDS, 2004: 3).

As already noted in the previous chapter Sub-Saharan Africa has the world's highest prevalence and faces the greatest demographic impact. Sub-Saharan Africa has just over 10% of the world's population, but is home to more than 60% of all people living with HIV – some 25.4 million (AIDS Epidemic Update: 2004: 1). In 2003, 2.2 million people died from AIDS and an estimated 25 million adults and children with living with HIV/AIDS. In 2004 an estimated 3.1 million people in the region became newly infected. It is further noted that in the worst-affected countries of eastern and southern Africa, if current infection rates continue and there is no large-scale treatment programme, up to 60% of today's 15 year olds will not reach their 60th birthday (Avert, 2005: 1; AIDS Epidemic Update: 2004: 1; UNAIDS, 2004: 1).

According to Barnett and Whiteside (2002: 3) the groups at greatest risk are those between 15 and 50 years of age. Around half of the people who acquire HIV become infected before they turn 25 and typically die before their 35th birthday. These are the most productive people in any society. This age factor makes AIDS uniquely threatening to the up-bringing of children. Most people will have had children before they become infected and about 70% children born to infected mothers will not, themselves be infected. These children have a close 100% chance of being orphaned (Whiteside & Sunter, 2000: 3; Barnett & Whiteside, 2002: 3).

Statistics show that the number of AIDS orphans especially in sub-Saharan African countries is set to increase considerably. So far, the epidemic has left behind an estimated 15 million orphans of which 80% of the AIDS orphans live in sub-Saharan Africa. It is estimated that by 2010, the virus will have orphaned 1.5 million children in South Africa alone and the economy of South Africa will be in shambles (Avert, 2005: 1-2; UNAIDS, 2004:1).

HIV/AIDS kills people in the prime of their lives. The fact that young adults die in their productive ages means that families are deprived of their major source of economic support. The rapid increase of mortality due to AIDS has created a crisis in many families. Young children left behind increase the burden of care on other family members and often intensifying poverty and destitution. According to Cable News Network (CNN) report (2001: 1) children are often orphaned two or three times as their parents die and they are placed with aunts, uncles and other relatives who also die from the disease. Many youngsters are forced on the streets and are growing up in an emotional and spiritual vacuum. The report further said that as adults, the orphans would not be equipped to the economic engine of Africa, making the struggle for development and growth on the continent more difficult.

From the above, it is clear that the effects of HIV/AIDS have captured the attention of the world. HIV/AIDS epidemic is the single most import health and development issue facing many countries around the world. It affects not only the health of individual but also the welfare and well-being of households, children, communities and in the end, entire societies. While volumes have been written on the subject, many people are still unclear about what HIV is and how it is spread. This chapter provides a detailed explanation of this extremely complex phenomenon, drawing on information from a wide range of sources. In this chapter focus will particularly be on the following:

- Definition of HIV/AIDS,
- History of HIV/AIDS,
- AIDS as a global problem,
- AIDS in Africa with specific emphasis on South Africa,
- Modes of HIV transmission,
- The AIDS development process,
- Voluntary counseling and testing,
- Treatment of HIV/AIDS,
- The impact of HIV/AIDS,
- Prevention strategies.

2.2 DEFINITIONS OF HIV/AIDS AND UNDERSTANDING OF AIDS

According to Van Vuren (2004: 207) HIV is an abbreviation for human immunodeficiency virus. It is the virus that causes AIDS. HIV is predominantly a sexually transmitted disease that is mainly spread through unsafe sex and like other sexually transmitted diseases such as syphilis and herpes, it affects the whole body. It is a virus that is found in human beings and destroys the human body by attacking and slowly damaging the immune system. The immune system is made up of special cells, "CD4 cells" (also called T-helper cells) which are involved in protecting the body from infections and some terminal cancers. HIV makes the body's immune system weak. It can take few or many years before it causes serious damage (Barnett & Whiteside, 2002: 30; Barrett-Grant, Fine, Heywood & Strode, 2001 in Tabane, 2004: 27; Centre for Disease Control (CDC), 2003: 1; National Institutes of Allergy and Infections Diseases (NIAID) Fact Sheet, 2004: 2; Soul City Life Skills, 2001: 17; Tabane, 2004: 26; Van Dyk, 2001: 7-8).

According to Soul City – Know the Facts (2002) in Tabane (2004: 28) extensive studies around the world, in developed and developing countries have led most scientist and medical practitioners to conclude that HIV is the cause of AIDS. Their conclusion is based on a set of four globally recognised criteria that are used to determine the cause of a disease. They are called the Bradford Hill criteria and they state:

- The cause must always come before the disease.
- There must be strong statistical evidence showing the links between the cause and the disease.
- There must be a biological sound explanation of how the cause results in the disease.
- Higher levels of the cause lead to more disease.

According to Tabane (2004: 28-29) HIV as the cause of AIDS meets all of these criteria and can be explained as follows:

- The cause must come before the disease

  There have been no cases of HIV infection occurring after a person has already become ill with AIDS.

- There must be strong statistical evidence showing the links between the cause and the disease

  Numerous follow-up studies conducted around the world have shown that HIV negative people do not get AIDS. For example, a study in the United States of America of 8 000 participants, found that people with HIV were 1 1000 times more likely to develop a disease associated with AIDS than someone without HIV (Soul City –Know the Facts, 2002 in Tabane, 2004: 28).

- There must be a biological sound explanation of how the cause results in the disease

  As already indicated in this chapter when HIV enters the human body it infects cells known as CD4 cells, the cells that the body uses to defend itself. The HIV reproduces in the cells and in so doing destroys CD4 cells. Once enough of the CD4 cells are destroyed, an infected person is likely to fall ill with diseases that are less serious or very rare in people with healthy immune systems. At that stage, the person is said to have AIDS.

- Higher levels of the cause lead to more disease

  Several studies of HIV infected people show that AIDS starts when there are a certain number of HI viruses in the blood (Soul City – Know the Facts, 2002 in Tabane, 2004: 29). Those with 50-200 copes of the virus per cubic millilitre of blood have long survival time while those with over 100 000 copies show rapid deterioration and faster progression towards sickness and death.

As stated previously HIV is regarded as the cause of AIDS. According to the Centre for Disease Control (2003: 1) researchers have known since 1983 that HIV is the causative agent for AIDS. It is one of the viruses known as retroviruses. These viruses are called retroviruses because they reverse the usual flow of genetic information. Most viruses have genetic material made up of deoxyribonucleic acid (DNA). Unlike other viruses the retroviruses genetic material is in the form of ribonucleic acid (RNA). Instead of using

the DNA, HIV uses an enzyme known as Reverse Transcriptose. This enzyme allows the viral RNA to make its own DNA which is incorporated into the host cell. HIV enzyme converts the single-stranded HIV RNA to double-stranded HIV DNA. A cause for concern for many researchers is that HIV strains mutate and it is possible for one type to transform itself into another within the infected person (AIDSinfor, 2004: 1; Barnett & Whiteside, 2002: 29-30; Daigle, Lasch, McCluskey & Wancho, 1999: 2; Johnson & Morris, 2003: 7; NIAID, Fact Sheet, 2004: 2; South African AIDS Organisation Update, 2003: 2; Van Dyk, 2001: 13-14).

Like other viruses HIV can only reproduce itself inside a living cell which it parasites for purposes of reproduction. HIV can only live and multiply in human cells. The virus enters the human cells through binding with a receptor known as CD4, located on human cells surface. Once inside the body the virus infects a large number of CD4 cells or the T helper cells and replicates rapidly. It attacks the body's defence cells of the human immune system, until they are completely destroyed. When this happens, the CD4 cells are unable to orchestrate and coordinate the body's defences against the HI virus. Instead, they themselves are captured and forcibly turned into small factories to manufacture the very carriers of death (HIV) against which they are supposed to defend the body. T helper cells are a critical part of the body's immune system as they organise the overall response to a variety of infections disease. The virus will persist in the host cell and cannot be eliminated. When a substantial number of cells have been destroyed the body lacks the protection against attack from exterior pathogens. When the CD4 T cell count falls below 200/mm3, a person becomes particularly vulnerable to opportunistic infection and cancers. This result in fewer CD4 cells to organise the immune response, resulting in increased vulnerability to infections. The process may take several years but the person can transmit the virus to others. (AIDSinfor, 2004: 1; Barnett & Whiteside, 2002: 30; South African Aids Organization Update, 2003: 3; NIAID Fact Sheet, 2004: 1-2; 2004: Van Dyk, 2001: 7, 15).

The feature that makes HIV so effective in destroying human lives is the fact that the defensive components of the immune system have no known way of defending themselves against the virus. Furthermore HIV has yet another extraordinary property which makes it virtually untraceable by the immune system. HIV is able to mutate or change very rapidly. The body's immune system relies heavily on its ability to recognise

microorganisms from the outer protein layer. Because HIV ability mutates or changes its outer layer so rapidly, it is extremely difficult to detect any difference in the similarity of one virus to the other. Many of the problems experienced by people infected with HIV result from a failure of the immune system to protect them from certain opportunistic infections and cancers (Van Dyk, 2001: 16).

Although scientists currently have a clear and precise understanding of how HIV destroys the body's immune system, all attempts to eliminate the virus completely from the body, or to make human body immune to the virus, have hitherto failed. Johnson and Morris (2003: 25) maintain that up to now there is no cure for AIDS. At this stage therefore the only way to stop AIDS is to prevent transmission of the virus and to offer treatment to those living with HIV. This can extend the period of a person living with HIV to develop AIDS for about 5-10 years (Johnson & Morris, 2003: 24).

The sad thing about HIV is that it eventually leads to AIDS. Through progressive destruction of the T helper cells, the immune system weakens; a clinical point is reached where the condition is diagnosed as AIDS. Barnett and Whiteside (2002: 28), Lovelife (2003: 1), Van Dyk (2001: 4) and Van Vuren (2004: 2007) agree that AIDS is an acronym for acquired immune deficiency syndrome, which 'A' stands for Acquired. This means that the virus in not spread through casual or inadvertent contact like flu or chickenpox. In order to be infected, a person has to do something (or have something done to them), which exposes them to the virus. The letters 'I' and 'D' stand for Immunodeficiency. The virus attacks a person's immune system and makes it less capable of fighting infections. Thus, the immune system becomes deficient. Finally the letter 'S' stands for Syndrome. AIDS in not just one disease but it presents itself as a number of diseases that come about as the immune system fails. Hence it is regarded as a syndrome. According to Berer and Ray (1993) in Tabane (2004: 26) a syndrome is a group of symptoms or illness originating from cause, in this case HIV.

If HIV reduces immune function to a certain level, and/or when or more serious illnesses related to HIV occur, a person is said to have AIDS. The person living with AIDS experiences a specific group of diseases or conditions that result from suppression of the immune system. From that point forward, numerous opportunistic infections can invade the body with little resistance, ultimately resulting in death. The progression from HIV

infection to AIDS may take several years. In fact there is evidence that a person can remain HIV-positive more than ten years without developing any clinical illnesses that define and constitute a diagnosis of AIDS. Therefore, AIDS is the end stage of the disease process that may have been developing for 2, 5, 10, or 15 years (AIDS Epidemic Update, 2003: 3; Daigle et al., 1999: 3; Stine: 1996: 1).

Acquired Immune Deficiency Syndrome is an evolving phenomenon. The case definition of AIDS has already undergone several minor revisions from 1982 to 1993 (CDC 2003: 1). This was mainly brought about by various research developments. It is reasonable to assume that the database of the disease will continue to change as researches are still investigating the implications of the disease.

The above discussions have established that HIV is an extraordinary virus that attacks the immune system and it is incurable. AIDS on the other hand is a term used to describe a combination of diseases caused by the breakdown of the HIV+ person's immune system, and is potentially fatal. The distinction between HIV and AIDS is subtle, but it is there. A person that is infected with HIV may not have any symptoms of the infection. Someone with AIDS is a person who has both the virus and the associated complications. People infected with HIV can live relatively healthy lives for years before developing AIDS. The next section will give us the history of HIV/AIDS in order to understand the phenomenon better.

2.3 THE HISTORICAL BACKGROUND OF HIV/AIDS

According to Centre for Disease Control (2003: 1) and Van Dyk (2001: 5) the first recognised cases of AIDS occurred in America in the summer of 1981. However, Barnett and Whiteside (2002: 28), National Institute of Allergy and Infectious Diseases Fact Sheet (2004: 2) as well as Mwale and Burnard (1999: 9) note that although the history of AIDS can be dated back to 1981 at the Centres for Disease Control (CDC), in Atlanta Georgia, the first cases were seen in the late 1970s. Between October 1980 and 1981 an alert physician, Dr, Michael Gottlieb together with his colleagues in Los Angeles became intrigued with the physical condition of five young patients under their care. Their age ranged from 29 to 36. All of these men were suffering from a type of pneumonia called

pneumonia cystic carinnii. In addition all these men had evidence of having been infected with a virus called cytomegalovirus (CMV) and thrush, which are common in immunosuppressed patients. A further feature was that all of the five men were sexually active homosexuals. Following investigations by health officials a month later, twenty-six other homosexuals were found suffering from a rare skin cancer called Kaposi-sarcoma (KS). This skin cancer usually attacks elderly men whose immune system has been depressed; however in these cases it was different since all of the twenty-six men were young (Barnett & Whiteside, 2002: 28-29; Van Dyk, 2001: 5).

In September 1982 the Centre for Disease Control (CDC) named the new disease ACQUIRED IMMUNE DEFICIENCY SYDROME (CDC update 2002: 1). The CDC further produced a provincial case of definition of AIDS in the autumn of 1982. AIDS was defined on the basis of its occurrence of usual infections or cancers such as KS in previously healthy individuals due to an immune deficiency of unknown cause. More cases were identified between 1982 and 1983. Data received by the CDC offices from investigators showed that incidence of AIDS was roughly doubling every six months. Certain aspects of this disease were especially alarming; its cause was unknown at the time as well as its means of spread. People with AIDS frequently experienced unexplained persistent and swollen lymph glands, fever, night sweats, fatigue and weight loss. Treatment of the various infections and cancers seen in this disease was ineffective (CDC Update 2003: 1).

Simultaneously or possibly earlier, medical practitioners in Africa came across the unusual symptoms. People were dying from an AIDS-related condition called the slim disease (Van Dyk 2001: 5). Victims especially young people dramatically lost weight as a result of diarrhoea. The same disease was reported in countries like Zaire, Uganda and Rwanda. Outside Africa AIDS cases were identified in all Western countries and in Australia, New Zealand and some Latin American countries – most notably Brazil and Mexico. It seemed likely that the disease found in Africa was the same as the AIDS identified in Western countries (Barnett & Whiteside, 2002: 29).

In 1983, the causative agent of AIDS was discovered. The credit for the discovery is shared between French and American researchers. The virus was then named Human Immune Deficiency Virus (HIV). With the discovery of HIV, the different ways in which

the epidemic was spreading also became clear. The disease seemed confined to particular population groups. It became clear as the roll of fatalities unwound, that those people who had fallen victims to the disease shared two major links that is sex and/or blood. Because the very first case occurred in gay men, it was easy to assume that AIDS was a disease of homosexual men. However, epidemiological data made it evident that other groups were also affected. It became clear that AIDS cases were appearing also in male and female heterosexuals as well as intravenous drug users (Barnett & Whiteside, 2002: 29; National Institute of Allergy and Infectious Diseases Fact Sheet, 2004, 2; Van Dyk, 2001: 5).

Between 1982 and 1986 the definition of AIDS included the presence of specific malignancies such as Kaposi Sarcoma in previously healthy persons. It was in August 1987 that the definition included cases of mild immunodeficiency and persistent generalised lymphadenopathy. The 1987 case definition was amended during April 1992 and became official on the first, January, 1993. The definition was revised to include patients with ARC diseases. A year later WHO produced a case definition for Africa (called the Bangui case definition). AIDS was defined as the existence of at least two of the major signs together with at least one of minor signs in the absence of known causes of immunosuppression. The minor signs included persistent cough for more than a month, itch skin lesions, recurrent Herpes Zoster, oral thrush, chronic herpes simplex and generalised enlargement of lymph nodes. Major signs included chronic diarrhoea leading to significant loss in weight, pneumonia, Kaposi's sarcoma, Crypotococcal meningitis, Tuberculosis and Dementia complex (Hubley, 1995: 10; Johnson & Morris 2003: 23).

The year 1985 marked the introduction of a blood test which could detect antibodies to the virus in the blood (Centre for Disease Control update, 2003b: 1). One of the early tests that were used was known as the Elisa test. By means of this test it became possible to carryout survey of different groups of the public to determine the different levels of the infection. According to Van Dyk (2001: 58) because of false and positive results (where a test result is positive, while the person is actually HIV negative) an HIV test should always be confirmed by means of a second test, TA Western Blot Test. This test can be used for confirmation. Furthermore, these tests also showed that not all individuals infected with the HIV went on to develop AIDS. It was further found that a period of more than five years could take place between being infected with the virus and developing symptoms of AIDS. For each person with the symptoms there could be 50 to

100 others who were carrying the virus but did not have the disease (Van Dyk, 2001: 58; Van Vuren, 2004: 217).

Up to the 18th December 1987, over 46000 cases had been reported to the CDC (CDC update, 2003: 2). The Centre for Disease Control further predicted that more people will be infected and will die of AIDS as years went by. There was no doubt that AIDS posed the most significant public issue. In 1988 the special programme conducted by the World Heath Organisation (WHO) on AIDS became a global programme, which became the focal point for an intense international plan for the prevention and control of AIDS. The cornerstone of the programme has ever since been to stimulate and provide support for AIDS prevention activities with each country (WHO, 2000: 1).

Fifteen years following the establishment of the global programme, the world has seen an escalating development of the disease, which outweighs any other disease experienced in human history. Because of a broader international interest in AIDS the disease can now be studied more easily and effectively than before. Many advances in treatment are being made. According to Van Vuren (2004: 218) drugs such as anti-retroviral (ART) can improve the quality of life and extend life for HIV infected persons. These can enable them to live normal active lives for many years. Unfortunately, they're expensive and not yet freely available in many government clinics especially in developing countries. (Love Life, 2003: 2). Besides these drugs, new ones are being developed through intensive research to strengthen the immune system in the fight against AIDS. Although advances are spectacular, a cure has not yet been found and AIDS still remains a life threat. Lachman (1995: 6) stresses that a global strategy for AIDS prevention incorporates the concept that no country will be able to stop AIDS until it is stopped in all countries.

The overview of HIV/AIDS background demonstrates the complexity of the epidemic particularly in the Third World. There are no soft answers to stemming its spread. Although scientists currently have a clear and precise understanding of how HIV destroys to body's immune system, all attempts to eliminate the virus completely from the body, or to make the human body immune to the virus, have failed to make significant impact, with the result that the HIV/AIDS epidemic will continue wreak havoc in communities where it takes hold. The following section will focus on the extent of HIV/AIDS globally and in Africa with specific emphasis on South Africa.

2.4 AIDS: A GLOBAL PROBLEM

In the third decade of the pandemic AIDS, the society is now confronted with a global problem, which is not only a specific challenge but also a threat to human existence. HIV/AIDS has been reported from every inhabited continent and from every country. The recorded cumulative number of HIV infections to date exceeds 43 million. According to the AIDS Epidemic Update (2004: 1) and the Report on the Global AIDS Epidemic (2004: 1) the total number of people living with HIV rose in 2004 to reach its highest level ever: an estimated 39. 4 million [35.9 million – 44.3 million people] people are living with the virus (Table 2). This figure includes the 4.9 million people who acquired HIV in 2004.

Table 2 provides an overview of the global situation at the end of 2004 as published by UNAIDS/ WHO (2004: 2).

Table 2: GLOBAL SUMMARY OF THE HIV/AIDS EPIDEMIC

December 2004

Number of people living with HIV/AIDS in 2004	**Total**	**39.4 million (35.9–44.3 million)**
	Adults	37.2 million (33.8–41.7 million)
	Women	17.6 million (16.3–19.5 million)
	Children under 15 years	2.2 million (2.0 – 2.6 million)
People newly infected with HIV in 2004	**Total**	**4.9 million (4.3 – 6.4 million)**
	Adults	4.3 million (3.7–5.7 million)
	Children under 15 years	64 000 (570 000 – 750 000)

AIDS deaths in 2004	**Total**	**3.1 million (2.8 – 3.5 million)**
	Adults	2.6 million (2.3 – 2.9 million)
	Children under 15 years	510 000 (460 000 - 600 000

The ranges around the estimates in this table define the boundaries within which the actual number lie, based on the best available information.

Table 2 shows that the number of people living with HIV has been rising in every region and is high compared to previous statistics. At the end of 1999, there were 2.6 million deaths from HIV/AIDS. This was a higher global total than in any year since the beginning of the epidemic. As of the end of the year 2000, 36.1 million people worldwide were living with HIV/AIDS. The number of people living with HIV continued to grow from approximately 36 million in 2001 to 38 million in 2003. The AIDS epidemic claimed more than three million people in 2002, and approximately 3 million AIDS-related deaths occurred in the year 2003. In the same year approximately 5 million new HIV infections were recorded. Throughout 2003, cumulative AIDS associated deaths worldwide numbered more than 20 million since the first cases of AIDS were identified in 1981 (AIDS Epidemic Update, 2002: 1; Barnett & Whiteside, 2002: 9; NIAID Fact Sheet, 2004: 2; Joint UNAIDS & WHO epidemic update 2000: 3; Love Life, 2003: 6; Whiteside & Sunter, 2000: 1).

Table 2 also indicates that the number of women living with HIV has risen. Women are increasingly affected, now making up half of the 37.2 million adults aged (14-49) living with HIV worldwide. According to UNAIDS (2004b: 1) women are more physically susceptible to HIV infection than men. Male-to-female transmission during sex is about twice as likely to occur as female-to-male transmission. Women and girls also bear the brunt of the impact of the epidemic. They are most likely to take care of sick people, to lose jobs, income and schooling as a result of illness, and to face stigma and discrimination (Report on the Global AIDS Epidemic, 2004: 1).

According to UNAIDS/WHO (2002: 4) unless the world succeeds in mounting a drastically expanded, global, effort, best current projections suggest that an additional 45 million people will become infected with HIV in 126 low and middle-income countries between 2002 and 2010. Further estimates indicated that for every case of AIDS there might be 50 to 100 other persons who are infected but because of being unaware of the fact may possibly spread the disease to others.

Unfortunately it is not easy to estimate the extent of AIDS sufferers and those infected with virus as not all cases are reported. These include people living in remote rural areas who may die from AIDS without even being diagnosed. This would suggest that by merely judging the extent of the problem by means of the cases reported would be misleading.

This section has established that HIV/AIDS is a growing problem throughout the world. The statistics look more and more frightening. As the epidemic unfolds it seems that the scale and consequences will be worst in Africa. The epidemic continues to take its heaviest toll on the continent of Africa. The devastation will be greater in the African continent because it is poorer, both financially and in human resource terms. In the next section the researcher explains why Africa is a special case.

2.5 AIDS IN AFRICA

It is generally accepted that Africa is the continent hardest hit by HIV/AIDS. According to an estimated projection produced by World Health Organization (WHO) on the global programme on AIDS, the AIDS problem in Africa is outstripping the rest of the world. The AIDS pandemic has devastated many families where over 17 millions Africans have died of HIV/AIDS related diseases since the late 1970. The epidemic claimed the lives of more than 2.4 million Africans in 2001 and in 2002 approximately 3.5 million infections occurred. (AIDS Epidemic Update, 2002: 17; Barnett & Whiteside, 2002: 9; UNAIDS, 2002). In 2003, an estimated, three million people in this region became newly infected and 2.2 million died – 75% of the three million AIDS deaths globally (Report on the Global AIDS Epidemic, 2004: 1).

By far the worst affected region in Africa is Sub Saharan Africa, which at the end of 2004 there were 25.4 million [23.4 million – 28.4] as compared to the previous two years. In 2002 there were 29.4 million people living with HIV/AIDS. An estimated 25 million adults and children were living with HIV/AIDS in sub-Saharan Africa at the end of 2003 and 2.2 million people died as a result of AIDS in 2003 (Avert, 2005: 1; Report on the Global AIDS Epidemic, 2004: 2). According to Hope (1999: 9) by the end of this century life expectancy in sub-Saharan Africa could fall to 47 instead of the average of 62 years in the absence of HIV/AIDS.

According to AIDS Epidemic Update (2004: 1) at the end of 2004 just under two thirds (64%) of all people living with HIV were in sub-Saharan Africa. Table 3 gives a summary of how the situation was in eight countries in sub-Saharan Africa by the end of 2003 (Avert, 2004: 1-2).

Table 3: HIV/AIDS STATISTICS OF THE EIGHT TOP COUNTRIES IN SUB-SAHARAN (2003)

Country	People	HIV	Adult Rate (%)	AIDS deaths	Orphans due to AIDS
Kenya	Adults	1.100.000	6.7	150.000	650.000
	Women	720.000			
	Children under 15	100.000			
South Africa	Adults	5.100.000	21.5	370.000	1.100.000
	Women	2.900.000			
	Children under 15	230.000			
Zimbabwe	Adults	1.600.000	24.6	170.000	980.000
	Women	930.000			
	Children under 15	120.000			
Nigeria	Adults	3.300.000	5.4	310.000	1.800.000
	Women	1.900.000			
	Children under 15	290.000			
Botswana	Adults	330.000	37.3	190.000	33.000
	Women	190.000			

Country	People	HIV	Adult Rate (%)	AIDS deaths	Orphans due to AIDS
	Children under 15	25. 000			
Mozambique	Adults	1.200.000	12.2	110.000	470.000
	Women	670.000			
	Children under 15	99.000			
Ethiopia	Adults	1.400.000	4.4	120.000	720.000
	Women	770.000			
	Children under 15	120.000			
Lesotho	Adults	330.000	28.9	29.000	100.000
	Women	170 000			
	Children under 15	22 000			

According to Avert (2004: 3) adults in these statistics are defined as men and women aged 15-49. This age range captures those in their most sexually active years. While the risk of HIV continues beyond the age of 50, the vast majority of people with substantial risk behaviour are likely to have become infected by this age (Avert, 2004: 3).

Infection rates in women are far higher than men. Women and girls make up almost 57% of all people infected with HIV in sub-Saharan Africa where a striking 76% of young age people (aged 15 – 24) living with HIV are female. In addition African women are at a greater risk, becoming infected at an earlier age than men. This unevenness is greatest among young women aged 15 – 24 who are about three times more likely to be infected than young men of the same age. According to recent population-based household surveys, adult women in sub-Saharan Africa are up to 1.3 times more likely to be infected with HIV than their counterparts (AIDS Epidemic Update, 2004: 1). Although the present statistics are high the worst of the epidemic has not yet passed. In most regions women and girls represent an increasing proportion of people living with HIV, compared with five years ago (AIDS Epidemic Update, 2002: 32; AIDS Epidemic Update, 2004: 1; Report on the Global AIDS Epidemic, 2004: 1).

In addition to being biologically more vulnerable to infection UNAIDS (2004: 1) reports that many women and girls, particularly in Southern Africa, find themselves using sex as a commodity in exchange for goods, services, money or basic necessities – often with older men. This "transactional sex" is driven by poverty and the desire for a better life. This further makes them more vulnerable to HIV infection.

The statistics also confirm that the principal mode of transmission of HIV in sub-Saharan Africa has been heterosexual intercourse. This has been since the disease was first detected and such transmission amounts for more than 80% of infections (Hope, 1999: 2). The fact that there are no geographical limits to the spread of HIV/AIDS, the pandemic has now affected every single country on the African continent. Although Aids is evident in all African countries, there are substantial differences within Africa. In four southern African countries, the national adult HIV prevalence had risen higher than thought possible, exceeding 20% in Botswana (37.3%), Lesotho (28.9%), Zimbabwe (24.6%) and South Africa (21.5%) in 2004 (Avert, 2005: 1-2).

The incidence of AIDS in Africa is worsened by a number of factors namely:

- Africa is a third world developing continent. Developing countries do not have enough resources and infrastructures of health services. An estimated 60% of people in Africa are without access to basic health services with the most acute problems occurring in sub-Saharan Africa. Safe drinking water is unobtainable by some 150 million Africans. Too many scarce resources are centred in urban hospitals rather than in rural primary care. Therefore, people in remote rural Africa are less likely to be informed about HIV/AIDS (Hope 1999: 3).

- The most depressing factor is that some countries are pushed into a battleground, which has led to increased migration; refugee problems and the weakening of traditional stable family patterns. Due to the scarcity of resources there is a tremendous movement of people from rural to urban areas. This movement ensures a more rapid spread of HIV/AIDS in these countries. Hope (1993: 3) writing on this noted that the high number of workers whose wives live in rural areas tend to increase the number of partners and thus the rate of the spread of the virus. Poor people, who

contract HIV, moreover tend to develop AIDS much faster than individuals of higher socio economic status (Hope 1999: 3).

- According to Hope (1999: 3) Africa remains one of the poorest regions of the world. Factors that reduce the body's immune and general level of health make it easier for the spread of HIV/AIDS. These co-factors include low levels of education, crowded living conditions, malnutrition, lack of sanitation and potable water, limited access to basic services, high rate of unemployment and these are all poverty phenomena. The current drought in some parts of Africa is likely to cause malnutrition and increased poverty. The combination of all the aforementioned factors exposes people of Africa to more HIV/AIDS, which without any doubt have contributed greatly to the spread of AIDS in Africa.

In addition Crosson (2002: 1) and Van Dyk (2002: 297) mention that because sexual transmission is the primary way in which people become infected with HIV, infection with HIV is surrounded by an aura of superstition, mystery taboos, fear and double standards that many have with regard to all matters relating to sex. Because of all these accompanying negative conditions it is difficult to talk openly and rationally about HIV/AIDS and counseling people living with HIV.

UNAIDS/WHO (2002: 17) states that a fully-fledged epidemic is only now taking hold in many African countries. Greater numbers of people who acquired HIV over the past several years are falling ill. A tiny fraction of the millions of Africans who are in need of antiretroviral treatment are receiving it. Whiteside and Sunter (2000: 47) maintain that the challenge is to make them affordable to everyone. Many millions are not receiving medicines to treat opportunistic infections, either. In the absence of massively expanded prevention, treatment and care efforts, the AIDS death toll in the continent is expected to continue rising before peaking around the end of this decade. This means that the worst of the epidemic's impact on African societies will be felt in the course of the next decade and beyond.

South Africa remains one of the worst affected countries in sub-Saharan Africa. Since the study is conducted in South Africa it is therefore accurate to review its situation.

2.6 AIDS IN SOUTH AFRICA

HIV/AIDS is a substantial and rapidly growing problem for South Africa. South Africa has the highest HIV/AIDS caseload in the world, with 5.3 million people or one in five adults, living with HIV (AIDS Epidemic Update, 2004: 5; Agence France Presse, 2005: 1; Sunday Times, 2005: 1). In addition the South African Medical Research Council stated in January 2005 that there is a steep rise in AIDS deaths in South Africa, but a large number still go unreported because they are attributed to AIDS-related conditions, without the disease mentioned as the cause of death (Agence France Presse, 2005: 1). Never before in the history of South Africa, have people faced with a potential disaster of this magnitude. Statistics change minute by minute because of new identified infections and deaths. According to the recent report released by Statistic South Africa, South Africa's death rate jumped 57 percent between 1997 and 2003 with HIV/AIDS emerging as one of the main killers in the 15 to 49 age bracket. (Agence France Presse, 2005: 1; Sunday Times, 2005: 1; Venter & Brown, 2005: 2).

Speaking on Friday, 18th February 2005, statistician general, Paul Lehohla highlighted that the study into cause of death in South Africa found that between 1997 and 2003 mortality had increased steadily, up from 318287 deaths to 499 268 deaths. This represented an increase of 57 percent. Adult deaths (15 years and above) climbed by 62 percent from 272 221 in 1997 to 441 029 in 2003. A disturbing trend in the report, was the increase in mortality in the 20-49 age group, which had increased from 121 548 in 1997 to 250 936 in 2003. "The data gathered provides indirect evidence that the HIV epidemic in South Africa is raising the mortality levels of prime-aged adults in that associated diseases are on the increase"(Venter & Brown, 2005: 1-2).

There is now consensus among analysts that South Africa has currently entered a period of explosive growth of HIV/AIDS. Dr Liz Gavin, acting Deputy Director General of Statistics South Africa in the recent press release, said "We have found instances in which certain causes of death have been under-estimated. They may also be misreported on death notification forms" (Venter & Brown, 2005: 2). The British medical journal The Lancet (2005) in Agence France Presse (2005: 1) cited estimates from the South African Medical Research Council showing that the number of deaths linked to HIV/AIDS was

likely to be thrice as much as the one in the government statistical report. The World Health Organisation predicts that seven million South Africans will have died of HIV/AIDS- related diseases within the next five years (Bridgland, 2003: 1). This will definitely be the case as long as no vaccine or effective curative agents are developed and made available.

The HIV/AIDS epidemic has deep historical roots in South Africa. Its impact indicates a long, history-changing trajectory. The epidemic must be seen against this broad background. In the following section the background of HIV/AIDS in South Africa will be examined.

2.6.1 The background of AIDS in South Africa (1982-2003)

The first cases of AIDS in the Republic of South Africa were recognised on two homosexual men in Pretoria in 1982 (Whiteside & Sunter 2000, 4). The pattern of infection in South Africa as revealed by clinical cases and sero-epidemiology excluded South Africa as the original source. For the first eight years, the epidemic was primarily located among white homosexuals. Up until 1988, 178 cases were diagnosed (Sher 1996: 23-24). In July 1991, the number of heterosexually transmitted cases equalled the number of homosexual cases. Since then the homosexual epidemic has been completely overshadowed by heterosexual epidemic and the disease has spread among all race groups (Whiteside & Sunter 2000: 4).

Barnett and Whiteside (2002: 146) note that the HIV/AIDS epidemic began to spread through South Africa in the late 1980s. The 1990s saw an explosion in HIV prevalence and the already extremely high rates continue to rise. Tshukudu (2003:3) mentions that the HIV/AIDS epidemic in South Africa had grown below 1% in 1990 to above 20% in just 10 years.

According to Venter and Brown (2005: 2) HIV/AIDS is shown to have been directly responsible for almost 10 000 deaths in 1999, but no figures were made available. At the end of 2000, about 4.2 million people were living with HIV in South Africa. According to Whiteside and Sunter (2000: 4) the estimates were above the projected statistics. It was

projected that in 2000, 3.6 million would have acquired HIV. South Africa was only expected to reach 4.2 million in 2002. That showed the steady and inevitable rise in the number of infections. By the end of 2001, 4.74 million people between 15 and 45 years were HIV positive. As by the end of 2001 approximately 200 000 South Africans were living with AIDS (Love life 2001: 7).

Kramer (2003: 4) highlights that in 2000 of the nine provinces in South Africa, Kwazulu-Natal remained the province with the highest incidence of AIDS, followed by Mpumalanga then Free State, and Gauteng. Commenting on the North West, the province was rated the fifth. It is necessary to point out that this province is mostly rural and that all cases of Aids are most probably not notified. It is also important to note that while there are large provincial variations in HIV infection levels, the antenatal survey shows similar epidemic patterns for all provinces expect the Western and Northern Cape (Love Life, 2001: 6). This indicates that early and current provincial differences can be attributed more to time lags than an intrinsically lower risk of infection in some provinces.

The Nelson Mandela/Human Research Council (HSRC) study of HIV/AIDS found HIV prevalence in South African population to be high as it showed an estimated HIV prevalence rate of 11.4% at the end of 2003 (Avert, 2005: 6). Table 4 shows the HIV prevalence (%) and numbers of people tested as produced by the Nelson Mandela Study (Avert, 2005: 5).

Table 4: HIV prevalence (%) and numbers of people tested by province in South Africa (December 2003)

Province	**Number surveyed HIV+**	**(%)**
Kwazulu-Natal (KZN)	1579	11.7
Mpumalanga (MP)	550	14.1
Gauteng	1272	14.7
Free State (FS)	540	14.9
North West (NW)	626	10.3
East Cape (EC)	1221	6.6

Province	**Number surveyed HIV+**	**(%)**
Limpopo (LP)	679	9.8
Northern Cape (CP)	694	8.4
Western Cape (WC)	1267	10.7
Total	8428	11.4

The overall 2003 data showed a significant variation on HIV prevalence rate by province. The 2003 statistics compared to the statistics of 2000 reveal that Orange Free State (14.9), Gauteng (14.7), Mpumalanga (14.1) and Kwazulu-Natal still remain the most affected provinces in the country. The results of the study however indicate that Kwazulu-Natal does not have the highest HIV prevalence, as was previously thought, but rather that the Free State had the highest levels of infection followed by Gauteng and Mpumalanga.

The study further showed that in terms of absolute numbers, the majority of people living with HIV/AIDS in South Africa are Blacks. The prevalence amongst Africans, Whites, Coloureds and Indians was estimated to be 12.9%, 6.2%, 6.1% and 1.6% respectively. (Avert, 2005: 5). These statistics reflect that Blacks are possibly more vulnerable to HIV/AIDS in South Africa. However, it should be noted that Black people are the majority population group in the country and will therefore proportionally yield a greater number. There is also evidence that AIDS is spreading through all groups and is breaching class barriers.

Gender differences are also pronounced in the Nelson Mandela/HSRC study (Avert, 2005a: 5). The prevalence amongst males and females was estimated to be 9.5 and 12.8 respectively, with women at highest risk between the ages of 15 and 24, while men achieve their highest incidence some years later (Avert, 2005a: 5). The picture is particularly disturbing when viewed close up. According to UNAIDS in South Africa, young women are three to six times more likely to be infected than young men (AIDS Epidemic Update, 2004: 2). Although this difference is not great, this information is threatening. As already pointed out in the preceding sections, AIDS was first identified amongst men. The fact that presently, more women than men are infected with

HIV/AIDS may be an indication that the disease is spreading more rapidly among women than men.

Furthermore, the Department of Health study of women attending clinics in South Africa, in 2003, reflected that the province that recorded the highest HIV rate amongst all attendees (women) was Kwazulu-Natal which had a rate of 37.5%. The next highest HIV levels were found in Mpumalanga (32.6%) followed by Free State with 30.1% (Avert, 2005: 3). In spite of the differences between the rates of infection what is clear from this study is that the HIV prevalence is very high. Various reasons for the higher estimated prevalence of HIV amongst females have been suggested. One reason may be that the low social and economic status of women affects their ability to control their sexual lives. Another reason may be that women are biologically more susceptible to infection than men (Avert, 2005: 6).

Infection among young people is seen also to be increasing. Young people in South Africa have a greater probability of getting HIV than young people anywhere else in the world. Estimates suggest that more than 50% of today's teenagers will get HIV before they are 25 years old. It is stated that unless something dramatic changes, by the 2010, 128 000 of the girls and 42 000 of the boys who are 15 now will be HIV positive by the time they are 21 (Love life, 2003: 1). In South Africa, where 53% of the population is under 25 years this is a serious concern. Love life (2003: 1) attributes this to the fact that most teenagers practice unsafe sex, starting to have sex while they are too young, having multiple sex partners and not using condoms. Similar to young people around the world, many young South Africans (62%) who learn they are HIV positive believed they had faced little or no risk of contracting the virus. Unfortunately, even with access to AIDS treatment, the average life span of todays 15 year old who contract HIV is 38 years (AIDS Epidemic Update, 2004: 7).

Finally research also shows that the model of transmission in the majority of cases is heterosexual transmission (Avert, 2005: 5). The figures confirm that although the disease was first identified in white homosexual men, HIV is no longer confined to white homosexuals but has spread to all population groups and of all sexes. Whiteside and Sunter (2000: 6) mention that although there was a lot of debate around the issue of the causative agent of AIDS in South Africa, the fact that remains is that HIV causes AIDS

and is spread mainly by sex and poverty is neither a necessary nor a sufficient condition for AIDS. However, poverty perpetuates the spread of HIV.

The above discussions have established that HIV/AIDS has spread rapidly to every corner of South Africa, robbing millions of people of their lives. In the next section focus will be on the current status of HIV/AIDS in the country.

2.6.2 The current status and future projections of the AIDS epidemic in South Africa

As already indicated the most recently available evidence suggests that approximately 5.3 million South Africans are already living with HIV (AIDS Epidemic Update, 2004: 5; Agence France Presse, 2005: 1; Sunday Times, 2005: 1). Studies suggest that this toll could reach 8 million by the year 2010 (Love life, 2003: 1). There is no sign yet of a decline in the epidemic. Overall HIV prevalence among pregnant women was 27.9% in 2003 compared with 26.5% in 2002 and 25% the year before that (AIDS Epidemic Update, 2004: 5). This latest data suggest that prevalence levels are still increasing.

Of the five million infected, 500 000 already have full-blown AIDS and need treatment. According to Whiteside and Sunter (2000) by 2006, there will be as many deaths from AIDS as from all other causes. The South African AIDS Organisation (2003: 2) indicates that within three years almost 250 000 South Africans will die of AIDS each year and by 2008 this figure will rise to about 500 000. The implication is that roughly 3 million South Africans aged between 15 and 30 years today may not be there in 2010, having died of AIDS. Average life expectancy is expected to fall from about 60 years to around 40 years between 1998 and 2008 (Love life, 2001: 6).

Finally, it should be noted that AIDS statistics are provided to the Department of Health on voluntary basis by mainly hospitals. The truth is the figures provided severely underestimate the actual caseload as it is widely accepted that a great number of AIDS cases remain undiagnosed.

In the next section the researcher explores what makes South Africans to be at a greatest risk of HIV infection.

2.6.3 The dynamics of the South Africa's epidemic

According to Barnett and Whiteside (2002: 154) the ending of apartheid and election of the new government in 1994 resulted in relaxation of the draconian control on society. But these were not replaced by a strong civil society. In addition, there was no immediate redistribution of resources or lessening of income inequality. Unemployment has risen since 1994 (Barnett & Whiteside, 2002: 154). Job shedding started in the late 1970, largely due to sanctions. However it increased sharply after 1994 when South Africa joined the World Trade Organisation and import tariffs ceased. A million jobs, mostly unskilled, were lost between 1993 and 1997. This resulted in many becoming poor and poorer raising much susceptibility to HIV infection (Barnett & Whiteside, 2002: 155).

In addition the AIDS Epidemic Update (2003:4) highlights that the South African epidemic is exacerbated by:

- Social and family disruptions as a consequence of apartheid and migrant labour
- High poverty and low education levels, resulting in more risk taking behaviour and commercial sex work. Poverty is considered to a strong determinant of the spread of HIV mortality
- High mobility and a good transport infrastructure, allowing spread of the virus
- A burdened and transforming health system
- An overwhelmed and inadequate welfare system
- High levels of sexually transmitted diseases
- The low status of women in society and relationships, making it difficult for them to protect themselves in sexual relationships
- Shifting social norms which permit high numbers of sexual partners
- A resistance to change high risk behaviour, often centred around notions of culture resistance to condom usage
- A lack of clear and non-judgemental information and services for young people and denial about teenage sexual activity

- Significant denial of homosexuality in the black community and a history of poor government intervention for the gay community.

South Africa has a complex interrelationship of multiple epidemics, a heterogeneous society in transition and a government struggling to meet the needs of a united South Africa. HIV/AIDS adds to this existing situation. At this stage the only way to stop AIDS is to prevent transmission of the virus. This is only possible when one has a proper understanding of exactly how the virus is transmitted from one person to another. The transmission of HIV from person to another is the theme of the next section.

2.7 MODES OF HIV TRANSMISSION

The way in which HIV is transmitted is closely associated with the biomedical nature of the virus. Unlike wind-borne viruses and other sexually transmitted diseases (STDs), where transmission is relatively easy, HIV is difficult to contract. It cannot enter the body through the air in the same way as measles. In order for a person to become infected with HIV, it is necessary for the virus to enter the bloodstream in sufficient quantities. It must pass through an entry point in the skin and/or mucous membranes into the bloodstream (Whiteside & Sunter, 2000: 10; Barnett & Whiteside, 2002: 38; AIDS Epidemic Update, 2003: 5).

Scientists and medical authorities agree that HIV does not survive well in the environment, making the possibility of environmental transmissions remote (Centre for Disease Control, 2003: 2). The outside of the human body is covered with thick skin, which keeps out HIV as long as there are not cuts or sores. HIV can only enter another person when the blood, semen or vaginal secretions of an infected person come into contact with the blood or mucous membranes of another person (Whiteside & Sunter, 2000: 10).

Once HIV has entered the body the virus can be found in a variety of body fluids and substances such as semen, vaginal secretions, tears, saliva, sweat and urine. However, although HIV is present in the above-mentioned fluids, HIV is spread through the exchange of body fluids, primarily semen, vaginal secretions, blood and blood products.

Transmission studies strongly suggest that HIV cannot be transmitted via the following routes: touch; bodily contact; coughing and sneezing; cutlery and food; swimming pools; drinking from same glass; towels; toilets seats; pets; mosquitoes and other insects; sharing baths and showers. Furthermore, AIDS is not transmitted through the upper gastrointestinal tract or through the respiratory tract. It cannot also be transmitted through normal household contact including kissing (Lachmn, 1989: 23; Wilson, Naidoo, Bekker, Cotton & Martens, 2002: 61).

The above-mentioned body fluids are not considered significant routes of infection because they are considered as fluids with low viral concentration. The greatest concentration of the virus is to be found in the blood, and sexual sections of an infected person. As a result there are three modes of transmission – sexual intercourse, blood-to-blood contact, and mother- to-child transmission (AIDS Epidemic Update, 2003: 5-7; CDC, 2003: 1; WHO, 2000: 2).

2.7.1 Sexual transmission

According to Barnett and Whiteside (2002: 38), CDC (2003: 1), NIAID Fact Sheet (2004: 6), WHO (2000: 2), South African AIDS Organization Update (2003: 5) and Van Dyk (2001: 19) HIV is most commonly spread by sexual contact with an infected person. Sexual intercourse is the principle mode of transmission, accounting for an estimated 75 percent of infections. In the third world countries, sexual transmission accounts for even higher proportions of infections. In Africa, Asia, and the Caribbean, infections are overwhelmingly heterosexual, with an estimated less than one percent through homosexual sex (South African AIDS Organization Update, 2003: 5).

With the emergence of AIDS, sexual intercourse has become a major threat to the survival of human beings. According to NIAID Fact Sheet (2004: 6) during sexual intercourse, a number of organisms pass from one partner to the other. The virus can enter the body through the mucousal linings of the vagina, vulva, penis, or rectum or rarely, via the mouth and possibly the upper gastrointestinal tract after oral sex. Having sexual intercourse with a person who is HIV infected may result in the person being infected. It follows that the more sexual partners one has, the more likely it would be to associate with

an infected partner. Sexual promiscuity has been identified as a major factor in the rapid speared AIDS. Hubley (1995: 26) emphasises that a single encounter can be sufficient to transmit HIV. However, some researchers believe that the risk for a single act of intercourse can be as low as one chance in a hundred.

2.7.2 Vertical transmission (Mother-to-child transmission)

After sexual transmission, the next most important mode of transmission of HIV is vertical transmission or mother-to-child transmission. According to NIAID Fact Sheet (2004: 7), Van Vuren (2004: 211) and Wilson et al. (2002: 358) mother to child transmission of HIV is the major cause of HIV infection in children. Estimates by UNAIDS and WHO indicate that more than five million children under the age of 15 have been infected with HIV since the epidemic began. Mother-to-child transmission is responsible for more than 90% of these infections. Two-thirds are believed to occur during pregnancy and delivery, and about one third through breastfeeding. As the number of women of childbearing age infected by HIV rises, so does the number of infected children (Child & Adolescent Health Development Fact Sheet, 2005: 1; Joint UNAIDS/WHO, 2005: 3).

An HIV positive woman has about a 30% chance of transmitting the virus to her infant. There are more than 2 million pregnancies in HIV positive women each year, and more than 1800 infected children are born daily worldwide. Each year, more than 600 000 infants become infected by HIV/AIDS. The overwhelming majority of these births are in the developing world, especially in Sub-Saharan Africa. In several African countries, more that 30% of women attending antenatal clinics are HIV positive. Because HIV infection often progresses quickly to AIDS in children, most of the children under 15 who have been infected have developed AIDS, and most of these children have died (AIDS Epidemic Update, 2003: 7; Joint UNAIDS/WHO, 2005: 3; Hubley, 1995: 44; Van Vuren, 2004: 216).

According to AIDS Epidemic Update (2003: 7), Barnett and Whiteside (2002: 39); Centre of Disease Control (2003: 1), Van Dyk (2001: 28) and Van Vuren (2004: 216) mother-to-child transmission occurs in three ways. The first is at birth when the infant comes into

contact with the blood of an infected mother in the uterus and the second is during birth and the third is through infant breastfeeding. A woman is more likely to transmit the virus to her foetus during pregnancy if she becomes infected just before or during pregnancy, or if she has an HIV-related illness or full-blown AIDS (the last phase of the infection). The reason why a mother is more infectious at these times is because the HIV viral load is useably very high and the CD4 cell count is low during these stages of illness (Van Dyk, 2001: 28).

Babies born to HIV-positive mothers are usually born with HIV antibodies, irrespective of whether or not they have been infected with the virus. These antibodies come from the mother. If the child does not actually have HIV, these antibodies clear out off the body over a period of time. This means that an HIV antibody test is not considered accurate to the first 18 months after birth (WHO, 2000: 2). Those infants that escape infection at birth, nevertheless, run the risk of infection through breastfeeding. There is no way of telling in advance which babies will be infected. This is why women who are infected are advised not to breastfeed their children after birth (AIDS Epidemic Update, 2003: 7).

2.7.3 Blood transmission

HIV also can be transmitted by contact with infected blood. The infection through blood takes place when HIV-contaminated blood comes into direct contact with that of an uninfected person. Transmission through blood however, is apparently not a real risk for most people. For infection to take place HIV infected blood must bypass the barrier of the skin and enter directly into the body. HIV is also spread through HIV contaminated cuttings and piecing of instruments such as needles, razors, syringes and knives. It can also be transmitted through tattooing, ear piercing and contact with infected blood at the scene of an accident (AIDS Epidemic Update, 2003: 6; Lovelife, 2003: 1; NIAID Fact Sheet, 2004: 7; Van Dyk, 2001: 24-25).

The main transmissions occur through the sharing of intravenous drug-injection equipment and through contaminated blood products used in transfusions. Receiving blood contaminated with HIV will most probably lead to infection. The principle problem with injecting drugs use is that the sharing of infected needles is able to introduce HIV

directly into the bloodstream of an infected person – a highly efficient means of transmitting HIV. As a result HIV has grown more rapidly in drug – injecting populations than in any other community (AIDS Epidemic Update, 2003: 6; Barnett & Whiteside, 2002: 40; Lovelife, 2003: 1; NIAID Fact Sheet, 2004: 6; Van Dyk, 2001: 25). According to AIDS Epidemic Update (2003: 2) most of the injecting drug users are young and many are sexually active, risking double exposure to the virus. This has driven the epidemic in most part of the world.

Blood transfusion is now extremely rare because of extensive screening of the blood supply. This has been confirmed by research conducted in many countries, which showed that since the introduction of testing of blood, the number of AIDS cases through blood transfusion have decreased (AIDS Epidemic Update, 2003: 6; Van Dyk, 2001: 24). There is also no risk on contracting HIV infection while donating blood. However, it is noted that in some third world developing countries which have yet to implement such mechanisms, the risk of HIV transmissions through transfusions still remains an issue. However it is noted that despite the risks, HIV transmission through transfusion has never exceeded 10 percent of total infections, even in third world countries world wide (AIDS Epidemic Update, 2003: 6).

The modes of transmission are well documented above. It is however very important to know what factors can predispose or put people at risk of HIV infection.

2.8 RISK FACTORS REGARDING HIV INFECTION

The likelihood of HIV transmission is increased by factors that may damage the mucosal linings of the sexual parts and socio-economic factors that may make it difficult for people to protect themselves. The identified factors are discussed next:

2.8.1 Biological and sexual risk factors

This section briefly examines people's physiological and physical vulnerability to HIV infection.

- **Heterosexual intercourse:** Heterosexual intercourse is regarded as the most common way in which HIV is transmitted (Wilson et al., 2002: 61; Whiteside & Sunter 2000: 10). This is attributed to the fact that this method of sexual intercourse is the most preferred one. Transmission can occur from man to woman or woman to man through penetrative sex without a condom. In addition damage or trauma to the vagina during sex increases the chances of transmission. These conditions usually arise from STDs or from application of other substances to the body (Aggleton et al. 1989 in Tabane, 2004: 35; Whiteside & Sunter 2000: 11; Van Vuren, 2004: 214).

  Women seem to be the group at a highest risk of HIV infection because of their biological make up. Infection of a woman by a man is biologically likely than infection of man by woman. Unprotected vaginal intercourse put women at high risk of HIV transmission. A woman is the receptive partner during sexual intercourse. Infected semen is deposited in the woman's vagina and remains there for some time, which gives the virus an opportunity to gain entry into the body. Therefore, the transmission of men to women is believed to be more efficient than women to men (Van Vuren, 2004: 214; Van Dyk, 2004: 20; Wilson et al., 2002: 61; Hubley, 1995: 43).

  In addition there are many receptors in the vagina, which create a greater possibility for infection. These receptors enable the virus to successfully attach and gaining entry into the body cells. This makes females to be more susceptible to AIDS than men. Disruption of the genital tact epithelium by intravaginal spermicides, herbal agents used for 'dry sex' and violent sex especially rape and gang rape, facilitate the increased transmission of HIV from men to women. It is also believed that when a couple has sex during menstruation, the transmission of HIV from women to men is facilitated (Hubley, 1995: 43; Van Dyk, 2001: 20; Van Vuren, 2004: 214; Wilson et al., 2002: 61).

- **Anal intercourse:** Although the pattern of transmission has changed from mainly homosexual activities to heterosexual activities, anal intercourse remains a high risk-activity. The receptive partner is especially in danger of acquiring infection because of high frequency of trauma to the mucosal lining of the rectum during rectal intercourse. The wall of the lining of the anus is delicate and is easily torn when an object is

inserted which increases the likelihood of the virus to penetrate the bloodstream. Number of instances of intercourse is also related to risk. The greater the number of exposures to infected semen, the higher the risk of HIV transmission (Murphy, Brook & Brichall, 2000: 2; Van Dyk, 2001: 19; Ward, 1999 in Tabane, 2004: 39; Wilson et al., 2002: 61; Schoub, 1994: 90).

- **Oral sex:** According to Centre of Disease Control Update (2003: 1) the risk of becoming infected with HIV through oral sex is lower than that of unprotected anal or vaginal sex. During oral sex, ejaculation may take place into the mouth of the other partner, which may lead to HIV infection. However, it is noted that even a lower risk activity can become an important way people get infected if it is done often enough. The possibility of infection is even heightened if there are sores in the mouth of the recipient. Ward (1999) as mentioned by Tabane (2004: 39) points to some studies, which have suggested that, the use of oral contraceptives, diaphragms, cervical caps or intrauterine devices (IUDs) increase the risk of HIV transmission

- **Masturbation:** Masturbation can either be self-stimulation or mutual stimulation where stimulation takes place between two partners. There is no risk of HIV infection from self-masturbation provided that the semen or vaginal fluids do not come into contact with the sexual organs of another person. Mutual masturbation on the other hand is a vulnerable activity. In addition there is a slight risk if the hand used to stimulant the other person's sexual organs has cuts or sores (Mogotsi, 1996: 42).

- **Sexual transmitted diseases:** According to the South African AIDS Organisation (2003: 6) the spread of HIV in societies where heterosexual intercourse is the main mode of transmission it is largely dependent upon two main factors – the presence of other untreated sexually transmitted diseases (STD's), and uncontrolled sexual behaviour. Diseases such as gonorrhoea, syphilis and graniloma increase the probability of HIV transmission during unprotected sexual intercourse with an infected person. This is thought to occur because these diseases cause inflammation of the mucous membranes of the genital tract. In the HIV-infected partner this increases the amount of free virus and the number of virus infected cells in genital secretions. In the HIV negative partner the risk of acquiring HIV infection is increased because the

inflammation of the genital tract concentrates cells susceptible to HIV infection in the genital tissues (Barnett & Whiteside, 2002: 39; Ward, 1999 in Tabane, 2004: 39).

According to Van Vuren (2004: 215) STDs often go unnoticed or hidden in women than men. These women may therefore not seek treatment. In low socio-economic areas there is also limited access to health facilities where treatment for STDs and other genital may be obtained. This makes people more susceptible to HIV infection.

- **Other biological factors:** According to Ward (1999) in Tabane (2004: 38-39) the presence of either acute HIV infection or advanced HIV disease in the infected partner increases the risk of sexual transmission. Although individuals with symptomatic disease are also infectious to others, people recently infected temporarily have very high levels of virus in their blood and body fluids and secretions, as do people with advance disease, which make them relatively more infections to their partners. The presence of genital tract in either partner also increases the risk (Ward, 1999 in Tabane, 2004: 39).

  Genetic characteristics of the particular HIV strain to which a person is exposed, as well as genetic characteristics of the exposed person affect the risk of HIV transmission. Very small percentages of individuals have remained uninfected despite repeated exposure to HIV. It is now believed that certain individuals have genetically determined natural resistance to HIV. Some stains to HIV appear to be more infections than the others. It has been speculated that some HIV subtypes might be more infectious than other through vaginal intercourse (Ward, 1999 in Tabane, 2004: 39).

2.8.2 The social status of females

Apart from their biological vulnerability, women can also be vulnerable in societies which accord women a lower status than men. It is a well established fact that women are getting HIV infection at a younger age than men all over the world, in line with socio-sexual norms. The status of females within the family and society especially in low socio-economic communities often results in women having less control over their sexual lives.

This makes them particularly susceptible to HIV infection. This social vulnerability especially in the Black culture is related to their generally low socio-economic status. From literature, it is clear that sexuality is one of the main areas in which gender inequality is manifested in the society. Traditionally, women's roles in sexual relationships have been that of passive participants. The inequality between males and females affect women especially with regard to negotiation of monogamy and safer sex. They are not in a position to negotiate safer sex practices because they fear violence and abandonment should they try to do so. Many women are forced into unwanted sexual encounters because of life circumstances (AIDS Epidemic Update, 2003: 14; Van Dyk, 2001: 21; Van Vuren, 2004: 215-216).

Van Dyk (2001: 21) notes that sometimes-dire poverty and need drives women to prostitution. This is often considered the only way they feel they can 'survive. Their low self-image and lack of personal authority also make such women particularly vulnerable to rape. Young girls especially are often coerced, raped or enticed into sex by someone older, stronger or richer than themselves. According to a report by the Medical Research Council of South Africa as mentioned by Van Dyk (2001: 21) the majority of women in their study who reported that they had been raped, were raped between the ages of 10 and 14 years of age, and that the schoolteacher were the perpetrators in 33% of these cases.

It is well known in South Africa that older 'sugar daddies' often offer schoolgirls gifts or money in return for sex. Older men select young girls for sex because the girls were perceived to be clean. Some men begin to look for younger partners in the hope that they will be un-infected. They feel that they will avoid infection themselves if they sleep with virgins, who will inevitable be much younger than them. These young women are perceived as unlikely infected with HIV or STDs. It is mentioned that this is not a surprise in Africa if one keeps track of teenage pregnancies. She asserts that this is confirmed by ongoing studies in Botswana and Zambia (Poku, 2001: 197; Van Dyk, 2001).

In some cultures, men marry women up to ten years younger than themselves for childbearing and other patriarchal reasons. Married men often have extra-marital relation with younger women. These men are obliged to leave their home and travel long distances to find work. Once they have found work, these displaced men frequently seek

out young women and teenage girls for sex and intimacy. These girls become sexually active at a young age and do not understand the serious HIV risk they incur by having sex with older men (Evian, 2000: 193-194; Van Vuren, 2004: 216).

Berer and Ray (1993) in Tabane (2004: 41) also mention that in polygamous marriages, second and third wives are often much younger than the husband. In such relationship, the men have had more chance to be exposed to HIV, both because they are older and because they likely to have had more sexual relationships. Their women partners are then more likely to be exposed. These men may silently transmit the HIV infection to their wives without their knowing (Van Vuren, 2004: 216).

2.8.3 Poverty as a risk factor

According to Wilson et al. (2002: 10) there is clear evidence of a link between poverty and almost any epidemic. AIDS Epidemic Update (2003: 12) and Van Vuren (2004: 211) consider poverty as a strong determinant of the spread of HIV. It contributes to the spread of HIV because of social and economic factors. Poverty is viewed as accompanied by effects such as prostitution, poor living conditions, poor education, alcohol abuse, poor heath care which are major contributing factors to the current spread of HIV/AIDS (Van Dyk, 2001: 33; Van Niekerk, 2001: 146; Webster, 1991: 18-20).

Poverty is also associated with weak endowment of human and financial resources such as low levels of literacy and few marketable skills. People who are economically deprived usually have little access to education, health care facilities and other social services. As a result they are forced into becoming sex orders or to exchange sex for food and supplies. Poverty may also lead people to sell their blood for transfusion – blood which could be well be infected with HIV (Poku, 2001: 195; Van Dyk, 2001: 33; Van Vuren, 2004: 211-212; World Health Organisation, 2000: 12).

According to Evian (2000: 21) AIDS like other sexually transmitted diseases is often more common in lower socio economic countries. He gives the following reasons why low socio-economic conditions promote the spread of sexually transmitted diseases:

- In many communities women have very little control over their sexual lives, and the ways to prevent STDs. Women are often exploited and have more inferior status than men. Poverty often makes this sexual exploitation worse and this further contributes to the spread of sexually transmitted diseases.

- High unemployment promotes migrant work and family disruption. People leave their homes and therefore their loved ones, friends, familiar surroundings and local community life. In the far-away places, migrants often find themselves in lonely, unfavourable, hostile or alienating environments. There is a natural need for sex and intimacy resulting in multiple-partners sexual relationships.

- Women are often forced to sell sex to earn precious money for food and basic needs, and to help raise their children. Young girls may give sex to older men.

- People in poor living conditions often do not have easy access to health care services. Sexually transmitted diseases often go untreated and spread more easily.

- Poor education and low literacy levels help to keep people ignorant of the ways and means to avoid diseases like AIDS.

- Crime and violence is also common in cities and town, and this further stress family and community life.

- Many of the problems described above result in the breakdown of the usual traditions, customs, beliefs and cultural practices in a community. These practices usually determine the accepted sexual behaviour and constraints in a society. When these are broken down, it often results in multiple sexual partners and indiscriminate sexual behaviour.

According to Tabane (2004: 43) the case of South Africa is a good example of the relationship between poverty and HIV. Poverty especially in rural areas and the absence of access to sustainable livelihood are factors in labour mobility. Throughout the past century, men from around the Southern African region were drawn or conscripted to work in South African gold and diamond mines. They left their families behind in rural

villages, lived in squalid all-male labour camps and returned home maybe once a year. Lack of education and recreation, forced them to rely on home brewed alcohol and sex for leisure. They were isolated from traditional cultural social networks and in the new conditions often engaged in risky sexual behaviour, with obvious consequences in terms of HIV infection.

This section has established facts regarding HIV transmission. Once infected with HIV, a person is labelled 'HIV positive" and caries the virus for the remainder of his or her life. At the point of infection, a battle begins between the virus and the body's immune system. This battle proceeds through various stages before the person dies. The following section describes the stages of HIV infection with specific emphasis on signs and symptoms of HIV/AIDS.

2.9 THE AIDS DEVELOPMENT PROCESS

According to Evian (2000: 25) and Van Vuren (2004: 207) a person who becomes infected with HIV will usually go through various clinical stages that occur over a long period of time usually 5-12 years. There are however conflicting opinions as to the different stages in the progression of the disease.

In explaining the progression of HIV/AIDS Wilson et al. (2002: 51) illustrates the central role HIV viral load in disease progression and transmission. They mention that there are rapid progressors, intermediate progressors and slow progressors or long-term progressors. They assert that rapid progressors are a small proportion of individuals who develop AIDS within one to two years following HIV infection. This phase is associated with high levels of viral replication and a precipitous decline in CD4 numbers. Most of these individuals are unable to mount an effective immune response because of the depletion of CD4 cells and are not able to control viral replication. The intermediate progressors are the majority of HIV – infected individuals who are able to regulate viral replication for many years because of an effective immune response. However, over time there is a steady decline of CD4 T-Cell numbers and a slow erosion and eventual destruction of the immune system.

Slow progressors or long-term non-progressors are a small proportion of individuals who are able to control HIV viral load very effectively without the assistance of anti retroviral therapy (ART). Long-term non-progressors have low and in many cases, undetectable plasma, viral loads, with high CD4 counts and robust immune systems. According to Van Vuren (2004:208) these individuals are a lucky proportion. Many such individuals have been infected for more than 20 years

AIDS Epidemic Update (2003: 3-5) emphasises that there are four stages of HIV infection. The first stage in known as primary HIV infection and last until the body's initial immune response develops a small measure of control over the virus. During this stage people develop non-specific symptoms such as nights sweats, fever, headaches and enlarged lymph glands. The second stage is called seroconversion – a period during which the body develops antibodies to ward off HIV. After seroconverson, an HIV positive person enters an asymptomatic stage during which time he or she will generally remain clinically healthy. It takes some time for HIV to make the body weak (Soul City Life Skills, 2001: 17). The final stage is regarded as AIDS. This occurs when the CD4 blood count drops below 200 and a person become vulnerable to serious opportunistic infection.

Stages of HIV infection according to Crewe and Orkin (1992) in Tabane (2004: 51-52), Evian (2000: 25) and Wilson et al. (2002: 57) can be displayed as shown in Table 5.

Table 5: Stages of HIV infection

APPROPRIATE TIME	SYMPTOM	TIME
12 weeks	Development of anti-bodies	- Sera-conversion - Symptomatic infection
12 weeks – 7 years	Less than 10% weight loss	HIV well-mined disease episodes
7-10 years	Chronic fatigue, fever and night sweats, serious forms of herpes, thrush, more than 10% weight loss, swelling of lymph glands,	HIV disease. Severe illness (Symptomatic)

APPROPRIATE TIME	SYMPTOM	TIME
	diarrhoea, deterioration of central nervous system (in some cassia)	
10-15 years	Opportunistic infection For example: Extra pulmonary TB	AIDS Patient is dying

Van Dyk (2001: 36) notes that although HIV infection cannot in practice be precisely demarcated into separate and distinct phases with easily identifiable boundaries, it can nevertheless be theoretically divided into five phases. Barrett-Grant et al. (2001: 22-23), Evian (2000: 27-32), Folks and Butera (1997: 36) as well as Van Vuren (2004: 208-210) also agree that there are five stages of the HIV/AIDS disease namely:

- Primary HIV infection (or acute sero-conversion illness)
- The asymptomatic phase or 'silent' phase
- The minor symptomatic phase (Early HIV symptomatic disease)
- The major symptomatic phase and opportunistic disease (The medium-stage HIV Symptomatic disease)
- The severe symptomatic phase (Late-Stage HIV symptomatic disease (AIDS)

2.9.1 Primary HIV infection

The acute phase of HIV infection (also called acute sero-conversional illness) occurs within a few weeks after infection with HIV. This is a time when people sero-convert on their blood test for HIV – in other words, change from being HIV negative to HIV positive. This usually coincides with the time when an HIV antibody test will usually convert from being negative to positive. The HIV antibody test usually becomes positive 4 – 6 weeks after infection (AIDS Epidemic Update, 2003: 3; Evian, 2000: 28; Van Dyk, 2001: 37; Van Vuren, 2004: 208).

According to Van Dyk (2001: 37) this stage usually occurs 4 to 8 weeks during which most people experience non-specific flu-like symptoms such as fever, skin rash, headache, tiredness, sore throat muscle and joint pains, some swelling of the lymph glands and occasionally oral ulcers. Approximately 30% to 60% of people infected with HIV will develop this glandular fever-like illness and the symptoms of this fever will last between one and two weeks. To others this acute reaction can go unnoticed. This clinical condition is referred to as the sero-conversion illness because the problem is non-specific. It often passes unnoticed by the patient (Van Vuren, 2004: 208; AIDS Epidemic Update, 2003: 3; Evian, 2000: 28; Van Dyk, 2001: 37; Barnett & Whiteside, 2002: 31).

Because of the rapid replication of the virus, the HIV viral load is usually very high during the acute phase. Although it is possible for HIV to be transmitted at any time during the course of the disease, HIV-infected people are considered most infectious during this stage because of the high viral load. Immediate and aggressive treatment with anti-retroviral therapy (ART) at this stage may be effective in reducing the viral load to undetectable levels, or even in eradicating the virus and may possibly offer the patient a better future. Early detection is especially important after needle prick injuries, rape and other known high-risk sexual encounters. Antiretroviral therapy (ARVT) should be given in the early weeks. Unfortunately, this early detection of HIV is often missed in most patients (Evian, 2000: 28; Van Dyk, 2001: 23, 37; Van Vuren, 2004: 209).

2.9.2 The asymptomatic or silent stage

After seroconversion, an HIV positive person enters an asymptomatic stage or silent phase. In this stage an infected person displays no symptoms. The person will generally remain clinically clean for years. This is a symptom-free phase and can last ten years or more. Persons with HIV remain in good health and feel very well during this period. The only way to determine if one has the virus is to have an HIV test. During this time, the only indication that a person is infected with HIV is that he/she can test positive on standard HIV tests. Nevertheless, HIV is not dormant but very active, it continues to replicate, causing progressive destruction of the immune system. Infected individuals are often not even aware that they are infected. It can take years of infection before debilitating symptoms becomes apparent in the individual. By the time the wave of HIV

infection makes itself felt in the form of illness, the torrent of the epidemic is about to overwhelm individual. The asymptomatic phase is a marker of the "silent phase where the virus slowly but surely spreads throughout the body (AIDS Epidemic Update, 2003: 3-5; Barnett & Whiteside, 2002: 16; Evian, 2000: 29; Kramer, 2003:6; Van Dyk, 2001: 37; Soul City Life Skills, 2001: 17; Van Vuren, 2004: 209).

According to Crewe and Orkin (1992) in Tabane (2004: 51) as well as Van Dyk (2001: 37) infected individuals are often not even aware that they are carrying the HI virus in this stage, and may therefore unwittingly infect new sex partners. This is one of the most terrifying features of the disease, which makes it so difficult to control. The person will be infected and show no symptoms and yet be infectious at the same time. She/he will be able to spread the virus during this phase. Although people carry on with their work in a normal way HIV is still very active and is continuing to destroy the immune system during this stage (Van Dyk, 2001: 209; Van Vuren, 2004: 209).

The asymptomatic phase is usually associated with a CD4 cell count of between 500 and 800 cell/mm^3 (Van Dyk, 2001: 37). She further asserts that while some people remain HIV positive for many years without any manifestation of clinical disease others may deteriorate rapidly, develop AIDS and die within months. In some cases the only symptom during this phase is persistent generalise lymphadenopathy or swollen glands.

In most Third Word countries, people live with HIV infection throughout the asymptomatic stage without knowing it. If a diagnosis is made, it is invariably at the late stage when the person present at a clinic or hospital. While an HIV diagnosis is not an automatic guarantee of a person practising safer sex or injecting habits, undiagnosed HIV infection increases the susceptibility of a society to the epidemic (South African AIDS Organisation, Update, 2003: 4).

2.9.3 The minor symptomatic phase of HIV disease

In the third phase of infection, minor and early symptoms of HIV disease usually begin to manifest. This stage occurs between 3 and 7 years after infection. The individual in this

stage is usually able to carry on with his or her normal activities, despite being symptomatic (Evian, 2000: 30; Van Vuren, 2004: 209).

According to Evian (2000: 30), Van Dyk (2001: 380) and Van Vuren (2004: 209) the following symptoms are usually an indication of the minor or early symptomatic stage of HIV disease:

- Mild to moderate swelling of the lymph nodes in the neck, armpits and groin (persistent generalised lymphadenopathy)
- Occasional fevers
- Herpes zoster or shingles
- Skin rashes, dermatitis, chronic itchy skin,
- Fungal nail infections
- Recurrent oral ulcerations
- Recurrent upper respiratory tract infections
- Weight loss up to 10% of the person's usual body weight
- Malaise, fatigue and lethargy

The minor symptomatic phase is usually associated with a CD4 cell count between 350 and 500 cell/mm^3 (Van Dyk, 2001: 38).

2.9.4 The major symptomatic phase of HIV infection

The major symptomatic stage is characterised by illness and extensive destruction of the immune system. During this phase, the viral load tends to increase progressively and the immune system is seriously weakened. The immune system becomes immune deficient and the person's vulnerability to infection is increased. Major symptoms and HIV related disease begin to appear as the immune system continues to deteriorate. This phase can last from a few months to several years. It takes place between 5 – 8 years following HIV infection (Evian, 2000: 30-31; Van Dyk, 2001: 38-39; Van Vuren, 2004: 209).

During this phase the lymph nodes and tissue become damaged and the body fails to keep up with replacing damaged cells. In time, most HIV infected people develop a variety of

indicators of ill health. These signs and symptoms are usually referred to as opportunistic disease. Today, these indicators are known as AIDS Related Complex (ARC). These signs and symptoms are usually due to overgrowth of some of the body's natural flora with fungal infection and reactivation of old infection such as Tuberculosis (TB). They are as due to uncontrolled multiplication of HIV itself (Evian, 2000: 30-31; Soul City – Know the Facts, 2002: 1; Van Dyk, 2001: 39; Van Vuren, 2004: 209).

Later as the immune deficiency progress, more frequent and severe opportunistic infections occur. During this stage the person is usually bedridden for up to 50% of the day during the last month. The major symptomatic phase is casually associated with a CD4 count of between 150 and 350 cells/ mm3 (Van Dyk, 2001: 39).

According to Evian (2000: 31), Van Dyk (2001: 39) and Van Vuren (2004: 209-210), the most common signs and symptoms of the advanced immune deficiency are as follows:

- Persistent and recurrent oral and vaginal candida infections (or thrush): candida or thrush in the mouth is a common sign of immune deficiency.
- Recurrent herpes zoster or shingles
- Bacterial skin infections and skin rashes
- Intermittent or constant unexplained fever that lasts for more than a month
- Persistent night sweats
- Persistent and intractable chronic diarrhoea that lasts for more than a month
- Significant and unexplained weight loss (more than 10% of the usual body weight)
- Generalised lymphadenopathy (or, in some cases, the shrinking of previously enlarged lymph nodes)
- Abdominal discomfort, headaches
- Oral hairy leucoplakia (thickened white patches on the side of the tongue)
- Persistent cough and reactivation of tuberculosis
- Opportunistic diseases of various kinds

While the associated infection are common in HIV negative persons, the critical difference is that those who are HIV positive experience these complaints as chronic infections, and they can persist for several weeks or months. The onset of oral/vaginal candidiasis (thrush) and recurrent herpes infection, such as herpes simplex (cold sores) or herpes

zoster (shingles) are commonly the first clinical signs of advanced immune deficiency. These signs act as a marker for the onset of AIDS (AIDS Epidemic Update, 2003: 4; Van Vuren, 2004: 210).

2.9.5 The severe symptomatic phase (AIDS-defining conditions)

The symptomatic phase, as described above, usually progresses over the next year or 18 months into the fully developed AIDS phase of the disease. The immune system during this stage is in a state of severe failure. The illness that present becomes more and more severe eventually leading to an AIDS diagnosis. In the final stage of AIDS, the symptoms of HIV disease become more acute. The body becomes progressively weaker with repeated infections and tumours. The person becomes infected by relatively rare and unusual organisms that do not respond to antibiotics and the immune system deteriorate exponentially. There is total inability to defend the system against infections. The person becomes seriously ill and more persistent and untreatable opportunistic conditions and cancers begin to manifest. It is at this stage that a person moves from being merely HIV positive to having full-blown AIDS. The person eventually die from one of the sickness that AIDS has given them (AIDS Epidemic Update, 2003: 5; Evian, 2000: 31; Kramer, 2003: 6; Soul City Life Skills, 2001: 17; Van Dyk, 2001: 40; Van Vuren, 2004: 210).

According to Van Dyk (2001: 40) and Van Vuren (2004: 210) AIDS patients usually have a viral load and a CD4 cell count of below 200 cell/mm^3. This allows the development of severe opportunistic infections and HIV-related organ damage. The presence of any serious opportunistic infection is a sign that the body is not coping immunologically. The people are usually bedridden for more than 50% of the day during the last month. Death due to severe life-threatening opportunistic infections and cancers occurs within +/-one year (Kramer 2003: 6; Van Vuren, 2004: 210). While people with AIDS usually die within two years, with the development of effective anti-retroviral therapy and the prevention and treatment of opportunistic infections, infected people can expect to live reasonable lives for a longer time (Barnett & Whiteside, 2002: 32; Van Dyk, 2001: 40).

According to South African AIDS Organisation Update (2003: 5) a person, therefore, does not die of AIDS, but rather succumbs to an infection, or collection of infections. AIDS is

a catchall for the many medical conditions that arise from a weakened immune system that can no longer fight infections. It is during this stage, that medical costs escalate and jobs are lost placing enormous strain on the finances of the individual and the state.

The following are symptoms, conditions or opportunistic infection of the severe symptomatic phase as identified by Van Dyk (2001: 40-41):

- Because of continuous diarrhoea, nausea and vomiting (which may last for weeks or even for months), an AIDS patient is usually thin and emaciated. Infectious diarrhoea is often caused by infections of the bowel.
- The patient is plagued by oral manifestations of HIV infection such as oral didiasis, oral hairy leukoplakia, herpes simplex (cold sores), varicella zoster and bacterial periodontol conditions. Thrush in the mouth may become so painful that the patient is no longer able to eat.
- Persistent, recurrent vaginal candidiasis (yeast infection or thrush) is often the first sign of HIV infection in women. An increased incidence and severity of cervical cancer has also been reported in women with HIV infection. Amenorrhoea in women of reproductive age, and severe pelvic infection with abscess formation can also be associated with HIV infection in women.
- Persistent generalised lymphadenopathy (PGL) may be said to be present when lymph nodes are larger than one centimetre in diameter, in two or more sites other than the groin area, for a period of at least three months.
- Severe and recurrent skin infections such as warts, ring worm and folliculitis (inflammation of the central nervous system) occur in some AIDS patients. These conditions usually cause blisters and ulcerations.
- Respiratory infections may cause the patient to present with a persistent cough, chest pain and fever.
- Pneumonia, especially pneumocystis carinii pneumonia (PCP), is often seen in patients with AIDS. PCP is a parasitic infection of the lungs caused by a protozoon. PCP is characterised by a continual dry, non-productive cough, laboured and sometimes painful breathing, weight loss and fever. The disease is less common in black Africans.

- A wasting of the body's tissues and marked weight loss and fever are often observable in patients with AIDS.
- Severe herpes zoster (or shingles) often occurs in people with depressed immune systems.
- The AIDS patient is usually fatigued and exhausted and this can promote multiple infections such as shingles, herpes, dermatitis or skin infections and ulcerative herpes simplex and persistent generalised lymphadenopathy.
- Peripheral neuropathy, which is characterised by pains, numbness or 'pins and needles' in the hands and feet, often occurs in AIDS patients.
- AIDS patients sometimes suffer from neurological abnormalities such as HIV encephalopathy which is characterised by symptoms such as memory loss, poor concentration, tremor, headache, confusion, loss of vision and seizures.
- AIDS patents may develop cryptococcal meningitis (a fungal infection in the central nervous system) which presents with fever, headache, malaise, nausea, vomiting, neck stiffness, mental status changes, and seizures. Toxoplasma encephalitis (a protozoal infection of the brain which causes damage to the brain itself) can occur.
- Cytomegalovirus retinitis, an inflammation of the retina of the eye, often occurs in AIDS patients. It may lead to blindness. The disease is caused by the cytomegalovirus (CMV), which is often excreted in the urine, saliva, semen, cervical secretions, faeces or breast milk of immune –depressed patients. CMV infections usually occur in the late stages of AIDS when the CD4 levels fall below 50 cell/mm^3.
- Kaposi's sarcoma, a rare form of skin cancer, is characterised by a painless reddish-brown or bluish-purple swelling on the skin and mucous membranes (such as in the mouth). Kaposi's sarcoma can also occur in the gastro-intestine tract and lungs. Kaposi's sarcoma react well to chemotherapy or to alpha-interferon, but it can develop into invasive open lesions and cause death if not promptly treated. Kaposi's sarcoma is less common in black Africans.
- Lymphoma or cancer of the lymph nodes may present with enlargement of the lymph nodes, the spleen or liver.
- Tuberculosis is a very serious opportunistic infection which affects people with AIDS. According to the Statistic South Africa study, tuberculosis accounted for the highest number of mortalities and officials admit that these deaths could be linked to HIV/AIDS. Tuberculosis recorded 22 021 and 50 872 fatalities in 1997 and 2003

respectively making it the leading cause of death (Venter & Brown, 2005: 2; Agence France Presse, 2005: 1; Sunday Times, 2005: 1).

- Other sexually transmitted (STD) diseases (such as discharge from the penis or from the female urethra or cervix caused by gonorrhoea and chlamydia). Abnormal vaginal discharge is usually caused by STDs known as trichomoniasis genital candidiasis and bacterial vaginosis.

Adding to the above symptoms, conditions or opportunistic infection Van Dyk (2001: 42-43) lists the following symptoms of HIV infection in children.

- Failure to thrive and weight loss
- Prolonged fever
- Recurrent oral thrush (candidiasis)
- Chronic diarrhoea and gastroenteritis
- Tuberculosis
- Recurrent bacterial infections (casing upper respiratory tract infections, otitis media or ear infections, pneumonia, urinary tract infections and meningitis)
- Lymphoid interstitial pneumonitis or LIP (an otherwise rare respiratory or lung disease found in HIV-infected children; it is characterised by a continuous coughing and mild wheezing)
- Anaemia, pallor, nose bleeds
- Persistent generalised lymphadenopathy
- Hepatomegaly (enlargement of the liver)
- Splednomegaly (enlargement of the spleen)
- Skin conditions such as herpes zoster, herpes simplex and seborrhoea dermatitis
- Enlargement of the parotid gland and parotitis (inflammation of the parotid gland)
- Delays in attaining developmental milestones or the loss of those already attained
- Neurological abnormalities such as seizures and reduced head growth
- Severe herpes simplex infection
- Complicated chickenpox or measles
- Any other AIDS defining condition such as pneumocystis carinii pneumonia, Kaposi's sarcoma, toxoplasmosis, cytomegalovirus, etc.

Symptoms that are common to many treatable conditions in children, such as diarrhoea, recurrent fever and dermatitis tend to be more persistent and severe in HIV infected children. HIV infected children also do not respond as well as non-infected children to treatment and are more likely to suffer life-threatening complications. Furthermore, the clinical course of HIV infection in children differs significantly from that of adults. The time lapse between infection and the onset of full-blown AIDS is usually much shorter in children than it is in adults. The progress of AIDS in children may be accelerated by poor nutrition and illness such as tuberculosis, malaria and measles (Child & Adolescent Health Development Fact sheet, 2005: 1; Van Dyk, 2001: 43).

According to Van Vuren (2004: 208) it is not yet clear whether every HIV infected person will progress to develop illness and AIDS. Approximately 80% of HIV infected people will have developed AIDS within 12 years of acquiring the infection. On average it takes about 8 years from HIV infection to the development of AIDS. It seems likely that most HIV infected people will eventually develop severe immune deficiency and symptomatic disease, even if this takes 15-20 years.

It is evident from the above discussion that HIV can spread silently for many years before the infection develops into symptomatic AIDS and becomes a cause of recurring illness and, finally, death. One can remain without HIV/AIDS symptoms while infected for a very long time. Since the early symptoms are so unremarkable, many may not know that they are infected. It is therefore important for people to be tested in order to know their status so that they are able to protect themselves and access treatment if they need it. Voluntary counseling and testing is increasingly seen as an important component of prevention and will be discussed in more detail in the next section.

2.10 VOLUNTARY COUNSELING AND TESTING (VCT)

According to Baggaley (2001: 2) voluntary counseling is a process by which an individual undergoes counseling enabling him or her to make an informed choice about being tested for HIV. Voluntary counseling is viewed as having a vital role to play within a comprehensive range of measures for HIV prevention and care. It has emerged as a major strategy for the prevention of HIV infection and AIDS especially in Africa. The idea is to

provide people with access to rapid testing in an environment where they will receive counselling. If they are negative then they have an incentive to stay that way. If infected, the message is positive living. Such an intervention only works in a supportive environment and ideally where people can access some form of care (Baggaley, 2001: 2; Barnett & Whiteside, 2002: 333; Van Dyk, 2001: 96).

There are different reasons why people want to be tested. Therefore, it is important for the counsellor to explore reasons why people came for testing. Reasons that clients who want to be tested often adduce include: their partner has requested it; they want to be tested prior to getting married, before starting a new relationship or planning to become pregnant; anxiety about lifestyle especially if concerned about having had multiple sex partners; they have had recent sexual encounters in which they did not use condoms; they have been raped or assaulted; they are manifesting symptoms that are giving them cause for concern; they come for insurance purposes and other come to reconfirm a positive HIV test. Some people seek testing services because of curiosity or because they have been referred by an STD or TB clinic due to persistent tuberculosis or sexually transmitted disease (Evian, 2000: 39; Tabane, 2004: 57; Van Dyk, 2001: 238-239).

Baggaley (2001: 4) lists the following as the potential benefits of VCT:

- Improved health status through good nutritional advice
- Earlier access to care and treatment/prevention for HIV-related illness
- Emotional support
- Better ability to cope with HIV-related anxiety
- Awareness of options for prevention of mother-to-child transmission feeding
- Motivation to initiate or maintain safer sexual and drug-related behaviour.

Apart from the above-mentioned benefits, many studies show that knowing one's HIV status is instrumental in affecting behaviour change and the adoption of safer sex practices (Mkaya-Mwamburi et al., 2000; Serima & Manyenna, 2000 in Van Dyk, 2001: 96). Van Dyk (2001: 97) therefore, suggests that if voluntary counseling and testing services exist in a community, community members should be encouraged to make use of such services.

According to SAFAIDS (2002) as quoted by Tabane (2004: 59) communities affected by HIV/AIDS benefit from VCT as it contributes in the following ways:

- It changes the image of HIV/AIDS form the illness, suffering and death to living positively with HIV.
- It generates optimism as large number of person's tests HIV negative.
- It reduces stigma and enhances the development of care and support services.
- It reduces transmission.
- It enables access to preventive prophylaxis and anti-retroviral therapy where available, and access to needed clinical services (antenatal clinics, TB clinics and primary care clinics).

Voluntary counseling and testing services are essential because they empower the uninfected to protect themselves form HIV and assists infected persons to protect other and live positively. The two most important components of voluntary counseling are HIV Counseling and HIV Testing. In this context it is therefore important to know more about them.

2.10.1 HIV Counseling

According to Van Dyk (2001: 238) the HIV test is different from all other tests. It has phenomenal emotional, psychological, practical and social implications for the client. HIV tests should therefore never be done without thorough counselling

Baggaley (2001: 2-3) defines HIV counseling as "a confidential dialogue between a person and a care provider aimed at enabling the person to cope with stress and make personal decisions related to HIV/AIDS. The intention of counseling is not to solve people's problems or prescribe treatment, but to help clients to review their problems and choices they have for dealing with these problems. The counseling process includes an evaluation of personal risk of HIV transmission and facilitation of preventive behaviour (Baggaley, 2001: 3; Van Dyk, 2001: 10).

The two main objectives of HIV counseling are the prevention of HIV transmission and the emotional support of those who wish to consider HIV testing. This is done to help clients make decision about whether or not to be tested and to provide support and facilitate decision making following testing. People often come for HIV testing in states of considerable anxiety – for their health, their family's health, their relationship and their future employment. This makes the role of counseling all the more important. It can help provide confidence to be tested and to decide on possible future courses for the benefit of client and his/her loved-ones (Baggaley, 2001: 3; Wilson et al., 2002: 70).

HIV counseling is important as it prepares people for the results of the tests. In the absence of counseling many relationships have broken up due to one partner being HIV positive and some people have lost jobs or have been rejected by their friends and family after disclosing their health status. Feelings of depression, anger and guilt might be experienced which can lead to attempt of suicide after receiving the HIV test results. This implies that everyone who has an HIV test must be properly counselled before the test as well as after the test (Evian, 2000: 50; Van Dyk, 2001: 238-239).

Fear of stigmatisation and ostracism are very real factors when one has been diagnosed with HIV/AIDS. It is the fear of rejection and isolation that cause AIDS patients the greatest pain. Stigma may actively prevent people accessing care, gaining support, and preventing onward transmission. HIV counseling is important because it reduces stigma in communities by talking about HIV/AIDS and supporting those living with the disease. Support for people diagnosed with HIV infection and those close to them involves both emotional and practical support. The uncertainty regarding the onset of illness and other problems increase the stress experienced by the individual and the family and friends. With the consent of the client, counseling can be extended to spouses, and/or other sexual partners and other supportive family members or trusted friends where appropriate (Baggaley, 2001: 3; Tabane, 2004: 60; Van Dyk, 2001: 296).

Evian (2000: 39) postulates that HIV testing should be done in a proper and ethical manner. He emphasises that before HIV testing is done, pre-and post counseling must always be offered to the patients. It is important for the patient to understand the reason for HIV tests, the nature to the test, the meaning of an HIV test, the meaning of HIV positive and negative results, and the possible psychological implication of the results and

a follow up plan. Counseling should also be carried out in an environment that ensures confidentiality and allows for private discussion of sexual matters and personal worries. Furthermore, counseling must be flexible and focused on the individual client's specific needs and situation (Evian, 2000: 39; Baggaley, 2001: 3).

For many patients the only evidence of HIV infection is a positive HIV test. Wilson et al. (2002: 70) mention that a person who has tested HIV positive may never experience the quality of life again. HIV positive who have had positive and helpful experience at the time of testing deal with their situations more satisfactory and are better able to talk about their fears and feelings and to plan for their future.

According to Van Dyk (2001: 238) there are two counseling contexts where HIV counseling can take place namely:

- Pre-HIV-test counseling
- Post-HIV-test counseling

2.10.1.1 Pre-HIV-test counseling

The purpose of pre-test counseling is to provide individuals who are considering being tested with information on the technical aspects of testing and the possible personal, medical, social, psychological, legal and ethical implication of being diagnosed as either HIV positive or HIV negative. Furthermore, it is aimed at finding out why individuals want to be tested, the nature and extent of their previous and present high risk behaviour and the steps that need to be taken to prevent them from becoming infected or from transmitting HIV infection (Van Dyk, 2001: 239).

It is also important to determine exactly what the client believes and knows about HIV/AIDS. The counsellor needs to correct errors by providing accurate information about transmission and prevention.

Van Dyk (2001: 240-241) emphasises that it is important to explain the following points to the client before they take an HIV test:

- There is a difference between being sera-positive and having AIDS. The HIV antibody test is not a 'test for AIDS'. It indicates that a person has HIV antibodies in the blood and that the person is infected with HIV. It does not say when or how the infection occurred, or in what phase of infection the person is.

- The presence of HIV antibodies in the blood does not mean that the person is now immune to HIV. On the contrary, it means that he or she has been infected with HIV and that he or she can pass the virus on to others.

- The meaning of a positive and negative test result.

- The meaning of the concept 'window period' stresses the need for further testing if the person practice's high-risk sexual behaviour and tests negative.

- The reliability of the testing procedures. A positive HIV antibody test result is always confirmed with a second test and reliability of test results is usually high. False-positive or false-negative results may however occasionally occur despite the general reliability of HIV tests.

- The testing procedure. Explain how blood is drawn for the test, where it is sent, when the results will be available and how the person will be informed of the outcome.

It is important for the counsellor to anticipate a positive HIV antibody result and to talk about how the client will deal with a positive test outcome. Anticipating a positive result helps the counsellor to ascertain the client's ability to deal with, and adjust to, a positive result. Finally it is important that the client be assured (if he or she is HIV positive) that medical treatments are available which can help to keep them healthier for longer (Van Dyk, 2001: 242).

Pre-test counseling is extremely important since it can be used as a vehicle to educate people about HIV/AIDS and safer sex. It is also a good tool of preparing people for the HIV test. However, it is important to mention that the choice to be tested remain the client's prerogative. Advantages of testing can be explained to the client but he/she

should not be forced to be tested. The mere knowledge of people's HIV status is helpful but will not necessarily protect them or their loves ones from infection. People should be willing to change unsafe sexual practices as well.

2.10.1.2 Post-HIV-test-counseling

Post-HIV-test counseling is a follow-up of pre-HIV-test counselling. Counseling offered after testing depends much on the outcome of the test which may be a positive result or a negative one. The aim of counseling therefore is two-folded. For a negative test result, the aim of counseling is to encourage the clients to reduce the chances of future infection. They are advised about risk reduction and safer sex. The possibility that the client is in the 'window period' should also be pointed out. For a positive test result, the counsellor must explain to the client what such test result means. The counsellor must also undertake the task of helping the client to live a healthy and happy life after diagnosis (Soul City, 2004: 23; Van Dyk, 2001: 246-247).

People react in different ways after receiving HIV positive results. Fear of pain and death are often the most serious and immediate problems. Some people might experience profound feelings of grief about the losses they are anticipating. HIV-infected people often feel that they have lost everything that is most important and beautiful to them. They experience loss of control, loss of autonomy, loss of their ambitions sexual relationships etc. Guilt and self-reproach for having contracted HIV and for having also possibly infected others are frequently expressed by HIV infected individuals. Some of them go through a phase of denial. Anger, anxiety, low self esteem and depression are also often experienced. Inwardly directed anger manifests as self blame, self-destructive behaviour or even suicidal impulses or intention (Evian, 2000: 53; Van Dyk, 2001:256-259).

According to Van Dyk (2001: 249) talking to clients about the future is one of the important therapeutic interventions that the counsellor can use. If the client shows any suicidal tendencies, emergency hospitalisation should be arranged especially if there is no one to offer support. The counsellor must ensure that the person has support after he/she leaves the office. The counsellor also needs to convey hope by explaining to client that

anti-retroviral therapy may reduce the viral load in the blood. Furthermore, the counsellor should explain to the client that opportunistic infections can be successfully treated and prevented with medication. The clients need to be encouraged to visit their family doctor or health clinic for regular medical check-ups. HIV infected individuals may live a relatively healthy life for many years. It is therefore important to convey information about safer sex, infection control and health care in general. They should be encouraged to use safer sex practices (Evian, 2000: 53; Van Dyk, 2001:246-252).

Daigle et al (1999: 3) highlight that a person diagnosed with HIV live with the uncertainty of when or how the disease will manifest itself. It is the responsibility of the counsellor to make the family and loved ones recognise the many facets of this challenge and provide needed help and support.

According to Van Dyk (2001: 246) pre- and post-test counseling should preferably be done by the same person because the established relationship between the client and counsellor provides a sense of continuity for the client. The counsellor will also have a better idea of how to approach the post-test counseling because of what he/she experienced in the pre-test counselling.

An HIV-positive test result makes a dramatic and irreversible impact on a person's life. However a person can still live a healthy and happy life for many years after diagnosis. It is therefore important that changes have to be made by the infected person to live within the constraint that are imposed the presence of the virus.

To further understand voluntary counseling and testing the next section will deal with HIV testing.

2.10.2 HIV Testing

As already noted earlier, HIV infection is usually not noticed in the first few years after infection. Later signs and symptoms may suggest HIV infection or AIDS. However, these signs and symptoms are often not specific to HIV/AIDS alone. The HIV test is often

the first and only definite evidence of HIV infection (Evian, 2000: 36; Soul City Life Skills, 2001: 116).

According to Van Dyk (2001: 57) there are three main reasons why HIV antibody testing is carried out. It is carried out for purposes of screening donated blood, the epidemiological surveillance and mapping of HIV prevalence, and the diagnosis of HIV infection in individuals. People are encouraged to make use of voluntary counseling and testing services to find out their HIV status. It is hoped that if people know their HIV status, they will be motivated to adopt preventative measure to prevent future infection (Soul City Life Skills, 2001: 116; Soul City, 2004: 21; Van Dyk, 2001: 57).

Other benefits of HIV testing according to Van Dyk (2001: 241) are:

- Knowing the result may reduce the stress associated with uncertainty,
- One may begin to make rational plans for preparing oneself emotionally and spiritually to live with HIV,
- Symptoms can be confirmed, alleviated or treated,
- Prophylactic (preventative) treatment can be considered,
- Anti-retroviral treatment can be considered,
- Adjustments to one's lifestyle and sex life can protect oneself and one's sex partners from infection;
- One can make decisions about family planning and new sexual relationships,
- One can plan for future care and orphan care.

Baggaley (2001: 3), Tabane (2004: 58) and Van Dyk (2001: 241-242) note that although there are many benefits to knowing one's HIV status testing may have negative consequences or results in communities where HIV-infected people are stigmatised. That is why UNAIDS stipulates that testing should be voluntary, and should take place in collaboration with stigma reducing activities. No one should be coerced into being tested. The decision to undergo HIV testing should be entirely voluntary. Given the possibility of discrimination, ostracism and personal recrimination that an individual diagnosed with HIV may face, it is important that confidentiality be guaranteed. As such VCT services require continued comprehensive evaluation to help adapt the services in response to evolving knowledge client needs and technology (Baggaley, 2001: 3; Tabane, 2004: 58).

According to Van Dyk (2001: 243) the result of the test must be kept absolutely confidential. However, shared confidentiality is encouraged. Shared confidentiality implies that confidentiality is shared with others. These others might include family members, loved ones, care givers and trusted friends. This shared confidentiality is at the discretion of the person who has been tested. If individuals choose not to disclose their status, they must be reassured that no information will be communicated without their prior permission to anyone. Although the result of the HIV test should be kept confidential, other professions such as counsellors and health social service workers might also need to be aware of the person's HIV status in order to provide appropriate care (WHO, 2000: 5).

Evian (2000: 39) notes that an HIV test does not tell whether people have AIDS. It only determines whether a person has been infected with the virus. A negative test usually means a person has not been exposed or infected with the HI virus or the person may have been infected but the anti-bodies have not yet been formed (the person may be in the window period). Even though the test is negative after infection, the person is able to pass on the virus to others during this 'window period'. The positive test means that the person is infected with HIV and can spread the virus to others during sex, through his/her blood or during pregnancy, childbirth or breast-feeding. This test does not reveal when or for how long the person has been infected. The test also gives no indication of the stage of infection, nor of the time it may take to develop AIDS (Evian, 2000: 36-37; Soul City Life Skills, 2001: 116; Van Dyk, 2001: 60-61).

The diagnosis of HIV infection is based mainly on the laboratory testing of blood samples. There are various types of testing methods of testing HIV in the blood. Van Dyk (2002: 57) has identified two broad categories of tests namely: HIV anti-body tests, which react to antibodies which have formed in reaction to the virus, and tests which detect the actual virus (HIV) in the blood.

2.10.2.1 HIV antibody tests

The most common HIV test is the ELISA antibody test. This test is regarded as not expensive and it is easier to use than other screening methods. It is usually done on blood (serum). The ELISA test reveals only the presence of antibodies. It does not directly detect HIV. But because antibodies are produced only in response to infection – not to mere exposure – a positive in an ELISA test for HIV is a strong indication of HIV infection. If the testing is being done for data collection and a diagnosis is not going to be given to a patient, then the ELISA test is sufficient. If, however, the testing is being done to give a diagnosis and the test is positive, a second ELISA test is usually carried out. If this is positive, then a more sophisticated test, known as the Western Blot Tests, is usually performed (Evian, 2000: 42; Soul City, 2004: 22; Van Dyk, 2001: 58; Van Vuren, 2004: 216-217; Wilson, 2002: 38).

The Western Blot Test is the most common confirmatory test. It is a highly specific method of testing. It is designed to distinguish a false-positive ELISA result from a true positive result. The Western Blot Test also is done on the blood (serum). This test has a much lower false-positive rate, because it uses HIV proteins that are separated into distinct groups or bands. The other tests that can be used to confirm a positive ELISA test is the Rapid HIV antibody tests. These tests are especially used in remote or rural areas where resources are limited. Rapid test are accurate as ELISA, and many doctors believe that the use of rapid tests in conjunction with the ELISA is more reliable than the combination of the ELISA and Western Blot tests (Evian, 2000: 42 & 49; Van Dyk, 2001: 58-59; Van Vuren, 2004: 216-217; Ward, 1999 in Tabane, 2004: 63-64).

2.10.2.2 HI virus tests

According to Evian (2000: 40) and Van Dyk (2001: 60) the most common HI virus tests are HIV P24 antigen and the polymerise chain reaction (HIV PCR) tests. These tests detect the actual HI virus (or HIV antigens) in the blood and they yield a positive HIV test much sooner after infection than do the ELISA, Western Blot and Rapid HIV antibody tests. These tests produce results within 10 to 14 days after infection.

Evian (2000: 40) notes that the HIV P24 antigen test is often useful in certain clinical situations, but its disadvantage is that it often lacks sensitivity especially for newborn babies. In infants the tests are more reliable from approximately one moth after birth. A negative test in the first two weeks after infection may be a false negative hence it should be repeated. The HIV PCR test can be used for diagnostic as well as post diagnostic purposes. This can be a qualitative test (used to diagnose an individual as HIV positive or HIV negative) or a quantitative test (mainly used to establish the number of viral RNA particles in the blood). The qualitative PCR test is especially useful in cases where early diagnosis is required and quantitative PCR test is used for post diagnostically for treatment purposes. This test is usually a reliable indicator of the infected individual prognosis and it is used to measure an individual's response to antiretroviral therapy (Evian, 2000: 40; Soul City, 2004: 23; Van Dyk, 2001: 60).

The HI virus tests are sophisticated and unfortunately they are extremely expensive. They are therefore, not widely available especially in remotes areas of the country (Barret-Grant, et al., 2001 in Tabane, 2004: 20; Van Dyk, 2001: 60).

All the tests mentioned above have an accuracy of over 99%. However, people who are in the window period and have not yet developed antibodies will not test positive. This is the reason why a series of tests some months apart are recommended to people who think they have been exposed to HIV (Van Vuren, 2004: 217).

In a nutshell it can be said that HIV testing is indispensable for any person alive today because it is only through testing that a person can know his or her status thus know from then which precautionary measures to adopt, however there are important requirements which should be met to ensure that testing fulfils this quest.

2.10.3 Requirements for voluntary counseling and testing

Baggaley (2001: 4) identified the following four requirements as basic for voluntary counseling and testing:

- **Informed Consent:** All models of voluntary counseling must ensure that counseling is truly voluntary. People should have the right to opt out or refuse testing if they do not think that it is in their best interest. In some settings it is suggested that written consent is obtained before testing. Before consenting to HIV testing the client must understand the nature of the test. A client may never be misled or deceived into consenting to an HIV test (Baggaley, 2001: 4; Van Dyk, 2001: 244).

- **Confidentiality:** The counsellor should stress the confidentiality of test results. Many people are afraid to seek HIV services because they fear stigma and discrimination from their families and community. Therefore, it is important that confidentiality should be guaranteed. The counsellor should assure clients that their right to confidentiality will be respected at all times. If individuals choose not to disclose their status, they must be reassured that no information will be communicated without their prior permission to anyone. However the clients should be encouraged to share their test results with their sexual partners and health care staff. Trust between the counsellor and client enhances adherence to care, and discussion of HIV prevention (Baggaley, 2001: 4; Van Dyk, 2001: 244).

- **Legislation to prevent discrimination:** Unless seropositive people can be assured that they will not be discriminated against following testing VCT should not be promoted and supported (Baggaley, 2001: 4).

- **Quality Control:** It is essential that the quality of both testing and counseling can be assured with appropriate monitoring and evaluation as a key and planned component of interventions (Baggaley, 2001: 4).

In this section it has been shown that voluntary counseling and testing is a beneficial intervention for people who test HIV positive or negative. Knowledge of HIV status can facilitate decisions about future relationships, pregnancies and lifestyle. It helps people to plan for their and their dependents' future. People who test HIV positive can receive appropriate medical care at an early stage of the disease. As the numbers of people becoming infected and living with HIV increases, so does the number of those needing treatment. At present there is no cure for HIV however, there are therapies and treatment

that can alter the course of the disease. Based on proper treatment HIV is becoming a long-term disease that people can live with. In the following section treatment of HIV/AIDS is looked at.

2.11 TREATMENT

Enormous resources have gone into the search for a cure and vaccine for HIV/AIDS. Neither has yet been developed. While a cure and a vaccine have eluded the scientist, considerable progress has been made in treating HIV as a chronic disease. The development of combination of drug therapies that suppress the viral load has greatly reduced the number of people progressing from HIV to AIDS. These various forms of treatment can greatly improve the quality of life of those infected with HIV. The early and effective treatment of opportunistic infections, the use of anti-retroviral therapy (ART) at appropriate stages of illness, improved nutrition and the administration of complementary medicines, can have a positive impact on the immune system (AIDS Epidemic Update, 2003: 8; Barnett & Whiteside, 2002: 42; Update on National HIV & AIDS Programme, 2003: 4).

2.11.1 Strengthening the immune system

People who are infected with HIV require treatment. According to Whiteside & Barnett (2002: 338) however, prior to treatment focus should be on 'positive living' where people are encouraged to eat healthy balanced diets, avoid stress, give up harmful substances such as drugs and alcohol and lead more balanced lives.

Update on National HIV and AIDS Programme (2003: 5) emphasises that the immune system can be strengthened and opportunistic infections averted by a whole number of interventions. Measures to alleviate poverty and improve nutrition are critically important to improving the quality of life to those infected with HIV or living with AIDS. Eating healthy food will not cure HIV, but it can help to keep the immune system strong. Soul City Life Skills (2001: 133) and Soul City (2004: 31) emphasise that people should eat lots of fresh fruit and vegetable, porridge, bread, chicken and fish. The South African government views its food security and poverty alleviation intervention as an intrinsic part

of its response to HIV/AIDS and TB. The importance of good nutrition for the health of people living with HIV/AIDS is stressed by the World Health Organisation. A number of measures aimed at enhancing nutrition were announced towards the end of 2002. These included measures to counter the impact of high food prices as well as enhancing the cultivation and use of more nutritional food (Update on National HIV & AIDS Programme, 2003: 5).

According to Godan and Klonda (1988) in Tabane (2004: 81-82) people can look after their immune systems through avoiding stress as much as possible. They need to get enough rest. They should also eat well and should avoid too much alcohol and tobacco. Smoking and drinking make the body weak. It is then easier for the virus to strong and for people to get AIDS quickly. People living with HIV are also encouraged to get daily exercise. People can go for a walk, play some sports or even going dancing. Finally they should also adopt safer sexual practices. This will prevent them from getting more HIV into their body because this is likely to hasten the progress of the disease. This will also prevent infection with other sexually transmitted diseases, which also appear to increase the risk of developing AIDS (Soul City Life Skills, 2001: 133; Soul City, 2004: 31).

2.11.2 Treating opportunistic infections

When people's immune systems begin to fail people infected with HIV contract opportunistic infections such as tuberculosis, diarrhoea and thrush. Most of these can be treated or in some cases prevented by the judicious use of drugs (Barnett& Whiteside, 2002: 338).

According to Update on National HIV and AIDS Programme (2003: 4) public health facilities have a responsibility to offer treatment of opportunistic infections. People living with HIV/AIDS need to get treatment for infections to save their immune systems from unnecessary work, for example tuberculosis (TB) and sexual transmitted diseases. Treatment for TB is free and available in the public health sector. However to prevent the onset of infection common to people infected with HIV there is a need to:

- Detect cases much earlier. Presently many TB patients report at an advanced stage of illness.
- Ensure completion of the course of treatment through a nationwide system of support
- Facilitate access to good nutrition during treatment (Update on National HIV & AIDS Programme, 2003: 4).

Success in this area depends on increase public awareness and collaboration among key social partners. Tabane (2004: 84) states that communication plays a vital role in promoting all STD/HIV/AIDS prevention and clinical care for opportunistic infections. Education can be addressed through educational programmes based on sound medical, social and psychological knowledge.

2.11.3 Anti-retroviral therapy (ARVT)

According to Barnett and Whiteside (2002: 338) as the immune system deteriorates, people infected with HIV, need to be provided with anti-retroviral therapy. These drugs medicines do not cure HIV and AIDS but they can help people live longer and more healthily (Soul City Life Skills, 2001: 133; Soul City, 2004: 37).

Antiretroviral therapy involves the application of medicines that stop a retrovirus HIV from damaging the individual immune system. As already mentioned in this chapter, unlike other viruses, retroviruses are constructed from genetic material called RNA hence are not easy to treat. Antiretroviral (ART) drugs interfere with the life cycle of the retrovirus and help the immune system to recover. Furthermore, these medicines reduce viral load so people are less infectious (if they practice unsafe sex) experience fewer opportunistic infections and require less treatment. Since 1996 in countries such as the United States of America, highly active antiretroviral therapy (HAART) has dramatically reduced death from AIDS and hospital admission for AIDS complications. People have been able to return to full functioning (Barnett & Whiteside, 2002: 339; Evian, 2000: 80).

Evian (2000: 79), Soul City (2004: 37) and Van Vuren (2004: 218) describe the purpose of anti-retroviral therapy as to achieve viral suppression and reduce the level of HIV RNA to as low a level as possible, for as long as possible. ART suppresses HIV, maintaining

the integrity of the immune system and postponing development of opportunistic infections. This is in turn will result in less immune damage and will reduce any continued decline in the health status to the patient. Antiretroviral treatment is needed to improve the quality of life and survival of HIV positive- people. This would delay the onset of full- blown AIDS for people already infected but having not developed AIDS. This will help them to lead healthier lifestyles (Evian, 2000: 79; Love life, 2003: 1; Van Vuren, 2004: 218; Whiteside & Barnett, 2002: 339).

According to Soul City – Know the Facts (2002: 1) there are three main reasons of using ARTs namely:

- To reduce the risk of women passing HIV to their newborn child. This involves a short course of medicine.
- To reduce the risks of people getting HIV so that they stay healthier and livelong. Antiretroviral therapy used to treat HIV/AIDS involves taking three or more different therapy or most commonly known as High Active Antiretroviral Therapy (HAART). The different drugs work together to tackle HIV in different ways. These medicines must be taken for life and requires high physician and patient compliance to be effective (Barnett & Whiteside, 2002: 339).

The AIDS Epidemic Update (2004: 5) notes that most people who need antiretroviral treatment in many countries now can access it. However, despite the improvements, coverage remains uneven and in several respects, highly unsatisfactory. UNAIDS and WHO specify that approximately 440 000 people in low-and middle income countries were receiving antiretroviral treatment as of June 2004. This means that nine out of every ten people who need antiretroviral treatment, the majority of them in sub-Saharan Africa are not receiving it. If this low level of coverage continues five to six million people will die of AIDS in the next two years. Treating and caring for the millions of Africans living with HIV/AIDS poses an inescapable challenge to the African continent and the world at large (AIDS Epidemic Update, 2004: 4-5; Report on the Global AIDS Epidemic, 2004: 1).

South Africa is one of the African countries that adopted a policy to ultimately make antiretroviral therapy available to improve the lives of the more than five million HIV positive- people. However, comparatively few people are currently benefiting from this

commitment. According to Sunday Times (2005: 2) the South African president Thabo Mbeki, mentioned in one of his speeches in 2004 that some 53 000 people would be receiving free anti-retroviral drugs (ARVs) from 113 state-accredited health centres by March 2005. However, that target has not been met and AIDS activists estimate that only 20 000 people are receiving free ARVs. It is therefore noted that these efforts are valuable but measured against the extent of need; they are plainly inadequate. At the moment, many people living with HIV/AIDS in South Africa find it hard to get access to this service and hence are dying in numbers. The financial, emotional and physical price of the treatment is great.

Evian (2000: 180), Daigle et al. (1999: 3) and Van Dyk (2001: 71) identified the following factors as associated with the provision of antiretroviral treatment:

- The cost of drugs. Because anti-retroviral therapy is expensive, it is beyond the reach of most people who are HIV positive.

- Side effects may occur. The side effects of the medications may be disconcerting or potentially toxic. Some patients may experience side effects such as nausea, vomiting, abdominal discomfort, diarrhoeal, skin rashes fatigue, headache, anaemia, liver toxicity, fever, peripheral neuropathy and kidney stones.

- The need to maintain treatment on an ongoing basis and adherence to therapy may be a problem. A patient who wants to take anti-retroviral therapy should be committed and well informed and should be in a position to adhere to a stitch medication regime. This means they should be able to take 2 to 3 tablets three times a day (taking some dosages with food and some on an empty stomach).

- There is the potential for HIV to develop resistance to the drugs. Current treatments are permanent and life-long. It is therefore, absolutely essential for the patient to adhere strictly to the therapy. Patients often stop treatment because of side effects and this may lead to the development of viral resistance to the drugs.

- Some drug regiments are complex. Drug therapy should be monitored on a regular basis by measuring the viral load. This monitoring enables one to know whether the viruses are being successfully suppressed.

Soul City – Know the Facts, (2002: 1-2) pinpoints that although HIV cannot be cured, through HAART it is becoming a manageable chronic disease similar to diabetes or high blood pressure. It is also stated that people who take HAART need careful monitoring and must take their medicines every day without fail. If the medicines are not taken properly, the virus can become resistant to the medicines. These medicines are considered to be able to block the replication of HIV; however it is uncertain whether replication is ever total suppressed. Research suggests that once ARVT is discontinued, viral replication is usually resumed and viral loads usually rise again (Evian, 2000: 81).

According to Wilson, et al. (2002: 154) although treatment in the form of medicine is an essential tool in the response to the morbidity and mortality caused by HIV/AIDS, people living with the virus still need to have access to care and support to cope successfully with HIV/AIDS. Care could include the medical, social educational and spiritual aspects. Examples include ongoing counselling; help with cooking and or cleaning; food parcels; material support; wound care; basic hygiene; supervision of drug taking and treatment of tuberculosis.

Because hospital care is expensive, Van Dyk (2001: 327-328) mentions that home based care is often the best way to look for someone with AIDS. It involves giving care to individuals in their own homes when their families, their extended families or those of their choice support them. The main goal of community home-based care programmes is to provide the organisational structures, resources and framework that will enable the family to look after its own sick members. The family and community are empowered to cope effectively with the physical, psychological and spiritual needs of those living with HIV/AIDS. The family is supported by a multidisciplinary team and complementary caregivers consisting of a medical practitioner, nursing supervisor, social worker, health educator, physiotherapist, occupational therapist, AIDS health promotion workers, volunteers, traditional healers, religious healers and religious leaders. Home-based care will only be as successful as the ability of the identified team to meet the needs of the

client in the home environment (Daigle, 1999: 4; Evian, 2000: 299; Frohlich, 1999 in Van Dyk, 2001: 327).

According to Daigle et al. (1999: 4) care in the home for the person with HIV or AIDS occurs on a continuum. It begins when a person is first diagnosed with HIV/AIDS, and it can continue through the course of the illness until death. During the time of death, if possible the family can involve other terminal care agencies such as hospice associations, cancer associations and AIDS organizations, to assist in managing a dying family member. Social workers, clinical psychologists, bereavement counsellors are often experienced in dealing with these issues and may be very helpful (Evian, 2000: 299).

Ultimately, AIDS treatment and care will only be affordable and sustainable if HIV prevention is effective and only then can the spread of AIDS be halted. Lovelife (2003: 2) emphasises that antiretroviral treatment is not a cure and an HIV+ person is still infectious and must always practice safe sex. According to UNAIDS business as usual spells disaster. A massive effort is needed to achieve a response on scale that matches that of the AIDS epidemic. Without invigorated HIV prevention strategies that deal boldly with the epidemic, the world is unlikely to gain the upper-hand over AIDS in the long run (AIDS Epidemic Update, 2004: 5).

This section has established that the diagnosis of the presence of HIV infection was once a sentence of death. Now with the advent of newer drug therapies and improved access to health care, some view AIDS as more of a chronic illness. It has been argued that the use of antiretroviral therapy can lead to a drop of a number of deaths. People are expected to live for more than ten years with the disease and a compromised immune system. However in the absence of treatment, infected individuals can expect to experience periods of illness that increase in frequency, severity and duration. South Africa is challenged by the prospect of a vast and growing burden of illness and death associated with AIDS. The financial price of treatment is great. The implications on human development are extensive. HIV/AIDS is among the greatest challenges to sustainable economic, social and civil society. In the following section focus will be on impact of HIV/AIDS on the South African society at large.

2.12 THE IMPACT OF AIDS IN SOUTH AFRICA

The rate at which AIDS is spreading in South Africa will have far reaching implications tearing at the fabric of social life in this country. It undermines all aspects and all sectors of the entire society. An increase in sickness and death will have implications on the population, economy, education, health, individual, household and welfare services.

2.12.1 The demographic impact of AIDS

According to Barnett and Whiteside (2002: 167) demography looks at populations and their dynamics. It is concerned with the numbers, growth rates and structure of populations. It measures and predicts size and growth rates, structure by gender and age and key indicators like birth, death and fertility rates, life expectancy and infant as well as child mortality.

The most direct demographic consequence of AIDS is an increase in mortality (Barnett& Whiteside, 2002: 168). An analysis of South Africa's death registration data shows a steep rise of mortality in the past six years. The official statistical SA agency released a new report on the causes of death on 18th February 2005 which indicates that South Africa's death rate jumped 57% between 1997 and 2003 with HIV/AIDS emerging as one of the main killers (Agence France, 2005: 1; Venter & Brown, 2005: 2; Sunday Times, 2005: 1).

Detailed demographic surveillance is providing further evidence of steep rises in mortality. One such survey, conducted in rural area of Kwazulu-Natal province, which has high HIV prevalence among pregnant women, has confirmed a sudden massive rise in adult mortality starting in the 1990s with AIDS constituting the leading cause of adult death (48%) by 2000. These AIDS mortality rates will almost certainly worsen in the coming years, since HIV prevalence levels in this particular province rose steeply in the late 1990s (Hosegood, Vanneste & Timaeus, 2004 in AIDS Epidemic Update, 2004: 8).

These AIDS mortality rate clearly indicates that the overall impact will be that South Africa's population will decline dramatically. A study released by the Pretoria based

University of South Africa has concluded that the pandemic is set to reduce the countries population by as much as 12 million. The study approximated that without HIV/AIDS South Africa's population would top 61 million in 2015, however, the effects of the disease would leave no higher than 49 million (International Hope HIV Updates: 2003: 1).

According to Barnett and Whiteside (2002: 174) mortality rates crucially affect life expectancy indices. The lower the death rates, the more people will survive through an entire age cohort, and thus the number of years lived will be greater. The higher the death rates, the fewer people will survive through an entire age cohort, and thus the number of years that a new born infant can expect to live will be lower. The above-mentioned study indicates that life expectancy in some of the worst hit provinces could reach as low in eight years. At present South Africa has a population of 45 million of which more than five million are estimated to be infected with HIV/AIDS (International Hope HIV Updates: 2003: 1).

Anthony Kinghorn and Malcolm Steinberg of HIV Management Services reported that within 3 years almost 250,000 South Africans will die of AIDS each year (AIDS Epidemic Update, 2003: 2). The projections indicate an increase of mortality in South Africa. AIDS has been identified as the major cause of deaths of adults aged 15-44. However, HIV/AIDS does not only affect adult mortality. Mother to child transmission means increased infant and more particularly child mortality. According to Barnett and Whiteside (2002: 173) between 13% and 45% of children born to infected mothers are infected. Many survive beyond their first birthdays, but sadly most do not reach their first birthdays. Thus the greatest impact is on child rather than infant mortality.

Barnett and Whiteside (2002: 169) conclude by emphasising that the demographic impact of HIV/AIDS is largely unstoppable. The population will grow more slowly and the overall structure of the society will change. The demographic effects that have been outlined are the origins of the economic and social consequence that will be explored next.

2.12.2 Impact on the economy

A healthy economy is essential for the well-being and self-sufficiency of any country. Report on the Global AIDS Epidemic (2004: 2), Whiteside and Sunter (2000: 6), Poku (2001: 193) and AIDS Epidemic Update (2003: 4) agree that the economy is likely to suffer the most as a result of HIV/AIDS. AIDS is likely to reduce the growth rate of the labour force as it primarily strikes the working-age population. AIDS is a real threat to the productivity of all commercial firms. Organizations survive by providing services or producing other kinds of output. Business organisations aim to make profit. According to Barnett and Whiteside (2002: 242-243) HIV/AIDS raises costs, reduces the productivity of individual workers and alters the firm's operating environment through:

- Increased absenteeism, the result of employee ill health or because staff, particularly women, take time off to care for sick members of their families or because funeral ceremonies are frequent and time-consuming;

- Falling productivity: workers whose physical or emotional health is failing will be less productive and unable to carry out more demanding jobs;

- Employees who retire on medical grounds or who die have to be replaced and their replacements may be less skilled and experienced;

- Recruitment and training of replacement workers incurs costs for an organisation;

- Employers may increase the size of the workforce and hence payroll cost to cover for absenteeism;

- As skilled workers become scarcer, wages rates may increase;

- The business environment may change with investors reluctant to commit funds if they think AIDS and its impact will compromise their investments and returns.

According to Kramer (2003: 21) and Van Vuren (2004: 214) South Africa is more dependent on skilled labour and is already battling with a skills shortage. AIDS will exacerbate this and raise remuneration and replacement for companies. If managers, engineers, technicians and all other skilled workers are frequently absent from their work because of AIDS-related illnesses, economic output is bound to be affected. Barnett and Whiteside (2002: 243-244) mention that it is not in the interests of an employer to retain workers who are unable to perform and who are chronically sick. Legal protections provide most employees with days of paid and unpaid sick leave. Once these are exhausted the person is dismissed. Therefore, employees may force themselves to come to work fearing that if they don't they will lose their jobs. But they will not be effective while they are there. Loss of skilled and professional staff could hamper business and government operations, and possibly slow economic growth (Barnett & Whiteside, 2002: 243; Kramer, 2003: 21).

The study of African enterprises found that HIV-related absenteeism accounted for 37% of increased labour costs and AIDS absenteeism accounted for a further 15% (Barnett & Whiteside, 2002: 244). In addition Kramer (2003: 21) notes that indirect cost of AIDS include 45% loss in turnover/profit, 10% sick/compassionate leave, 10% in new recruitment and training, 10% legal costs, 5% of motivation/productivity loss and 20% in management and labour meetings.

As already mentioned business organisations activities are profit driven. Barnett and Whiteside (2002: 247-248) mention that in certain circumstances, HIV/AIDS could reduce the absolute number of potential customers by altering the 'demographics' of a society. The demographics of HIV/AIDS reduce numbers of consumers in the 25-49 year age group. In 2001, Deutsche Bank looked at soft drinks manufacture Amalgamated Beverage Industries (ABI) and found that the epidemic will adversely affect demand for the company products and it was estimated that the shrinking 'young' population will reduce sales growth by 12.5% over the next ten years (Barnett & Whiteside, 2002: 249).

HIV/AIDS is a real threat to economic growth. Through its impact on the labour force, and the economic sector there is a high risk that development and growth will be negatively affected. This might result in some companies being forced to close down.

2.12.3 Impact on the health sector

People with HIV/AIDS have a range of health care needs. Most HIV-related conditions can be managed effectively at the primary care level. However, as the disease progresses demand changes. Care is needed for both acute, treatable illnesses and terminal conditions. The epidemic has created a need for robust, flexible health systems in many governments. Health budgets and systems are strained by extending prevention and care for sexually transmitted diseases, counseling and testing, prevention of mother-to-child transmission services and HIV treatment. In settings where anti-retroviral drugs are available new systems are required to manage complex therapies and ensure adherence to treatments (Barnett & Whiteside, 2002: 308; UNAIDS, 2002: 50).

Epidemic Update (2003: 4) notes that HIV/AIDS is currently a substantial part of health care spending in South Africa. The direct cost on micro level includes those of screening, diagnosis, treatment and providing information as the loss of productivity and increased mortality. Government expenditure on health services is growing, and may be expected to account for the major share of the country's annual national budget. Increased demand is from people who are not normally users of health care: young adults. (Barnett & Whiteside, 2002: 308; Van Vuren, 2004: 213; Whiteside & Sunter, 2000: 6).

An increase in illness also increases the burden of care. The scale of this additional demand is particularly problematic. Health care sectors have difficulty in meeting basic medical care needs. Already, there under-resourced health services are not able to cope with the increased burden of care. In some cases patients are being discharged to their homes, and there has been an increase in home-based care of AIDS victims. Concurrently the human resources that are expected to provide these services will also be depleted by the epidemic (Barnett & Whiteside, 2002: 308; Van Vuren, 2004: 213; Whiteside & Sunter, 2000: 6).

The effects of HIV/AIDS are enormous. The challenge of the health care sector is to manage the burden on without shifting unsustainable burden on to individuals, families and communities.

2.12.4 Impact on the educational sector

The school is the place where children can acquire new knowledge and life skills. Education is crucial in the life of any child. However, AIDS is a significant obstacle to children achieving universal access to primary education. Education faces both supply and demand side impacts (Barnett & Whiteside, 2002: 310; Van Vuren, 2004: 212).

Impact on demand: Demographic impact results in smaller numbers of children needing education. Fewer children are born and many HIV-infected infants do survive to school age. Enrolment may be further affected by household economic difficulties and the need for children's labour. The school population is expected to reduce dramatically as more and more children are taken out of schools so that they can work as carers in their families or shoulder the responsibility of managing the family as heads of the household (Van Vuren, 2004: 212).

According to Barnett and Whiteside (2002: 311) as well as the Report on the Global AIDS Epidemic (2004: 2) children, especially girls, from AIDS-affected families are already often withdrawn from schools to compensate for loss of income through a parent's sickness and related expenses, to care for sick relatives and look after the home. These families may also take their children out of school because they cannot afford school fees (UNAIDS, 2002: 52).

In addition Van Vuren (2004: 213) mentions that as the disease spreads and starts affecting adolescents and the younger age groups, fewer children will be admitted into schools. Teachers are likely to have to cope with poor performance on the part of the learners who are either infected with or affected by the disease. Poor performance will also affect the prospect of children who rely on scholarships to further their education.

Impact on supply: The education system is also affected when staff becomes infected and affected. According to Barnett and Whiteside (2002: 311) all teachers are at risk and there are indications that they may be at greater than average risk. Their status and income create opportunities for high-risk behaviour. Increase in HIV infection among teachers means that there is shortage of school-teachers. Absenteeism among teachers and

pupils has increased, and sick leave request has become more frequent. As the suffering and deaths brought about by the disease start making their impact in the classroom, morale will drop and schools will be confronted with the need to provide emotional support to both educators and learners (AIDS Epidemic Update, 2003: 2; Van Vuren, 2004: 213; UNAIDS, 2002: 52; UNICEF, 2003: 3).

Finally, this section will examine the impact of AIDS at the individual, household and welfare level. This is where the impact is felt first and worst. But it is also here, beyond the obvious clinical and medical consequences, that it is it hardest to measure.

2.12.5 Impact on the individual, households and the welfare sector

In the absence of treatment, infected individuals can expect to experience periods of illness that increase in frequency, severity and duration. A few individuals may through a combination of appropriate lifestyle, good nutrition and good luck, not fall ill. However for most, as CD4 cell counts decline, so does their state of health. Thus individuals who are infected always confront an impact on their health. The infected person invariably need a great deal of care, which can place an intolerable burden on the family, particularly since caring for a person living with AIDS may place the caregiver at risk of becoming infected. Furthermore, in most cases the infected persons also face an impact on the resources they have at their disposal. The disease may also exhaust the individual's financial resources. Individual resources may not be affected if one is fortunate enough to have an insured medical benefits or he/she lives in a society where care is provided free by the state and this is currently not the case in all poor countries (Barnett & Whiteside, 2002: 183; Van Vuren, 2004: 212).

The impact of HIV/AIDS on the South Africa's households can be severe. Generally, households are able to achieve food security when they can produce sufficient amounts of nutritious food, earn enough cash income to purchase food, and rely on social support networks for assistance. The HIV/AIDS epidemic is eroding each of these coping methods. It reduces households' capacities to produce and purchase food, depletes their assets and exhaust social safety nets. As greater numbers of youths, and adults succumb to the disease, there will be fewer economically active people to support and care for

children and elderly people (AIDS Epidemic Update, 2002: 31; Barnett & Whiteside, 2002: 187-189; Poku, 2001: 196; Van Vuren, 2004: 212).

Furthermore, AIDS put the family under pressure where people have to cope with a person suffering from AIDS. The infected person will require medical care and possibly special foods, thus increasing demands on household resources. Escalating medical costs have to be met, yet the family's income earning capacity is being depleted as members of the family have to forego work opportunities to stay at home and care for infected parents and/or siblings. (AIDS Epidemic Update, 2002: 31; Barnett & Whiteside, 2002: 187-189; Van Vuren, 2004: 212).

AIDS takes away the income and production capacity of family members that are sick, at the same time as creating extraordinary care needs and rising household expenditure on medical and other costs, such as funeral expenses. On average, AIDS care-related expenses can absorb one third of household's monthly income. Families may have to use their savings, sell assets such as land or livestock, borrow money or seek support form the extended family. They also have to reduce spending on housing and clothing. In South Africa and Zambia studies of AIDS-affected households – most of them already poor – found that their monthly income fell by 66%- 80% because of coping with AIDS related sickness (Report on the Global AIDS Epidemic, 2004: 2). The loss of income, additional care related expenses, the reduced ability of caregivers to work, mounting medical fees and funeral expenses collectively push affected households deeper into poverty (UNAIDS, 2002: 51).

According to the Report on the Global AIDS Epidemic (2004: 1) the epidemic impact is particularly hard on women and girls as the burden of care usually falls on them. Girls drop out of school to care for sick parent or for young siblings. Older women often take on the burden of caring for ailing adult children and later, when they die, adopt the parental role for the orphaned children. They are often also responsible for producing an income. These women may be isolated socially because of AIDS-related stigma and discrimination. Stigma also means that family support is not a certainty when women become HIV-positive. They are too often rejected, and may have their property seized when their husband dies (AIDS Epidemic Update, 2002: 31-32; Report on the Global AIDS Epidemic, 2004: 1).

According to South African AIDS Organization Update (2003: 2) welfare will face the challenge of dealing with those debilitated by AIDS and the increase of the elderly whose adult children die prematurely. Of particular concern is the impact on children.

The growing number of orphans is an extremely worrying development. Literally thousands of children are being left orphaned and homeless on a daily basis as the deadly HIV/AIDS sweeps across the globe. It is estimated that 20% to 40% of the children of HIV positive mothers will develop AIDS and probably die before the age of five (Whiteside & Sunter 2000: 71). However, 60 to 80 percent will not be infected but remain orphaned. It is estimated that by the year 2010, there will be over 40 million children left orphaned by this horrendous disease. Up to 95% of these children will be living in sub-Saharan Africa (Network for Good Report: 2003: 2). This is threatening since every child needs financial and emotional support and the care of their parents as they go through different stages of life. Without support, AIDS orphans and Street Children update (2003: 1) has warned that these children are in danger of slavery, diseases, or being forced into prostitution to survive. Since they have no money to survive and family support, these children end up on the street (Van Dyk, 2001: 334-335).

The majority of South Africans are already affected by this epidemic as it impacts on family members, friends and colleagues. The consequence of this is that many people end up deprived of basic social services.

The above section has provided a general overview of the impact of HIV/AIDS on South Africans. The epidemic is expanding much faster with its associated mortality rates and societal effects. The impact of AIDS on the population, health care services, education, economy, individual, household and welfare sector may lead to dramatic decline in the South African population, growing expenditure in the health care services, a loss of productivity, a burden on family life, more AIDS orphans and poor school performance. It has been argued that epidemic has very far-reaching consequences. HIV/AIDS is erasing decades of heath, economic and social progress, reducing life expectancy by year, deepening poverty, and contributing to as well as exacerbating food shortages. To meet these challenges, the worldwide response must outpace the epidemic itself. An effective

response demands committed, urgent, and sustained action by alliances of individuals, organizations and governments.

The following section looks at responses to the HIV/AIDS epidemic, where priorities have been and where they should have been.

2.13 PREVENTION STRATEGIES

Barnett and Whiteside (2002: 195) state that the greatest challenge for those who assist individuals to deal with the awful consequences of the AIDS epidemic is to develop interventions and methods of support. HIV/AIDS has succeeded in joining people around the world in common consciousness about its threats and implications. It is the only disease to have a dedicated United Nations Organisation – UNAIDS charged with the single aim of confronting it. Since there is no known cure for AIDS, prevention of HIV infection has remained critical (Barnett& Whiteside, 2002: 4; UNAIDS, 2005: 2; Van Dyk, 2001: 80).

According to Barnett and Whiteside (2002: 328) as well as Van Vuren (2004: 217-218) there are different range of interventions of preventing the spread of HIV/AIDS and most of these interventions have been biomedical and behavioural.

- **Biomedical**: The aim is to ensure that if someone has sex with someone who is infected, the risk is reduced. This includes the treatment of sexual transmitted diseases and the use of condoms. Sexual transmitted diseases compromise the sexual organs by creating lesion and ruptured membranes, making transmission of HIV into the bloodstream much easier. It is estimated that a person with a STD is three to five times more likely to be infected with HIV than a person without one. Sexual transmitted diseases management and control has been viewed as a key element of any HIV prevention programme. Biomedical intervention also involves provision of safe blood and blood products. Testing all donated blood and anti-selection – discouraging people in thigh-risk groups from donating. Mothers are also encouraged to take anti-retroviral therapy to cut down the risk of passing HIV on to their unborn babies. Medical researchers believe that the best hope for the epidemic is a vaccine. Such a

vaccine seems a long way off. However, many hope that one-day there would discover an HIV vaccine to prevent people from getting infected with HIV (AIDS Epidemic Update, 2003: 8; Wilson, et al., 2002: 62; Barnett & Whiteside, 2002: 328-330).

- **Knowledge, attitude and behaviour**: This set of intervention seeks to prevent people from being exposed to HIV. People have to make decisions to protect themselves. People are encouraged to stick to one partner and delay the first experience of sexual intercourse. People are also encouraged to take precautions when touching blood or blood fluids. Using of effective contraceptives such as condoms is also emphasised. Much has been written about this second set of intervention. However, it is increasingly recognised that knowledge is not enough. Most people are aware of HIV/AIDS. The problem is they do not see themselves as a risk (Barnett & Whiteside, 2002: 331; Wilson, et al., 2002: 62-64).

Many researchers agree that there has been a failure in dealing with HIV/AIDS so far. The above-mentioned responses have been inadequate and generally ineffective (Barnett & Whiteside, 2002: 4; UNAIDS, 2005: 2). Unfortunately, prevention has not worked in most of Africa. As already noted earlier South Africa's death rate jumped between 1997 and 2003 with HIV/AIDS emerging as one of the main cause of death. The release of the latest statistics on the causes of death come a week after President Thabo Mbeki declared in his state of the nation address that his government's plan to fight AIDS was "the best in the world" (Agence France, Presse, 2005: 1; Sunday Times, 2005: 1; Venter & Brown, 2005: 2).

UNAIDS (2005: 1) asserts that failure to control the spread of HIV/AIDS implies that new ways to fighting the epidemic must be found. The time of quick fixes and emergency responses is over. The argument is that policy makers and activists do not look beyond biomedical and behavioural interventions. They do not see the importance of factors that determine susceptibility to infection, that frame the behaviours that put people at risk. Responses must take account of determinants of the epidemic and address them. There is a need to balance the emergency nature of the crisis with the need for sustainable solutions. The principle of successful prevention is to ensure that people are not exposed

to the disease, or if they are, they are not susceptible to infection (UNAIDS, 2005: 1; Van Vuren, 2004: 217; Whiteside & Barnette, 2002: 333).

According to Whiteside and Barnett (2002: 333) in addition to the biomedical and behavioural interventions there is a need of 'upstream' intervention. The goal is to empower people to make decisions that reduce risks of infection, or to stick to existing behaviours that have the same effect. Currently prevention programmes are not reaching the people who need them, especially two highly vulnerable groups – women and young people (Report on the Global AIDS Epidemic, 2004: 1). Therefore, focussed efforts that protect these vulnerable groups are viewed as essential and will be discussed below:

- **Empowerment of women**

As highlighted earlier in this chapter the AIDS epidemic is affecting women and girls in increasing numbers. HIV infections are massively concentrated among women. These trends point to serious gaps in the AIDS response. Poverty, lack of education, poor access to health care and jobs, and social and cultural practices all contribute to women's lack of power and control over their decision-making. This powerlessness makes women especially vulnerable to HIV infection (AIDS Epidemic Update, 2004: 7; AIDS Epidemic Update, 2003: 14; Van Vuren, 2004: 211).

In most countries, most women do not know how to protect themselves against HIV infection. Social norms impose a dangerous ignorance on girls and young women, who often are expected to know little about sex and sexuality. That lack of knowledge magnifies their risk of HIV infection. Women and girls need more information about AIDS. A recent UNICEF survey found that up to 50% of young in high prevalence countries did not know the basic facts about AIDS (AIDS Epidemic Update, 2004:3-5). Yet the vulnerability of women and girls to HIV infection stems not simply from ignorance, but from their pervasive disempowerment. Most women become HIV infected through their partner's high-risk behaviour, over which they wield little if any control. In order to prevent the high infection rates of women, the root causes of their vulnerability, their legal, social and economic disadvantages must be addressed (AIDS Epidemic Update, 2004:3-5; Report on the Global AIDS Epidemic, 2004: 1).

In many places, HIV prevention efforts do not take into account the gender and other inequalities that shape people's behaviours and limit their choices. According to UNAIDS (2004: 1) for many women the "ABC" prevention approach (Abstinence, Being faithful and reducing number of sexual partners, and condom use) is insufficient. Many HIV strategies assume an idealized world in which everyone is equal and free to make empowered choices, and cannot to abstain from sex, stay faithful to one's partner or use condoms consistently. In reality women and girls face a range of HIV related risk factors that men and boys do not encounter. These factors are embedded in the social relations and economic realities of their societies. Strategies to address gender inequalities are urgently needed. Specifically, more work is needed on right-based approaches to the epidemic; to empower women who are most vulnerable. Empowering of women must address harmful practices, which contribute to the spreading of AIDS (AIDS Epidemic Update, 2004:3-5; UNAIDS, 2004: 1).

According to AIDS Epidemic Update (2004: 50) the fact that the balance of power in many relationships is tilted in favour of men can have life-or-death implications. Women often lack the power to abstain from sex or to insist on condom use. A recent study among women attending antenatal-care clinics in Soweto, found that women were more likely to be HIV positive in relationships where men wield considerably more power and control that they do (Dunkie et al., 2004 in AIDS Epidemic Update, 2004: 4). Therefore, it is suggested that special attention must be paid to prevent infection within marriages. Women need greater power and skills to help decide the terms of sexual relationships and at the same time the HIV risk of their male partners must be reduced. Concrete action is necessary to prevent violence against women such as tougher laws on rape and sexual harassment; ensuring access to property and inheritance rights, basic education and employment positions; and providing capital to assist women to become entrepreneurs (Stephenson & Obasi 2004 in AIDS Epidemic Update, 2004: 5; Barnett & Whiteside, 2002: 333; UNAIDS, 2004: 17).

Van Dyk (2001: 94) mentions that women and young people can be empowered by being taught communication skills, negotiation skills, assertiveness, decision-making strategies, self-esteem, self-efficacy, life skills and the fundamental of competent sexual behaviour, problem solving and conflict resolution. Through these skills they can be empowered to

address their own health concerns and find solutions to solve their own problems. Empowered people are in a better position to implement effective HIV prevention programmes.

- **Behaviour change programmes especially for young people**

According to Van Vuren (2004: 211) 50% new infections are now accruing in young people aged between 10 and 24, with young women more prone to becoming infected than young men. The latest estimates are that 7000 young people are being infected with HIV every day (Van Vuren, 2004: 211). More than three quarters (77%) of young South Africans living with HIV are female (AIDS Epidemic Update: 2004: 7). UNAIDS and WHO stipulate that the future trajectory of the HIV/AIDS epidemic depends on whether the world can protect young people everywhere against the epidemic and its aftermath. Young people need to be treated as a priority in all HIV/AIDS related activities. Effective prevention among young people is essential (AIDS Epidemic Update, 2002: 5; AIDS Epidemic Update, 2004: 7).

UNAIDS (2005: 3) notes that one of the main driving forces of the epidemic in South Africa is sexual behaviour, and if it were to change the spread of the epidemic will diminish. Van Vuren (2004: 217) notes that as sex is the main mode of transmission, it is here that winning strategies are needed. Good sexual health is seen as paramount (Van Vuren, 2004: 217).

Protecting the rights of young girls is viewed as a key to lowering HIV prevalence among young people. In order for this to occur, it would require that the freedom of women become integrated into black culture, as gender oppression has always been a large problem (Report on the Global AIDS Epidemic, 2004:1; UNAIDS, 2005: 3).

Furthermore, young people need access to confidential health information and condoms (Report on the Global AIDS Epidemic, 2004: 1). To support the behaviour change needed for safer sexual practices, the South African government has expanded the provision of both male and female condoms. Various surveys – mainly by independent researchers and Human Science Research Council have confirmed increase use of condoms, easy access to

condoms and government clinics as the major source of free condoms (Update on the National HIV and AIDS Programme, 2003: 3).

- **Preventing mother to child transmission of HIV**

Supplying the mother with a short course of AZT and Nevirapine drugs prior to birth and the infant after birth, has been shown to reduce HIV transmission from mother to child as much as 30 percent. Furthermore, in the case of nevirapine the dosage regimen is much simpler and more cost effective; the mother requires a single dose of the drug whilst in labour and the baby a single teaspoon of the syrup at birth (AIDS Epidemic Update, 2003: 9).

The programme to prevent mother-to-child transmission of HIV by providing Nevirapine to mother and baby is in place in South Africa. Most provinces are now extending the provision of this service to more facilities (Update on the National HIV and AIDS Programme, 2003: 3; AIDS Epidemic Update, 2003: 9). However fear of discrimination still prevents many women from using this service. Negative attitude can result in people denied the treatment, care and support they need. They discourage people from being tested. According to the Update on National HIV and AIDS Programme (2003: 8) government is therefore intensifying its campaign against discrimination.

The prevention of mother-to-child transmission is viewed as involving more than simple provision of antiretroviral drugs. It also requires appropriate counseling and testing services as well as support from mother and infants, including counseling on infant feeding options. An HIV-infected woman should receive counselling, which includes information about risks and benefits of different infant feeding options and specific guidance in selecting the option most likely to be suitable for her situation. The final decision should be the woman's and she should be supported in her choice (Joint UNAIDS/WHO Press Release, 2000: 2).

The above discussions have again emphasised that HIV is a real threat to the survival of many. Vaccines can provide a form of protection against disease, but they are not yet available for HIV. The most effective intervention is the empowerment of the two

vulnerable groups – women and young people. Furthermore all people need to be encouraged to change their unsafe sexual practices.

2.14 CONCLUSION

This chapter has established that South Africa has entered the epidemic phase where the rapid spread of AIDS is experienced. HIV/AIDS has changed the lives of individuals, ruined their health, caused their deaths, and left survivors to mourn. It is changing not only individuals' lives but also the trajectories of the whole societies. This overview of HIV/AIDS demonstrates the complexity of the epidemic. Current efforts have failed to make a significant impact, with the result that the HIV/AIDS epidemic will continue to wreak havoc in communities where it takes hold. New efforts to prevent infection that are addressing the social context in which behaviour takes place will hopefully achieve much needed containment of the epidemic.

In this chapter it has been indicated that the disease has implications far beyond the individual bodies that it destroys. It has social and economic consequences. The most prominent issue is the number of children who will be orphaned by losing their parents to AIDS. Amongst the most threatened are children from 'infected' household who are affected both before and after the deaths of their parents. The consequences of not caring for affected children will be felt throughout society for generations. To avert this social disaster it calls for imaginative responses from both the public and private sectors. The following chapter will focus on issues surrounding AIDS orphans.