

**ASSESSMENT OF THE GENERAL
KNOWLEDGE, TRANSMISSION KNOWLEDGE
AND PREVENTION KNOWLEDGE OF AIDS AT A
MANUFACTURING COMPANY**

BY

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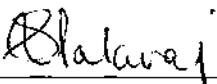
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Ms. Seema Maharaj

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Abstract

The intentions of this research were to determine the general knowledge, transmission knowledge and prevention knowledge of AIDS prior to commencing an AIDS awareness-training programme; establish the general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness-training programme; to determine whether there is a significant difference in the subject's general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness-training programme and to establish whether there is a significant difference between the pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge of AIDS, among the respective biographical variables.

The results of the study established that all participants had some General Knowledge, Transmission Knowledge and Prevention Knowledge on AIDS. Employees who participated in the programme had improved their knowledge on AIDS after attending the training programme. The results of the study had found no significant difference between pre-test and retest score for age groups, race groups, religious groups, marital status groups and language groups. The results did however indicate some variation in pre-test scores and retest scores between the gender groups.

The literature review examined AIDS from a biological perspective, a global and South African perspective and an Industrial relations perspective. The workplace issues pertaining to AIDS were discussed and responses to the AIDS crisis were highlighted. AIDS policies, training programmes and employee's assistance programmes were analysed, as options for organisations, in their fight against AIDS. A questionnaire was used to establish the general knowledge, transmission knowledge and prevention knowledge of AIDS of the 307 employees that participated in the programme.

The findings in this study support the perception by companies that providing awareness training programmes will assist by increasing the knowledge of what is AIDS, how is it transmitted and how it can be prevented. This study revealed that after a training programme, employees were more knowledgeable on AIDS than before the training programme.

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Finally, to my son, Ayush, for allowing me to steal some time from his most precious years. Thank You Baby! I promise to make it up to you. Love you always, Mum.

Dedication

To my mum:

Thank you for your support and love. This has not been an easy journey and even more difficult that you are not here to see me complete this journey. Everything you did has always been for your girls. You have worked so hard and made so many sacrifices for us. I wish you were here to celebrate with me. I miss you dearly. I am sorry I never told you enough how important you are to me and how much I love you. Seema

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CHAPTER 1: INTRODUCTION

1.1. Introduction

The HIV/AIDS epidemic is believed to be one of the most critical crises facing the world. It goes to the heart of the human existence, challenging us physically, psychologically, spiritually, socially and economically. The African continent, particularly Sub-Saharan Africa, is one of the worse affected areas. Despite having made a monumental successful transition to political justice, South Africa's economic and social transition is now being threatened by the HIV/AIDS epidemic. There is no doubt the social impact of HIV/AIDS is devastating at the level of the family and the household, as bread winners die, the number of orphans increase, household dependency ratio changes and resources become exhausted (Parker, Kistner, Gelb, Kelly & O'Donovan, 2000; Whiteside & Sunter, 2000).

HIV/AIDS, and its potentially devastating effects on both communities and organizations, has become an increasingly important strategic issue and figures highly on an organisation's risk management strategy (Bruton, 2002). Focusing on organizational, rather than individual survival, this study explores the management of HIV/AIDS at the workplace. Many companies have undertaken research on HIV/AIDS in order to include projections in their management strategies and to develop policy and programme responses.

1.2. Motivation for the Study

The emergence of HIV/AIDS in the 1980's has resulted in one of the most devastating pandemics in history and has aroused more concern, research and media coverage than any other health concern. Yet the pandemic is still progressing (UNAIDS, 2004).

With almost 5 million South Africans infected with HIV (Ellis and Terwin, 2004), South African companies cannot ignore the impact of the epidemic on the workforce, the company and the economy. Ignoring the problem will not make the AIDS epidemic disappear. Companies would have to follow sustainable and valuable Aids training programmes to limit the threat and risks AIDS poses to businesses.

It is the intention of the researcher to highlight the importance of organisations becoming actively involved in processes that may contribute largely towards the reduction of the HIV infection and spread of the AIDS virus. It is also the intention of the researcher to establish if organisational intervention will impact on the General Knowledge, Transmission Knowledge and Prevention Knowledge of their employees.

Few studies have assessed the knowledge and awareness of AIDS. Outdated AIDS information is compounded with limited access to what company's label as "confidential information" creating more difficulties for researchers to do comparative studies. Isolated studies done by large organisations are often archived by companies without publication of results or analysis. Companies such as BMW and Daimler Chrysler have undertaken large commitments to educate their employees on AIDS however these are privately driven programmes hence the lack consolidated reports. Active involvement from all people and organisations can assist in reducing and ultimately eliminating new HIV infections.

1.3. Problem Statement

It is the intention of the researcher to ascertain the following:

"Does the Aids awareness training programme increase employees General Knowledge, Transmission Knowledge and Prevention Knowledge of Aids?"

1.4. Objectives of the Study

The objectives of this study are:

- I. To determine the general knowledge, transmission knowledge and prevention knowledge of AIDS prior to commencing an AIDS awareness-training programme.
- II. To establish the general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness-training programme.
- III. To determine whether there is a significant difference in the subject's general knowledge, transmission knowledge and prevention knowledge of AIDS after completing the AIDS awareness-training programme.
- IV. To determine whether there is a significant difference between the pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention

knowledge of AIDS, among the respective biographical variables (gender, age, marital status, race groups, religious groups and language groups).

1.5. Hypotheses

Sekaran (1992:79) defines a hypothesis as “a logically conjectured relationship between two or more variables expressed in a form of testable statements”. The following hypotheses were generated for this study.

- I. There is a statistically significant difference in overall pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge.
- II. There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the gender groups.
- III. There is a statistical significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the age groups.
- IV. There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the various marital status groups.
- V. There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the race groups.
- VI. There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the religious groups.
- VII. There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the various language groups.

1.6. Significance of the Study

This study contributes to the existing body of knowledge available on AIDS awareness programmes and their effectiveness and implementation into the workforce. Studies on HIV statistics are numerous however there are few available studies on the impact of awareness programmes. It is hoped that this study will stimulate further research into the areas of AIDS education programmes and their effectiveness and implementation into the workforce.

1.7. Limitations of the Study

Few studies exist that assess the knowledge and awareness of AIDS. Those available are both too old and difficult to access or are focused on the knowledge and awareness of children in Junior or High Schools and not knowledge and awareness levels at the Workplace.

Most of the studies on HIV and AIDS primarily focus on HIV prevalence rate as opposed to Knowledge and awareness, making it very difficult to do a comparative analysis.

Studies done by various companies on Knowledge and awareness levels of employees were not easily accessible or available at local libraries. Due to the high volumes of HIV research, a web search often became difficult. Such examples include the BMW 2001 KPA survey and Daimler Chrysler KPA Survey.

A factor that could have confounded the results is the participants' exposure to extraneous variables such as newspaper articles, television programmes and aggressive publicity campaigns geared towards increasing people's awareness about AIDS. It is therefore difficult to attribute increased knowledge solely to the AIDS Awareness training program.

The extremely high cut off score of 75% used to select retest group had resulted in a very low score gap between the pre-test and retest.

1.8. Summary of the Chapters

Chapter 1

In this chapter, an attempt was made to outline the primary objectives of the study, the motivation for the research, as well as hypotheses generated for answering the research question being investigated.

Chapter 2

Chapter 2 reviews the nature and extent of the AIDS disease. Primary focus has been placed on the general knowledge, prevention knowledge and transmission knowledge of this epidemic.

Chapter 3

This chapter examines the impact of HIV/AIDS on the business sector as well responses and actions considered by management to help manage the effects of this epidemic on their workforce.

Chapter 4

Chapter 4 details the research design and methodology used in this study. This encompasses the sampling design, data collection methods, procedures followed and the data analysis technique used in the process.

Chapter 5

In this chapter the results of this study was presented. This includes the pre-test and retest, measures of central tendency, dispersion and inter correlation. The hypotheses formulated for this study is also presented.

Chapter 6

In this chapter, the results presented in Chapter 5 are discussed. This encompasses a discussion of the pre-test and retests measure of central tendency, dispersion and inter correlation. The hypotheses formulated for this study is also presented and discussed.

Chapter 7

Chapter 7 concludes the findings of the study and makes recommendations based on theory and the findings. Implications for future research are discussed.

1.9. Conclusion

In this chapter, the areas to be investigated were outlined, objectives of the study were formulated and hypotheses of the study were identified. Subsequent chapters will review the literature review to this study, research methodology used in the study, presentation of results, discussion of findings, conclusion and recommendations made from the findings.

CHAPTER 2: NATURE OF HIV/AIDS

2.1. Introduction

Acquired Immune Deficiency Syndrome (AIDS) is an extraordinary kind of crisis; it is seen as both an emergency and a long-term development issue internationally. The World Health Organisation (WHO, 2000) reported that the emergence of this disease in the 1980s has resulted in one of the most devastating pandemics in history and had aroused more concern, research and media coverage than any other health condition. Despite increased funding, political commitment and progress in expanding access to treatment, the AIDS epidemic continues to out pace the global response, sparing no region of the world.

The United Nations has reported that the AIDS epidemic remains extremely dynamic, growing and changing character as the virus exploits new opportunities for transmission. According to the UNAIDS, by 2003 a staggering 20 million people had been killed by AIDS since its first diagnosis in 1981 and five million had been newly affected worldwide, with South Africa having the highest number of people living with AIDS (UNAIDS, 2004).

The social and economic consequences of these figures, reported by the UN in 2004, are far reaching and have affected all facets of life in South Africa. This kind of drain on people and finances has made a lasting impression on business as their economic bottom line is attacked. As is the case with any risk in business, awareness of the impact of Aids has given rise to proactive management of the problem at the workplace. To actively and effectively discuss the management of the HIV and AIDS risk, information regarding the nature and extent of this disease has been outlined in this chapter. Primary focus has been placed on the general knowledge, prevention knowledge and transmission knowledge of this epidemic.

2.2. General Knowledge

A general overview of what is HIV and AIDS, how it was discovered; the progression and treatment are discussed in this section.

2.2.1. Definition of HIV and AIDS

Human Immunodeficiency Virus, commonly known as HIV, is a member of the retrovirus family (RNA). Retroviruses, using human cell structures and energy, replicate through transcription and integrates into the DNA of the host cells, affording HIV to establish (Chun, Finzi, Margolick, Chadwick, Schwartz and Siliciano, 1995). A person with the HIV disease is merely infected with the virus and their relatively intact immune system will develop antibodies to fight this virus, however, these antibodies are unable to overcome and destroy the virus that attaches itself and destroys the CD4 cells or t-cells, which support and control the immune system. Over a period, HIV can result in a person becoming ill because of opportunistic infections. This is when AIDS is diagnosed (Schoub, 2000).

AIDS is an abbreviation for Acquired Immune Deficiency Syndrome. According to Roberts (1988) cited in Vajeth (1993:14 -15), one can achieve an understanding of what AIDS is by focusing on the definition of the individual words of AIDS:-

Acquired means it is an illness that is contracted e.g. babies can be born with the AIDS virus. They can acquire it through the mother.

Immune system describes the body's defence system. This is the way the body protects itself against illness.

Deficiency means "not enough of". With AIDS, the body does not have an adequate immune system and is not in a position to counteract infections.

Syndrome is a word used by doctors when an illness has several particular symptoms, which they recognize, are abnormal.

AIDS is therefore interpreted as a collection of 70 or more conditions, which result from the damage done to the immune system and other parts of the body, because of infections from HIV (Roberts, 1988 cited in Vajeth, 1993:15).

2.2.2. Discovery of HIV

It is still unclear how and when HIV and AIDS originated. Some experts have cited discovery in Central Africa from 1915-1941, where the first human contacted the virus from a chimpanzee, while others believed it was in Belgian Congo in 1950 during contaminated Polio vaccine trials. According to Shell (2000), the earliest serum specimen

with HIV antibodies was retrieved in 1959 in Kinshasa in Zaire. The fact is there was no definite evidence to support any of these theories (Green, 2000).

In 1981, homosexual men with symptoms that are now considered diagnostic of AIDS were first identified in the USA. The men had an unusual type of lung infection (pneumonia) called *Pneumocystis Carinii* Pneumonia (PCP) and rare skin tumours called Kaposi's sarcoma. The patients were noted to have had severe suppression of a specific type of immune blood cells, called CD4 cells. In central Africa, health care workers described a new disease called "slims" disease, also due to immune deficiency. Shortly thereafter, this disease was recognized throughout the United States, Western Europe, and Africa. In 1983, researchers in the United States and France described the virus that causes AIDS, now known as HIV. In 1985, a blood test became available that measures antibodies to HIV, which thereby detects the body's immune response to the HIV (Evian, 2000).

The first two AIDS cases in South Africa were diagnosed in 1982 with the first recorded death occurring in 1985. By the end of 1990, the heterosexual pattern had overtaken the homosexual pattern as the dominant form of transmission in the reported cases. By the end of 1995, 9 000 cases had been reported (Whiteside & Sunter, 2000). By 2003, antenatal clinics reported an HIV infection rate in South Africa of over 4.2 million cases (Department of Health, 2003).

2.2.3. Stages of HIV Infection and their symptoms

Following initial infection with HIV, infected individuals experience a rapid decline in their CD4 cell count. With the activation of the immune system, the individual is able to control HIV infection to some extent and this leads to a CD4+ cell recovery. While HIV infection, and the damage caused by it, is a continuum, following the initial or primary infection phase, HIV may be classified into asymptomatic infection, mild disease, and severe disease. These three phases make up the four stages of infection (Pikher, Eron, Galvin, Gay and Cohen, 2004).

Stage 1 – Acute Retroviral Syndrome (ARS)

The early HIV infection stage, classified as ARS usually occurs 2 weeks after infection. According to Montessori, Rouleau and Raboud (2000), approximately 50-90% of all

infected persons will develop ARS. During this extremely infectious period, individuals will experience short illness that will resolve after 1-2 weeks. Some of the symptoms associated with ARS are fever, tiredness, soar throat, muscle and joint pains, swelling of the lymph glands and weight loss (Evian, 2000).

Stage 2 – Latent or Asymptomatic Phase

During this phase, lasting 3-10 years, the individual will appear to be healthy and will maintain a relatively intact immune system. According to Montessori et al. (2000), if untreated, the HIV viral replication at this stage is continuing at 1-10 billion copies per day, shutting down the system slowly.

Stage 3 – Early or Mild Symptomatic HIV Infection

Between 3-7 years after infection, constitutional complaints of variable severity will continue such as fever, fatigue, night sweats and weigh loss. Between years 5-8 of the infection, the immune system becomes more deficient and dermatologic conditions such as herpes, shingles and skin rashes may be seen. This phase is also compounded with frequent bacterial infections such as pneumonia, bronchitis and tuberculosis (Evian, 2000; Addison, 2001 and Pikher et al, 2004).

Stage 4 – AIDS, the Severe Symptomatic Phase

The symptomatic phase usually develops over the next 12 to 18 months into fully developed AIDS. AIDS is associated with the high HIV viral load and severe immune deficiency. Signs and symptoms of AIDS may differ from patient to patient but the AIDS defining illnesses tend to be severe opportunistic infections, some cancers and HIV related organ damage (Evian, 2000). According to Palella, Delaney and Moorman (1998), before treatment for AIDS became available most people who contacted HIV eventually progressed to this stage and death.

2.2.4. Treatment

There is yet no cure for HIV and treatments available are aimed at the prevention of the deterioration of the immune system. The most effective “treatment” of HIV/AIDS is prevention.

Before any treatment was available, most HIV positive individuals progressed to the severe symptomatic phase before dying, however, the chances of reducing AIDS to a chronic, manageable condition has since increased with treatments such as anti retroviral therapy (ARVT), highly active anti retroviral therapy (HAART), wellness programmes and the various support and counselling structures created (Palella et al, 1998).

Initial treatments included bolstering the immune system through sensible diet, avoiding toxins like alcohol, smoking, and following a healthy sleep and exercise programme through wellness programmes. A well-developed wellness programme can contribute to healthier longer life for HIV positive people.

2.2.4.1. Wellness Programmes

It is widely accepted that HIV positive people can live longer; healthier lives if their overall health is well managed with good nutrition and vitamin supplements (Barnett & Whiteside, 1999). According to Evian (2000), the elements of a good wellness programme would be a healthy diet, good nutritional supplements, and avoidance of smoking, drinking and unnecessary drugs, plenty of sleep and exercise, a positive attitude and the early treatment of any medical problems. Since HIV has psychological effects, there is a need for emotional support and counselling of HIV infected people.

2.2.4.2. Support and Counselling

According to Buckingham and Van Gorp (1994), HIV infected people often suffer from psychological problems related to coping with the disease. Depression and Social withdrawal are common forms of psychological problems associated with HIV. Sympathetic counselling and support is necessary since the complex personal, social and economic problems associated with being HIV infected causes enormous distress, contributing to the decline of health (Addison, 2001). Further treatment aimed at the prevention of the deterioration of the immune system is the prevention and treatment of opportunistic diseases like tuberculosis and pneumonia.

2.2.4.3. Opportunistic Infections

An important feature of the care of HIV positive people is the prevention of opportunistic infections. According to Barnett and Whiteside (1999), many opportunistic infections and diseases, associated with AIDS, can be prevented or treated at a relatively low cost. Evian (2000) cites Prophylactic therapy, in combating some of the more common or severe

opportunistic infections, as a positive tool in the fight for well-being and survival of HIV positive people.

Although non-medical treatments can produce good results, HIV infected people will become infected with more persistent opportunistic conditions that the deteriorating immune system needs medical drugs to fight, introducing the ARVT and HAART drugs.

2.2.4.4. Anti-Retroviral Therapy and Highly Active Anti-Retroviral Therapy

Usually HIV is treated with strong drugs called Anti-retroviral therapy (ARVT), Highly Active Anti-Retroviral Therapy (HAART) or with combination therapy. Combination therapy involves taking several drugs that stops the virus replicating itself and the infection of other cells and have resulted in prolonged life (Barnett & Whiteside, 1999).

The purpose of ARVT and HAART is to achieve HIV viral suppression for as long as possible to minimise immune system damage. These drugs, especially HAART, are expensive, complex to administer and needs to be monitored regularly through HIV viral load measurements. ARVT is likely to be most successful if started in the early stages of the disease before the patient is severely immune-deficient. Despite the cost, unknown long term side-effects and the occasional system resistance to ARVT, the consensus of opinion is that life can be extended for several years and groups who have been placed on courses of ARV treatment in South Africa appear to have responded well overall (Addison, 2001).

2.3. Transmission Knowledge

This section discusses how the HIV infection is transmitted and factors that influence its spread.

2.3.1. HIV Transmission

According to Galvin and Cohen (2004), HIV is present in the blood and body fluids (genital secretions and milk) of virtually all infected individuals, regardless of whether or not they have symptoms. The spread of HIV can occur when these secretions come in contact with tissues such as those lining the vagina, anal area, mouth, or eyes (the mucosal membranes), or with a break in the skin, such as from a cut or puncture by a needle.

The most common ways in which HIV is spreading throughout the world includes unprotected penetrative sexual intercourse, coming into contact with contaminated blood and blood products, through sharing contaminated needles and syringes with an HIV infected person and transmission from infected mothers to their newborns during pregnancy, labour (the delivery process), or breast-feeding (Whiteside & Sunter, 2000).

2.3.1.1. Sexual Transmission

On a global scale, HIV is predominantly a sexually transmitted disease. The probability of acquiring HIV from a single sexual exposure is dependent on several factors. The risk of male-to-female transmission per single act of sexual intercourse is greater than the estimated risk of female-to-male transmission. The risk of sexual transmission also depends on the viral load of the infected partner, the presence of other STDs, mucosal tears, and on whether the male is circumcised (Galvin and Cohen, 2004)

According to Chakraborty, Sen and Helms (2001), individuals with acute HIV infection, the time during which viral loads may be at their peak prior to the development of an HIV-specific immune response, may be more likely to transmit the virus than individuals who are chronically infected (longer than 6 months). The presence of an STD in an uninfected partner is associated with an increased risk of HIV acquisition.

The best way to avoid sexual transmission is abstinence from sex until it is certain that both partners are not HIV-infected. Because the HIV antibody test can take up to 6 months to turn positive, both partners would need to test negative 6 months after their last potential exposure to HIV. If abstinence is out of the question, the next best method is the use of latex barriers, commonly know as condoms (Curran, Lawrence and Jaffe, 1984).

2.3.1.2. Blood to Blood Transmission

HIV transmission through blood-to-blood exposure had been a common route of infection at the beginning of the HIV epidemic; many individuals acquired HIV infection from blood transfusions or blood products. According to Curran et al. (1984), transfusion of infected blood or blood products was associated with >90% chance of transmission. With appropriate screening of the blood supply, this risk has declined significantly in many countries (Palella et al, 1998).

The spread of HIV by exposure to infected blood also results from sharing needles, as in those used for illicit drugs. Sharing needles for anabolic steroids taken to increase muscle, tattooing, and body piercing also can spread HIV. As is true with sexual transmission, the higher the viral load in the infected individual, the greater the likelihood transmission will occur. To prevent the spread of HIV, as well as other diseases including hepatitis, needles should never be shared (UNAIDS, 2000).

2.3.1.3. Mother to Child Transmission

Research by Connor, Sperling and Gelber (1994), shows a high risk of maternal-to-foetal transmission during gestation and labour with delivery holding the greatest likelihood of transmission occurring. This risk is considerably less for women on antiretroviral therapy with the risk being even lower for women on highly active antiretroviral therapy (HAART).

According to Watts (2002), factors that increase the risk of maternal-to-foetal transmission include the viral load of the mother, the duration of ruptured membranes, and the method of delivery, with vaginal delivery associated with an increased risk compared with caesarean section. HIV is also be transmitted through breastfeeding. In countries where there are limited food resources, there are high infection rate of infants with HIV-infected mothers through breast-feeding (Fowler and Newell, 2002).

According to Evian (2000), there is little evidence that HIV can be transferred by casual exposure, as might occur in a household setting. For example, unless there are open sores or blood in the mouth, kissing is generally considered not to be a risk factor for transmitting HIV. This is because saliva, in contrast to genital secretions, has been shown to contain very little of the virus. Still, theoretical risks are associated with the sharing of toothbrushes and shaving razors because they can cause bleeding. Consequently, these items should not be shared with infected persons. Similarly, without sexual exposure or direct contact with blood, there is little if any risk of HIV contagion in the workplace or classroom.

2.3.2. Factors influencing the spread of HIV/AIDS

According to Barnett & Whiteside (1999), the shape and form of an epidemic is moulded by the economic, political and cultural characteristics of society. Thus, researchers have

highlighted that the HIV virus normally enters society in a high-risk group, for example, drug users or homosexuals. Individual sexual behaviour influences the spread of HIV through the risk of transmission and so the infection begins to spread, and the extent and speed with which this happens depends, to an extent, on the degree to which society is willing and able to plan for the impact.

Some of the factors, within our society that influence the spread of HIV, include sexual abuse, cultural practices, individual sexual behaviour, poverty, mobility and war. As Barnett & Whiteside (1999) noted these factors are often promoted by economic, political or cultural elements.

2.3.2.1. Sexual Abuse

A study conducted by Champion, Shain, Piper and Perdue (2001) reported a Sexually Transmitted Infection (STI) rate of 47% among sexual violence victims. In Southern African countries, one in every three individuals has been forced to have sex before the age of 18. These individuals are at a higher risk of HIV infection. Forced sex is not the only factor in the spread of HIV infection; but it is a factor that removes the choice element from those individuals wanting to participate in prevention and transmission programmes (Evian, 2004).

Sexual violence against children in South Africa is reported to be widespread. In 2000, 21000 cases of rape and attempted rape of children under 17 were reported. Fifty % (50%) of these children were under the age of 11 (Parliament of South Africa, 2002). While various sources have attributed this high rate of sexual abuse to the myth that AIDS can be cured by sex with a virgin, Jewkes, Penn-Kekana, Levin, Ratsaka & Schreiber (2001), has disputed this.

2.3.2.2. Cultural Practices

Possible sources of HIV transmission may be associated with cultural practices that involve the use of shared instruments and non-sterile equipment by traditional healers for group circumcision and scarification. Since these practices result in exposure to blood, they present opportunities for the transmission of HIV to practitioners and to their clients. According to Helman (2000), and Marck (1997), there is considerable evidence that scarification involving shared instruments often result in bleeding, and group scarification

therefore has implications for HIV transmission, especially when single instruments are used. These practices were found to be the commonest amongst African societies.

2.3.2.3. Individual sexual behaviour

According to Latkin et al. (2004), individual sexual behaviour that promotes promiscuity, many sexual partners and unprotected sexual contact gives rise to Sexually Transmitted Infections (STI's). STI's has a close relationship to HIV, as they cause inflammation by attracting immune cells and making it easier for the virus to attach itself. STI's makes it 5 to 10 times easier to become HIV infected from a single exposure (Evian, 2000). The strong link between STI's and HIV was confirmed by the Human Sciences Research Council study. Only 2.6% of participants had been diagnosed with STI during the past three months but of these 38.9% were HIV positive compared with 13.2% amongst those not diagnosed with STI in the last months (Shisana & Simbayi, 2002).

2.3.2.4. Poverty

Evian (2004) highlights that poverty creates the conditions and environment that contributes to the spread of HIV. HIV infection and AIDS further deepen the downward poverty spiral with loss of income, alienation and rejection. The conditions linked to poverty such as alcoholism, poor access to health care, sex work, and overcrowding, poor access to education, violence and gender inequality further encourage the spread of HIV. According to Desmond, Michael & Gow (1997), cited in Evian (2000), the Aids pandemic is concentrated in poorer communities where the death of a prime age adult is the most important impact of HIV /AIDS, generating a level of social and economic stress and widening the gap between the rich and poor.

2.3.2.5. Mobility

According to Whiteside and Sunter (2000), mobility is often a result of poverty, with people travelling out of their home areas looking for fresh opportunities. However, in the struggle to make ends meet, mobility can also increase vulnerability to HIV and AIDS. Mobile Populations, migration, international travel and trader allows the disease to move quickly. Industrial enterprises in mining, oilfields, shipbuilding, road and dam building projects attract migrant, often predominantly single male workers. This in turn attracts sex workers to the locations, which increase the chances of infection (UNAIDS, 2000)

2.3.2.6. War

War creates the perfect conditions for the rapid transmission of HIV. Refugees, veterans and other persons in the path of war are unlikely to see the risk of HIV as a significant additional threat to their lives. It is reported that one of the reasons HIV/AIDS has spread so rapidly in Africa is the decades of intermittent military and chronic civil violence (The State, 2000).

South Africa has low social cohesion, wide disparities in wealth, high unemployment and all the related poverty factors of overcrowded housing, poor access to health care, lack of recreation facilities, and lack of information, literacy and education. The mining industries use of migrant labour and housing in single sex hostels increases the spread of the disease by breaking families apart. Further, in South Africa there is exploitation and inequality of women (COSATU, 1999). The South African department of Social development has reported that South Africa's superior air, rail and road transportation network provides excellent avenues for the more rapid spread of the diseases across the country.

2.4. Prevention Strategies

According to Barnett and Whiteside (1999), the extent and the speed at which the HIV infection spreads, depends on effective prevention programmes and the degree to which society is willing and able to participate. Aids Prevention Strategies serves those who can choose their HIV risk. Promoting abstinence, male or female condom use, reduced concurrency and male circumcision all presume the beneficiary will be choice-enabled (Valdiserri, Ogden and McCray, 2003).

2.4.1. Aids prevention programmes (education & awareness)

According to the United Nations Global report on AIDS, for young people, knowledge and information on prevention is the first line of defence. They also need access to confidential health information and condoms. Expanded access to ARVT and other treatment offers the opportunity to strengthen prevention efforts by encouraging more people to learn about HIV status (UNAIDS 2004). Educational interventions and needle exchange programmes have proven to lead to safer injection practices (van Empelen, Kok, van Kesteren, van den Borne, Bos and Schaalma, 2003).

2.4.2. Behaviour Change Programmes

In addition to education and awareness, other key elements of HIV prevention efforts include behaviour change programmes, in conjunction with promoting male and female condoms as a preventative option. UNAIDS (2004), reported that encouraging abstinence, fidelity and reduced sexual partners is a key element of preventative strategies.

According to Latkin, Hua and Davey (2004), behaviour modification is essential to alter the course of the HIV epidemic, and several strategies have proven effective. Small group sessions with peer education, focusing on prevention skills, have been shown to increase condom usage among sexually active men who have sex with men. Van Empelen, Kok, van Kesteren, van den Borne, Bos and Schaalma (2003), have found that behavioural change is also possible within the intravenous drug-using community.

2.4.3. Preventing and Treating

To ensure that prevention is comprehensive it needs to include a variety of interventions. Preventing and treating sexually transmitted disease, harm reduction programmes for injecting drug users and ensuring blood supply safety will enhance the fight against the AIDS epidemic (Galvin and Cohen, 2004). According to Latkin et al (2004), HIV counselling and testing has shown to decrease high-risk behaviour. Research has shown that making drug treatment programmes accessible decreases HIV infection rates (van Empelen, Kok, van Kesteren, van den Borne, Bos and Schaalma, 2003).

2.4.4. Government policies and law

Government policies and law can also influence behaviours. Galvin and Cohen (2004), highlights that changes in laws and policies to counter stigma and discrimination will aid in the fight against AIDS. One of the best-known examples of this was the “100% Condom Program” in Thailand. Thai public health officials and police worked with brothel owners to ensure that condoms were available and used in the commercial sex industry. This effort dramatically reduced the number of new cases of HIV in Thailand, especially among commercial sex workers (UNAIDS, 2006).

2.4.5. Male circumcision

Research has shown that male circumcision is also considered as an effective prevention strategy in reducing the rate of HIV infection. Recently, a study in South Africa showed that male circumcision reduced the rate of HIV infection by approximately 70%. This trial followed 3000 uncircumcised men and randomized men to receive circumcision or not. Only 18 circumcised men became HIV-infected, compared with 51 uncircumcised men. This trial confirms several observational studies indicating that being uncircumcised increases HIV risk for men (Cohen, 2005).

2.5. Conclusion

Given the demographics of AIDS, its development since the discovery and the many drugs developed to deter its damaging effect on its host; it is hard to ignore the rippling effect this pandemic continues to create in all affected countries regardless of their HIV prevalence. Despite the numerous attempts at preventing the transmission of HIV or the many programmes created to bring awareness to this disease and its implications, Aid's has continued to hinder development by erasing decades of health, economic and social progress. It has extracted a devastating toll on people and their families by reducing life expectancy by years, deepening poverty and contributing to food shortages. In hard-hit countries, there is no doubt this epidemic has rapidly effected the growth rate of the workforce as it primarily strikes the working-age population (Bruton, 2002). To elaborate on the effects of the HIV infection on our workforce, the next chapter, chapter three, will touch on the impact of HIV and AIDS on the workforce and management strategies to curb their loss.

CHAPTER 3: AIDS & AIDS MANAGEMENT IN THE WORKPLACE

3.1. Introduction

With 1700 new HIV infections per day, 13 % of South Africa's workforce infected with HIV at the end of 2000 and the expected infection rate soaring to 25% at the end of 2006, "something has to be done to manage the impact of HIV/AIDS" and reduce further spread of HIV infection among its workforce (Kopke, 2001).

Of the 1.2 billion young women and men who will enter the labour force over the next decade, many will be affected by HIV/AIDS, directly or indirectly. In heavily hit countries, the loss of household income puts pressure on children, particularly girls, to discontinue schooling in order to help supplement family income or to care for the sick. Furthermore, the world of work will have to adjust to the approximately 14 million orphans affected by AIDS, many of them deprived of schooling or adult mentoring, and who will reach working age in the next decade (UNAIDS, 2004).

The global spread of the AIDS epidemic and the increasing evidence of its impact has highlighted the need for businesses to take action against the epidemic. Although many businesses have stepped up to the challenge there is still a lot more work that has to be done. This chapter will outline the impact of HIV/AIDS on the business sector as well responses and actions considered by management to help manage the effects of this epidemic on their workforce.

3.2. Impact of HIV/AIDS in the workplace

The International Labour Organization projects that the labour force in 38 countries, 34 of which are in Africa, will be between 5% and 35% smaller by 2020 because of the AIDS epidemic. Bruton (2002) believes that this is so because AIDS primarily targets the working-age population.

Fifteen years ago, most businesses would have had only a small idea of what AIDS was, let alone why it should concern them. However, companies have since lost top managers, workers and considerable time, energy, and emotion spent on issues of illness and loss related to HIV/AIDS. Entire families have collapsed, as companies struggle against a

background of chronic poverty. In essence, AIDS has increased the cost of doing business (Smart and Strode, 1999).

The United Nations reports that over 40 million people are living with HIV/AIDS in the world. Nine out of every ten are adults in their productive and reproductive prime. At least 26 million are workers aged 15 to 49, in the prime of their working lives. According to Martin, Brooks, Ortiz and Veniegas (2003), HIV/AIDS threatens the livelihoods of many workers and those who depend on them - families, communities and enterprises. In doing so, it also weakens national economies. Since the majority of the HIV infections are found in the economically active population with its end result-giving rise to increased morbidity and death, the impact on demographic estimates, according to Arndt and Lewis (2000), could be substantial.

3.2.1. Demographic & Social Impact of HIV/AIDS

HIV/AIDS influences the demographics of the labour force. The United Nations 2004 report highlights that sub-Saharan Africa has the world's highest prevalence and faces the greatest demographic impact. 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. In seven African countries, including South Africa, where HIV prevalence is estimated to be more than 20%, the average life expectancy of a person born between 1995 and 2000 is now 49 years – 13 years lower than in the absence of AIDS. However, Dorrington (2004) cited in ASSA (2004) projects the average life expectancy to drop to 41 years by 2010. This is said to knock off a substantial number of working years per person (The State, 2000).

According to ASSA (2004), by 2003 18% of adults in South Africa, between the ages 20-64 were HIV infected. The State (2000) reports the peak ages of HIV infection to be between 18 and 25 years; the peak ages of AIDS deaths are 5-10 years later. However, the HSRC study reported the peak HIV infection age in 2002 to be between 24-29 years. This will undoubtedly influence the age structure. There will be a decline in the number of people in specific groups, namely 25-34 year olds. The International Labour office estimates an average of 15 years of working life will be lost per employee due to the AIDS epidemic (The State, 2000).

In all adult age groups, it was reported, by the HSRC, that there are more women than men living with HIV/AIDS, with a ratio of 2:1 in most age groups (Shisana and Simbayi, 2002). In 1998, Dorrington, Bradshaw and Budlender (2002), in a study conducted for the Medical Research Council, reported a gender imbalance of close to four women being infected for every man in the youth between 25-24 years. Both studies concluded that the infection rate of females in South Africa is higher than that of males.

In another study conducted in Corltonville, South Africa, in 1998, it was found that women had greater HIV rates than males, 43% of the female population was infected as opposed to 9% of males (MacPhail, Campbell, Williams and van Dam 2000, cited in Cadre, 2000). This was attributed to the possibility, but not exclusively, that the female sexual partner was older than they were and thus have higher HIV infection rates. They also touched on "women's higher biological vulnerability to the infection" as being another reason for a higher female infection rate to male.

In yet another study, conducted by Pham-Kanter, Kanter, Spencer and Steinberg (1998), cited in Cadre (2000), attendance at a South African HIV clinic from 1985 to 1995 was studied and researchers concluded that women and black patients made up the largest and fastest growing patient population. The number of women far exceeded the number of men patients with the ratio of 2:1 from 1993-1995. Schivte (1998) also found a higher HIV prevalence rate of females to males in her study on the spread of HIV/AIDS in sub-Saharan Africa. She attributed this high female HIV prevalence rate to the older men-younger women relationships, rape, forced sex, polygamy, lack of female condoms and lack of women empowerment as some of the contributors (Cadre, 2000).

Shisana and Simbayi (2002) went on to report that the study done by the HSRC in 2002 found that the African population with the highest infection rate of 18.4% with Coloureds, Whites and Indians following, respectively. This statistics was confirmed in the 2001 statistic report by the Nelson Mandela Metropolitan Municipality where it was stated that more Africans than Coloured were HIV infected with Whites and Indians as the least infected (NMMM IDP, 2002).

Shisana and Simbayi (2002) looked at the relationship between HIV and education and found there was no significant difference between those with no schooling, some schooling and those with matriculation. However, individuals with tertiary education had a

significantly lower HIV prevalence than those without except in the case of African where there is no difference. This finding concurs with a study by Shell (2000).

In the same study by Shell (2000), researchers found a decrease in prevalence from poorer to richer homes, however, again with Africans, there was no discernible difference. AIDS-affected households, rich or poor, are more likely to suffer severe poverty than non-affected households are; this is true for countries with low prevalence as well as those with high rates. Whiteside and Sunter (2000) reports that 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 will absorb one-third of a household's monthly income.

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. AIDS is intensifying chronic food shortages in many countries where large numbers of people are already undernourished. The epidemic is significantly reducing countries' agricultural workforce and families' income with which to buy food. This is especially damaging for people living with AIDS who need more calories than uninfected individuals do (Ababa, 2000).

The epidemic's 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 parents or for younger 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 or food crops. Older women caring for orphans and sick children 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 (Whiteside and Sunter, 2000).

According to Parker, Kistner, Gelb, Kelly and O'Donovan (2000), the AIDS epidemic will affect the social capital in society with long-term consequences. Social relations, whether of the household, the community or an entire state, will require constant maintenance and

effort. Effects on a range of other features in society such as health, crime rates and well-being will be strongly felt.

HIV prevalence and mortality not only affects age group, gender, race, education, and socio-economic level but also lay influences in the various sectors of our country and the rest of the world. Certain sectors show a higher HIV prevalence than others do. The epidemic has created a need for robust, flexible health systems; however, this is not possible with 19-53% of AIDS related deaths within the South African government health sector. The epidemic is quickly outstripping growth in the supply of health sector workers (UNAIDS, 2004).

In the agriculture sector, the loss of workers at planting and harvesting has had adverse effects on the size of the harvest. A healthy agricultural sector is essential for the well-being and self-sufficiency of developing countries. Bollinger and Stover (1999), highlights that agriculture accounts for 24% of Africa's gross domestic product, 40% of its foreign exchange earnings and 70% of its employment. He estimated that AIDS would have claimed the lives of one-fifth or more of agricultural workers in Southern Africa by 2020.

In the same research, Bollinger and Stover (1999) reports that AIDS has affected the Education Sector in three ways: the supply of experienced teachers will be reduced by AIDS related illnesses and death as a result the quality of education will also suffer. Children especially girls, will be kept out of school to tend to sick family members. These families may also remove the children from school to work in fields if they cannot afford school fees due to reduced household income because of AIDS deaths.

At the African Development Forum in 2000, Ababa (2000) reported that the hardest hit sectors seem to be those sectors where workers are required to stay away from home for long periods, namely, the transport, mining, construction and fishing sectors. According to Heywood (1996), miners in South Africa are more at risk of contracting HIV than being in a mining accident. In the same research, GenCorp, South Africa estimated 20% of their employees as being HIV infected with 30 deaths of AIDS each month. Carltonville Goldmines in Gauteng, representing South Africa's largest mining area, reported 22% prevalence in 1998. In 2003, Anglo Gold reported that 30% of their workforce was infected with HIV and Harmony South Africa reported a 33.9% infection rate that same year (Ellis and Terwin, 2004). Bollinger and Stover (1999) reports that the mining sector

is vulnerable as there is an increased risk of multiple sexual partners while away from family and homes. Workers resort to commercial sex. Many become HIV infected and spread the infection to spouses and communities when they return home. These sectors may also have highly trained professionals who are hard to replace if they die.

HIV/AIDS is well recognised as an issue with wide ranging and complex demographic and social implications, with this follows the economic aspects of HIV/AIDS, which compounds the problems of families, households and businesses. Following this is an outline of economic impact of HIV/AIDS at business level.

3.2.2. Economic Impact of HIV/AIDS

According to Whiteside and Sunter (2000), the impact of HIV/AIDS on the economy will depend on who dies. If the majority of deaths occur amongst the unskilled and the collective individual savings pool is not reduced, in economic terms, the survivors could be better off. The economy depends on the adequate supply of educated, healthy labour. Healthy people are workers that are more productive, they save more and invest in education and training (Bloom 2000). This is assuming the workforce is healthy, however, this is not so for South Africa. Shisana and Simbayi (2002) reported that 11.5% of the South African workforce was already HIV infected by 2002.

According to Alleyne (2000), the main ingredients for human capital formation are health and education. HIV/AIDS reduces the supply and quality of the labour force, lowers the average age and average level of skills and experience. Stevens (2001) has placed the prevalence rates amongst unskilled workers at about 25%, amongst moderately skilled workers at 12-20% and amongst skilled workers at 5-12%. He estimates that by 2010 approximately 15% of the highly skilled workers will be HIV positive reducing the labour force substantially. Stevens is supported by Bruton (2002) and the International Labour Organisation who concurs that there will be a drop in size of the labour force projected at 5-35% by 2020.

Bollinger and Stover (1999), agree with Alleyne (2000) that one of the major economic effects of HIV/AIDS is the reduction in the labour supply and the loss of young adults in their most productive years. The loss of experienced workers could lead to a less experienced workforce that is less productive, thus higher production cost and reduced

competitiveness by both increased expenditures and reduced revenues. Bollinger and Stover (1999) further elaborates that if these increased costs are financed out of a company's savings then the reduction in investment could lead to a reduction in economic growth. The drop in savings would lead to slower employment creation in the formal sector.

Bruton (2002) highlights that there will be greater competition for skilled workers; therefore basic remuneration costs may also increase. This could widen the wage differential and exacerbate the already inequitable wealth distribution in South Africa. Company clinic costs will increase with greater utilisation, additional costs will also be incurred to run HIV/AIDS programmes and greater support will be required to the community through social responsibility programmes.

Expenditures that are a direct cost to companies are increased by health care costs, increased employee benefits, burial fees, recruitment and training of replacement workers. Revenue, which will fall as indirect costs to companies, may decrease by absenteeism due to illness or attendance, production loss, skill loss, time spent at funerals and time spent on training (Cadre, 2000).

Illness, deaths, early retirement and disability retirement will all increase direct cost to the organisation. In South Africa, compared with 1999, the cost of the average set of benefits was said to have doubled by 2005 and projected to triple by 2010 (UNAIDS, 2006). Where the employer is responsible for the risk this added 15% to remuneration cost by the year 2000 could add 30% by 2010. Where the employee carries the risk, there is the possibility that life, disability and medical benefits will be reduced to one third by 2010 (Stevens, 2001).

In a study undertaken in South Africa in 2000, additional direct costs (revenue) of sick leave, retiring pension and recruitment for workers earning R50 000 per year, was estimated at R92 700 over a 7-year infection-to-death period (Thomas, 2002). Smith & Napier (2001) stated that in 2000 Anglo-Gold had labour costs at 55% of total operating costs. With an estimated 23% HIV prevalence and profits that were tightly geared to labour costs, a 15% increase in labour costs would have resulted in a 100% decline in forecasted earnings. In 2002 and 2003, Anglo Gold reported that they had spent R62.5 million (1.8% of their payroll) and R71.9 million (1.9% of their payroll) respectively on

increased benefit payments, training and recruitment cost due to higher labour turnover rates, costs of additional healthcare and HIV aids related absenteeism. In that same year Harmony, one of South Africa's gold mining giant, reported that they spent R7.6 million on health care costs (Ellis and Terwin, 2004).

Increased recruitment, selection, education and training costs will be incurred as employees die, retire early or are dismissed for incapacity. More trainees and more employees might be employed to cover for absenteeism and high turnover. Hamoudi (2000), in a parasitical study, reported that since 1993 South Africa has been a steady increase in early retirements due to ill health related to HIV/AIDS. In 1993, 3; 1994, 5; 1995, 6; 1996, 10; 1997, 13; and 1998, 50. Bollinger and Stover (1999) reports that there could be an impact on equity programmes and an increase in number of overseas employees recruited. The cost of this recruitment process will be compounded with the costs spent on training these individuals.

Given the changing composition of the workforce, it may be necessary to reorganise production, restructure tasks, retrain existing personnel, invest in a ready pool of labour to replace those that are dying and invest in new machinery or equipment (Ababa, 2000).

The direct costs and extent of employee benefits provided has increased, and will continue to increase, with HIV, however, if the facilities related to these cost are not provided for, such as increased health care and benefits, then, Bruton (2002) predicts it could result in increased indirect costs of increased absenteeism, and earlier morbidity.

HIV/AIDS will affect workplaces by increases in absenteeism, accident rates, industrial disputes, and decreases in productivity, reliability and profitability. Absenteeism is usually one of the first signs that something is wrong. Absenteeism is said to account for between 25-50% of increased costs in companies in South Africa. These are calculated from disruption of the production cycle, under utilisation of equipment and the cost of temporary staff. In the same study, Bollinger and Stover (1999), reported that HIV absenteeism accounted for 37% of increased labour costs.

Loneliness and depression are recognised problems for HIV/AIDS positive individuals but this will also extend to those who are not HIV/AIDS positive. Dealing or coping with the epidemic as it affects families, friends and loved ones will be stressful. There will also be

a decline in employee morale, loss of experience or knowledge, loss of skill, loss of workplace cohesion, and loss of management time. Psychological manifestations such as anger, depression, fear, panic, denial and loss of direction will increase absenteeism and impact negatively on production (Bruton, 2002 and Shell, 2000).

Heywood (2000) estimated that the replacement time for unskilled workers was an average of 2 weeks, three weeks for skilled workers and up to twenty-four weeks for professionals. An ILO pilot study of enterprises in South Africa found that fewer than 40% of employers believed that they had a good chance of replacing skilled workers. The loss of skill, experience and knowledge and the time wasted trying to plug the gaps will have an adverse effect on productivity. Competitiveness will be compromised, as production targets are not met, delivery times become erratic, quality is unstable, and the cost of production increases and selling prices increases in order to attempt to maintain profitability. HIV/AIDS will therefore affect productivity, reliability and profitability of businesses (Bruton, 2002).

In a study conducted in South Africa by Ellis and Terwin (2004), researches reported that 62% of the mining industry had already felt adverse effects of the epidemic on their profits while 75% had indicated that they expect a negative impact in five years time. In this same research, 48% of financial service respondents and 42% in the manufacturing sector were of the opinion that HIV/AIDS had constrained their profits. Profitability in the retail, wholesale and motor trade appeared to be relatively less affected but expected the impact to escalate by 2010. In the Deloitte and Touche 2001 AIDS survey, Amalgamated Beverage Industries Ltd (ABI) reported that the HIV/AIDS crisis was the most damaging influence on its 2000-year results (Burton, 2001).

Work disruption increase with the possibility of discriminatory practices leading to conflict and tensions between employer and employees. Trade Unions could mobilize around HIV/AIDS as they use collective bargaining tools to introduce concerns regarding HIV/AIDS (Ababa, 2000). The impact could also affect trade unions as an organisation. Stevens (2001) reported that the education and health workers union (NEHAWU) had a significant rise in funeral claims between 1997 and 2000. He also reported that the mineworker's union (NUM) death benefit was decimated in six months due to AIDS.

Stevens (2001), recommends that employers view HIV/AIDS as a tax that could add about 8% to the cost of doing business and should work to minimise this tax. He further

elaborates that profits will continue to decline unless companies take measure to reduce the impact of HIV/AIDS. Barks-Ruggles (2001), reports that if companies invest in prevention and treatment interventions there would be a positive return on investments.

3.3. Response to HIV/AIDS in the Workplace

HIV/AIDS is now realised to be an issue with wide ranging and complex economic, social and cultural implications. According to the United Nations (UNAIDS, 2002), an effective response to HIV/AIDS needs partnerships at many levels between governments, employers, workers organisations, NGO's and civil society groups including religious and traditional leaders, women's and youth groups. Responses to HIV/AIDS have been generated at every level in the global society.

3.3.1. International Response

The main response internationally came from the public and non-profit sector aiming to identify and understand the forms and transmission of HIV; protect the public blood supply; provide prevention education, information and communication; research new drugs, vaccines and treatments; and further to create codes of conduct for governments and employers to protect human and employment rights (UNAIDS, 2000).

In 1986, the United Nations assigned the World Health Organisation (WHO) the responsibility to assist governments in establishing national HIV/AIDS programmes. International organisations like the United Nations, the International Labour Organisations, the World Health Organisation, the International Employers Organisation and regional bodies like the South African Development Community have all issued statements with policy and programme guidelines. The elements contained in the guidelines to workplaces revolve around assessing and planning to contain the risk, ensuring non discriminatory policies; awareness and prevention programmes; testing and counselling; care, support and treatment; outreach programmes into the community; vertical integration forward into the market and backwards into suppliers; development of partnerships and networks; monitoring and evaluating progress (Gillies, 1998).

In 1996, the United Nations established the Joint United Nations Programme on HIV/AIDS, UNAIDS. The Global Business Council on HIV/AIDS was founded in 1997

to promote an enlarged business response to HIV and AIDS. Member countries include the South African parastatal Eskom. In 1999, the International Partnership against Aids in Africa (IPAA) was established to help Africa, where AIDS was declared a national disaster (Baruch and Clancy, 2000).

In June 2000, the United Nations General Assembly held a special session on HIV/AIDS. A Declaration of Commitment was adopted by member states to serve as a benchmark for global action against HIV/AIDS. In January 2002, the Global Fund was established as the financial body to complement existing programme funding (UNAIDS, 2002).

The International Labour Organisation, a body of international labour law that ensures fair labour practice and a safe and healthy working environment, formulated a global programme on HIV/AIDS and the world of work. In 2001, the ILO developed and published the Code of Practice on HIV/AIDS and the world of work. The key principles of the code recognise HIV/AIDS as a workplace issue not only because it affects the workforce and the workplace but also because the workplace played a vital role in limiting the effects of the epidemic (Ababa, 2000).

3.3.2. South Africa Responds

In 1985, South Africa had appointed an AIDS Advisory Group. This group established an AIDS programme infrastructure in 1991. The infrastructure consisted mainly of a network of AIDS training, Information and Counselling Centres (ATIC). The ATICS have played a crucial role in raising awareness around HIV/AIDS and assisting individuals, communities and organisations. Since 1991, they have undertaken an extensive programme of condom distribution, comprehensive database development, links with research institutions and service into commerce, industry and communities has been pursued (Grimwood, Crew and Betteridge, 2000).

The National AIDS co-ordinating committee of South Africa (NACOSA) was established in 1992. It consisted of concerned individuals, NGO's, AIDS service organisations, local, provincial and national government, the ANC, business, unions and churches. The purpose was to draft a national AIDS strategy. This was consolidated and adopted in 1994 as the national AIDS plan for South Africa (Grimwood, Crew and Betteridge, 2000).

In 1997, The Department of Health Guidelines for Developing Workplace Policy and Programme on HIV/AIDS was published and the inter-ministerial committee was established in Parliament. In 1998, two pieces of legislation containing specific HIV/AIDS directives, namely the Medical Schemes Act and the Employment Equity Act were passed. In addition, in 1998, the partnership against AIDS was launched to mobilise all South Africans (The State, 2000).

In 2000, the Presidential Advisory Council to deal with the causes and treatment of HIV/AIDS was formed. The South African National HIV/AIDS Council (SANAC) was formed in February 2000 to combine government and civil society efforts. This body was responsible for the approval and distribution of all funding for AIDS (Deane, 2002). The South African Business Council on HIV and AIDS (SABCOHA) was launched in 2000 as a subsidiary to the Global Business Council. The aim of the SABCOHA was to assist businesses in South Africa deal with HIV/AIDS. Also in 2000, the Government Strategic five-year plan and the South African Code of Good Practice were presented (Stevens, 2001).

According to Zuma (2002), the national HIV/AIDS budget rose from three hundred and fifty million rand in 2001/2002 to one billion in 2002/2003. In addition to this, South Africa had also been allocated R1.8 billion through the Global Fund to fight AIDS. The government had adopted a prevention strategy. In 2002, the department of health issued 267 million condoms. Shisana and Simbayi (2002) reported that this number of people who used condoms at the last sexual intercourse increased from 8% in 1998 to 29% in 2002.

In 2002, Kindra (2002), estimated that of the 6 million HIV positive South African's only 20 000 has access to Anti-retroviral therapy (ARVT) and this was through private medical aids schemes. On October 9, 2002, the cabinet announced an investigation into the feasibility of providing ARVT in public clinics and hospitals but did not provide a timeframe. By December 2006, it was reported that 239 244 people had started receiving ARVT from public sector outlets in South Africa. This was excluding another approximately 80 000 people receiving these drugs in the private sector. In the 2007 Budget speech, Finance Minister Trevor Manuel announced an additional R1.65 billion for comprehensive treatment programmes. By 2009/10 financial year, spending on dedicated

HIV and AIDS programmes by various government departments in South Africa is expected to exceed R5 billion a year (Dlamini, 2007).

In addition to the above initiatives, the South African Government has drafted and implemented South African legislations to ensure that South Africans that are HIV/AIDS infected are not discriminated against.

3.3.2.1. South African Legislation and HIV/AIDS

Constitutions and Labour Laws embody comprehensive and co-ordinated public policy to keep the HIV/AIDS catastrophe countered. Policy covers basic rights to non-discrimination at work; dismissal based on HIV/AIDS, recruitment and employment testing, medical confidentiality, prevention and transmission risks. It includes workplace accommodation and working time flexibility, early retirement options, medical and pension coverage and education campaigns (Hodges-Aeberhard, 1999).

The Constitution gives all employees the right to fair labour practices and entitles everyone to equality and freedom from discrimination. In particular, the right to privacy implies an employees' right to confidentiality regarding medical information, including HIV status (Smart & Strode, 1999).

I. Labour Legislation

HIV/AIDS is expressly only mentioned in the Employment Equity Act 55 of 1998, but there are provisions in all the other key pieces of South African Labour Legislation.

- The Employment Equity Act (EEA) 55 of 1998 states that discrimination against employees or job applicants are prohibited. The Act states that it is not unfair discrimination to distinguish, exclude or prefer any person because of an inherent job requirement. Employers who believe that knowledge of an employee's HIV status is justified must approach the Labour Court for authorisation before embarking on such testing. Employees with HIV-related illnesses and AIDS should be treated in the same way as employees with other life-threatening illnesses.
- The Labour Relations Act (LRA) 66 of 1995 prohibits unfair discrimination in promoting, demoting, providing training opportunities and benefits and protects

against arbitrary dismissals. The Act allows that a person can be dismissed when no longer able to work but fair procedures must be followed. A dismissal solely because an employee is HIV-positive or has AIDS is likely to be found to be either automatically unfair because it is a dismissal based on discriminatory conduct by the employer, or simply unfair. However, if an employee with AIDS is dismissed for incapacity, it will in all likelihood be found to be fair provided steps outlined in the Code of Good Practice on Dismissal have been followed.

- The Basic Conditions of Employment Act (BCEA) 75 of 1997 sets out the maximum working hours and minimum number of sick days' entitlement. Provision is made to negotiate an extension of sick leave but at a reduced rate.
- The Occupational Health and Safety Act (OHSA) 85 of 1993 require employers to create a safe working environment. This places a duty on employers to ensure that the risk of occupational HIV is assessed and minimised. Staff training should be undertaken on safety steps to be taken following an accident and infection control procedures to be used in any situation of possible exposure to blood or blood products. Employers are required to ensure that appropriate first-aid equipment is readily available to deal with spilt blood and bodily fluids and that staffs receive appropriate training on universal infection control procedures. Furthermore, the occupational transmission of HIV/AIDS should be placed on the agenda of the Health & Safety Committee to ensure that appropriate measures are followed.
- The Compensation for Occupational Injuries and Diseases Act (COIDA) 130 of 1993 provides compensation for employees injured in the course and scope of their employment. Compensation is thus possible where an employee becomes HIV-infected following an occupational exposure to infected blood or blood products. It will be necessary to show that the occupational accident was the direct cause of the person becoming HIV positive (Smart & Strode, 1999).

II. Other Legislation and Common Law

While not directly employment related, The Medical Schemes Act, No.131 of 1998, and the protection of the right to privacy and dignity, impact on the management of HIV/AIDS in the workplace. The Medical Schemes Act 131 of 1998 provides that a registered

medical aid scheme may not unfairly discriminate directly or indirectly against members because of their state of health including HIV/AIDS. Furthermore, such a scheme must offer a minimum level of benefits to employees with HIV/AIDS, as prescribed by the Minister of Health in terms of the Medical Schemes Act.

The Act came into operation on 1 September 1999. The Medical Schemes Act regulates Medical Schemes, not employers, but the regulations have implications because most employment contracts include some medical cover. Every person has personal rights in terms of the Constitution and common law; these include the right to privacy and bodily integrity. This means that medical treatment, including HIV testing, may only be carried out with the informed consent of the person concerned. The right to privacy also means that people are entitled to keep certain personal information to themselves. Medical practitioners are under a legal and ethical duty to ensure that patient information is not revealed to third parties without consent. This means that, information on a person's HIV status may not in the ordinary course of events, be revealed without consent (Smart & Strode, 1999).

III. Code of Good Practice

In December 2000, the State issued the Code of Good Practice on Key aspects of HIV/AIDS and Employment to provide guidelines for employers and employees. The Code has the following broad goals:

- Eliminating unfair discrimination in the workplace based on HIV status
- Promoting a non-discriminatory workplace in which people living with HIV or AIDS are able to be open about their HIV status without fear of stigma or rejection
- Promoting appropriate and effective ways of managing HIV in the workplace
- Creating a balance between the rights and responsibilities of all parties
- Giving effect to the regional obligations of the Republic as a member of the Southern African Development Community

The Code contains clear guidelines for the elements to be included in an HIV/AIDS workplace policy and programmes. The Code of Good Practice does not impose any legal obligation, but all employers and employees and their respective organisations are encouraged to use this code to develop, implement and refine their HIV/AIDS policies and programmes (Code of Good Practice, 2000).

The South African government has ensured, through the Constitution that all people irrelevant of race, disability and disease, are treated fairly and equally. It has set out the guidelines, framework law and infrastructure to ensure that people are given the opportunity to provide for themselves and their families. These laws govern employers, and Trade Unions ensure that employers in the business sectors do not take away that right from employees.

3.3.2.2. The South African Trade Union Response

In South Africa, the Trade Union Federations have been very active and vocal at the national level. COSATU, the dominant trade union federation, has developed training packs for shop stewards and union officials, run education programmes on prevention, treatment and care and engaged bargaining councils to ensure that Sector Education and Training Authorities (SETA) link education and HIV/AIDS. COSATU has engage with specialist AIDS organisations for counselling and other services and has continued to work with the Treatment Action Campaign (TAC) for available and affordable treatment and have formed alliances with Non Governmental Organisation's (NGO's) to battle for the extension of treatment to the public sector (Stevens, 2001).

COSATU subsequently published guidelines for shop stewards. These Guidelines defined the role of the Union as firstly to protect workers from HIV infection, secondly protect workers with HIV infection or AIDS and thirdly to provide support for workers and their families who have HIV infection or AIDS and may become too sick to work. The shop steward should ensure there is an HIV/AIDS committee at the workplace. If there is not, use should be made of the existing Health and Safety committee. Shop stewards should help to develop a policy and programme, ensure consultation takes place throughout the workplace, show commitment to the programme and encourage workers to be involved. The role would include educating and informing co-workers about HIV/AIDS, how to prevent it and ensuring safe working conditions (COSATU, 1999).

Individual Trade Unions like National Union of Mineworkers (NUM) and South African Clothing and Textile Workers Union (SACTWU) have actively engaged employers on the issue of HIV/AIDS. SACTWU with 120 000 members, the majority of whom are women, have developed a policy on HIV/AIDS which covers education, counselling, training, health and safety, care and management, non-discrimination, confidentiality and job security (Bisseker, 2001).

3.3.3. Business and Employer Response

With a view to anticipating loss of workers due to HIV/AIDS, employers and businesses around the world became increasingly aware of the need to adapt existing prevention programmes to the needs and circumstances of their specific enterprises and sectors, with emphasis on especially vulnerable sectors. Businesses realised that they needed exert pressure for action at the national level, pool resources and knowledge for company programmes, and develop means and tools to reach out to all businesses. However, employers have also acknowledged that they needed assistance in developing tools to calculate the cost to their enterprise of this third decade pandemic, HIV/AIDS (Bloom, 2000 and UNAIDS, 2002).

The Global Business Council (GBC) established in 1997, to promote the involvement of businesses around the world in the fight against Aids, published guidelines for businesses on how to deal with HIV and AIDS at the workplace. Key elements of successful workplace programmes on HIV/AIDS include risk assessment, non-discriminatory policies, education and support programmes (Ababa, 2000).

According to a United Nations Development Programme report on HIV in the workplace (UNDP, 2004) business houses and enterprises around the world have shown encouraging responses in protecting their human capital. The responses have included ongoing formal and informal discussions and education on HIV/AIDS for staff; equitable set of policies that are communicated to all staff and implemented; availability of condoms; prevention and rehabilitation programmes on drugs and alcohol; diagnosis, treatment and management of sexually transmitted diseases, for employees and voluntary HIV and AIDS testing, counselling, care and support services. In addition to this, some businesses have launched their own innovative initiatives. Apollo Tyre Manufacturers in India has set up health clinics on their high ways. The response from the truck drivers to this programme was reported as being very encouraging (UNDP, 2004).

In South Africa, the response from businesses has been varied. Some employers, like Daimler Chrysler South Africa and Ford Motor Company, are involved at a national level and view HIV/AIDS as a strategic business issue. However, for others, HIV/AIDS is not always seen as a strategic or economic issue and the responsibility is often left to the Human Resources Manager of individual companies (Stein, 2001).

Employers have developed a range of different responses, such as, Policy and Programme drives, Risk Assessment, Employee benefits, Work reorganisation, recruitment and training, and implementation of Policies and Programmes. While information and experience of addressing HIV/AIDS is beginning to be accumulated, some businesses are still trying to identify best practices on how to address the problem and develop practical and innovative approaches and tools to prevent HIV/AIDS and mitigate its impact in all sectors (Stevens, 2001; Burton 2001).

South African businesses have mostly responded to HIV and AIDS in the workplace by extending existing prevention programmes while others have started their own innovative programmes. Anglo-American Mine has developed a prevention and care campaign, while Daimler Chrysler South Africa introduced a HIV/AIDS workplace strategy. Eskom South Africa has undertaken a prevention and awareness programme for their 35 000 staff. Other businesses and organisations in South Africa that has joined in the fight against AIDS include Ford Motor Company, Harmony Mines and Illovo Sugar. Other organisations such as trade unions have also come together in individual and combined efforts. These include South African Police Union (SAPU), South African Clothing and Textile Workers Union (SACTWU) and COSATU, to name a few. Various sectors have addressed HIV/AIDS as well, namely the banking, mining, wholesale and manufacturing sectors (Bruton, 2001; Stein, 2001; Stevens, 2001 and Bisseker, 2001).

There have been several recommendations by various national and international groups and researchers on how HIV and AIDS at the workplace should be managed. According to Bloom (2000), one approach that should undoubtedly be investigated more thoroughly is the development of prevention and care programmes. Other bodies like the International Partnership against Aids in Africa (IPAA) suggest that all businesses should draft and consolidate an HIV strategy at Board level (Baruch and Clancy, 2000). Whatever the approach may be, the International labour Organisation recommends that businesses address HIV and AIDS at the workplace to protect their enterprises, their image and the social system (UNAIDS, 2000).

3.4. Management of HIV/AIDS in the workplace

As the AIDS epidemic grows, so does the potential for the disease to disrupt the conduct of business. According to Crafford (1992), each company's survival will depend on its

ability to develop a policy to manage the impact of AIDS upon its business. It is also essential that there is a partnership amongst workers, employers and their organisations in formulating and implementing an AIDS policy.

While employers are not required by law to implement workplace AIDS programmes, doing so contributes positively to labour relations and can result in considerable saving to the company over the long-term. The National HIV/AIDS and STD Directorate of the South African Department of Health argue that it makes economic sense to develop such programmes. Addressing the impact of HIV/AIDS upon production and staff will help to minimize the impact of the epidemic upon a given company, department, or organisation, protect benefit schemes and productivity, and help to prevent possible workplace disruptions (Smart and Strode, 1999).

The IPAA recommends that businesses in Africa, including South Africa, draft an HIV/AIDS Strategy. Businesses need to have 3 legs to an HIV strategy, a policy, a programme and a public stand on AIDS action and a contribution to community based activities outside their immediate workplace (UNAIDS, 2000).

According to a report by the Department of Health (DOH, 2000) the South African Government strategic plan, launched on the 14th of January 2000, had 5 priority areas after policy development namely;

- Prevention
- Treatment, care and support
- Research, monitoring and evaluation
- Human and legal rights
- Youth – as target population

In light of the seriousness of the demographic, social and economic implications of HIV/AIDS, Ellis and Terwin (2004:19) inform, "...it is imperative that companies develop an organised, formalised response to the epidemic". They see an HIV/AIDS policy as a written document that sets out the organisations position and practices as they relate to HIV and AIDS.

3.4.1. Workplace HIV/AIDS Policy

A Workplace HIV and AIDS Policy provide guidelines as to how a business should respond to HIV positive employees. It also provides a framework for action to reduce the spread of HIV/AIDS and manage its impact (Ellis and Terwin, 2004). The United Nations Report on “HIV/AIDS: It’s your business” (UNAIDS, 2003) and Entwisle (2004) both provides the following advantages for developing a HIV/AIDS policy at the workplace: protected productivity levels, higher quality of human resources, improved staff morale and positive effects on staff retention.

Stein (2001) recommends employers develop and implement a workplace or company policy on HIV/AIDS addressing confidentiality and education that will enable employees to be aware of the issues surrounding HIV/AIDS. Having a clear policy in place means that if a worker discloses that she or he is living with HIV/AIDS, all those people who may have a supportive role will know how to respond.

The policy should communicate to all employees that the employer would treat AIDS as any other chronic or life-threatening disease and is willing to provide support to enable these employees to continue working as long as possible and that there is no danger of transmission through normal workplace contact. The Policy will contain a framework on education programmes for all employees in the company about the disease, ways of transmission, and prevention. The policy ultimately enables the employer to “set a standard of fair management, justice, and compassion”. (Entwisle, 2004:42). Importantly, a pre-established policy also allows employees who are HIV-positive the confidence and assurance of their rights and of the company’s policies, thereby providing them with some much-needed assurance in a time of great uncertainty (Stein, 2001).

According to Crafford (1992), issues to be addressed in the policy are whether AIDS should form a separate policy or be part of a more general life threatening disease policy, HIV testing, rights of HIV infected and fellow employees, confidentiality of a medical diagnosis, prevention of discrimination, education programmes, counselling of AIDS infected employees.

HIV/AIDS policies can be implemented for less than the cost that will be incurred from increased morbidity and death (Stein, 2001). The Old Mutual Health Care Surveys showed that in 1994, 32%; 1995, 69%; 1999, 85% and 2001, 83% of companies surveyed had a

HIV/AIDS Policy (Stevens, 2001). A survey done in 2001 by the Deloitte and Touche, Human Capital Corporation, 69% of the companies surveyed had a formal HIV/AIDS policy (Burton, 2001). Barks-Ruggles (2001), however, found that only a small number of companies had comprehensive and well-publicised policies. A study done by Ellis and Terwin in 2004 found that more than 70% of companies surveyed in South Africa have a HIV/AIDS Policy that has been implemented and/or communicated to their employees. They further elaborated that the development of the policy is one part of a larger process. The challenge lied in how to translate it to practice. They recommend that businesses also put into their policy comprehensive HIV/AIDS programmes in place in order to achieve significant and sustainable results in their battle to control the impact of HIV/AIDS on their business.

3.4.2. Workplace HIV/AIDS Programmes

Workplace HIV/AIDS Programme should consist of two basic elements, namely a programme that aim to prevent and reduce new HIV infections (example HIV/AIDS awareness programmes and Voluntary Counselling and Testing) and programmes that provide treatment, care and support to employees and their families who are infected or affected by the epidemic.

3.4.2.1. HIV/AIDS Awareness/Education Programmes

It is in the best interest of businesses for employers to educate their employees about AIDS. This will help to improve working relationships and reduce the spreading of the disease, thereby protecting the well-being of the organisation. According to Stevens (2001), the workplace provides a unique opportunity to promote preventative practices to stem the tide of AIDS. He stresses that responsible employers will follow the pragmatic route of genuine commitment to enlightening the employees about the disease.

Zuma (2002), in addressing education programmes by employers highlighted that it is very important that workplace education programmes are put into place so that employees fully understand the nature of HIV/AIDS, including the means of transmission and the fact that HIV cannot be transmitted in the course of the usual, interpersonal contact occurring in the workplace. By educating the workforce about how HIV is transmitted, the employer can preclude any potential reaction to the presence of HIV-positive individuals in the workplace. In addition, aids education at the workplace offers the opportunity to spread

accurate and up to date HIV/AIDS information through out the community via peer education (Stein, 2001).

The Deloitte & Touche Survey in 2001 (cited in Burton, 2001) showed that 69% of companies surveyed in South Africa had a HIV/AIDS education and awareness programme at their workplace, of which 47% of these companies indicated that theirs was a compulsory to attend programme. Burton (2001) elaborated that the success of these programmes were measured on knowledge levels for compulsory and interest of employees for voluntary programmes. By 2004 Ellis and Terwin (2004), reported that 79% of the mining and 61% of the manufacturing industry in South Africa had implemented awareness and education programmes.

Stevens (2001), reports that HIV/AIDS awareness programmes is globally recognised as the only effective means of counteracting the AIDS epidemic. However, Grimwood, Crewe and Betteridge (2000), educating employees on HIV/AIDS and creating an awareness is only one part of the battle. Employees should be encouraged to “know their status” and treatment and support for HIV/AIDS infected employees should be addressed. One of the strategies of the South African National AIDS plan is to encourage the development of voluntary counselling and testing (VCT) (DOH, 2000).

3.4.2.2. Voluntary Counselling and Testing (VCT)

In 1999, Hodges-Aeberhard reported HIV/AIDS testing at the workplace raises issues of discrimination and invasion of privacy. Bloom (2000) went on to say that testing the existing workforce is not only unethical, but leads to great hostility and is incompatible with effective HIV/AIDS prevention and care programmes at the workplace. South Africa’s Employment Equity Act prohibits employers to conduct pre-employment HIV testing unless the Labour Court has given permission. An increasing number of employers have reached the conclusion that prevention is much more cost effective than HIV screening in the long-term, and that respect for the rights of workers is a powerful tool in its own right (Heywood, 2000 and Bloom, 2000).

While HIV/AIDS testing is not mandatory the Department of Health has encouraged testing on a voluntary basis, within an appropriate legal framework, in a bid to encourage treatment and support of individuals who are infected and affected by the epidemic. This will assist in prevention strategies having a meaningful impact. In addition to improving

the health services of people living with Aids, VCT will help reduce the stigma, which surrounds HIV/AIDS (DOH, 2000 and Grimwood, Crewe and Betteridge, 2000). The United Nations has described VCT as an entry point for HIV/AIDS care and prevention. Counselling is considered an essential step in preparing employees coming to terms with their status (UNAIDS, 2000).

Ellis and Terwin (2004), in their study found that 52% of the mining industry and 35% of the manufacturing industry had already implemented VCT programmes at their workplace. Less than 50% of the financial, wholesale, motor, retail and construction sectors had developed VCT programmes. Overall, less than 30% of companies surveyed in South Africa had VCT programmes at their workplace.

VCT can however only be effective when a full support network for a continuum of care following diagnosis throughout the illness and possible death is available (Grimwood et al, 2000). To be able to cope successfully with HIV/AIDS, people living with the virus must have access to a wide range of treatments, care and support options across a continuum. Care should be accessible at several points along the continuum from VCT, health and social services to community based support and home care (UNAIDS, 2002).

3.4.2.3 Continuum of Care (Treatment, Care and Support)

According to MacInnis (1997), there is a need to look beyond prevention on its own. Comprehensive and effective strategies will offer prevention, care and support, a continuum of care. The World Health Organisation developed the concept of continuum of care for HIV/AIDS. This concept combined two key aspects; addressing a range of needs for people infected and affected with HIV/AIDS and creating effective linkages between all those who are able to assist in meeting those needs (Van Praag, 1995).

Individuals infected and affected with HIV/AIDS have a wide range of support needs from social support (the basic need for food and shelter) to psychological support to cope with the implications of having a life-threatening disease (Van Praag, 1995). According to a United Nations report (UNAIDS, 2000:5) People living with AIDS (PLWHA) also have “a right to protection in employment, to confidentiality, to medical care and access to new treatments...”

In addition to VCT, which is the first step to a Continuum of Care, the World Health Organisation (UNAIDS, 2000) suggest a comprehensive HIV/AIDS care programme is considered. Narain, Chela and van Praag (2000:2) refers to this as “a holistic approach to meeting the needs of HIV-positive individuals”. These needs once identified can be met by various disciplines from medical care to social support. The following are some of the factors Narain et al (2000) associate with the package of care associated with HIV/AIDS: clinical management of symptomatic infection, nursing care, pre and post test counselling, care at home and in the community, formation of support groups and psychosocial support.

Research has found several South African companies that have developed and implemented detailed and comprehensive HIV/AIDS Programmes at the workplace. Examples include the Ford Motor Company, South Africa that developed a programme in 1998 that comprised of a steering committee, training of peer educators, education of the workforce and families or communities and voluntary counselling and testing. Harmony Goldmine initially introduced a sexual health programme. The programme included treatment, counselling and provision of counselling. In later stages as the HIV statistics at Harmony grew, Harmony extended their programme to include providing ART and HAART to each of their employees that are HIV/AIDS infected. Harmony’s initial programme averted an estimated 235 cases of HIV that would have cost the company approximately R2.35 million as opposed to the R238 000 spent on their intervention programme (Whiteside and Sunter, 2000 and Ellis and Terwin, 2004).

Anglo Gold is another example of a South African company who initially implemented a HIV/AIDS education programme and then went on to introduce VCT and a Care Campaign. Their Care campaign consisted of counselling, wellness programmes, the prevention of opportunistic infection, the provisions of ART and the commitment of finding managed care for those with AIDS. Anglo Gold reported that it would have cost them more to do nothing as direct and indirect cost continued to rise (Bisseker, 2001 and Ellis & Terwin, 2004).

In the light of the HIV/AIDS pandemic, Daimler Chrysler (DCSA) also sought to secure the sustainability of its investment and operations in South Africa. The company initial HIV/AIDS programme was developed in 1996, and it covered all 4500 employees at their three locations in South Africa. The rapid spread of the epidemic and threat to the business necessitated an extensive review of their original programme. The elements of Daimler

Chrysler HIV/AIDS workplace programme includes continuous education and awareness programmes, comprehensive healthcare services and employee benefits – including ART and monitoring of secondary or opportunistic infections. DCSA has also formed a HIV/AIDS taskforce, trained 132 peer educators and appointed a full-time HIV/AIDS programme co-ordinator (Stein, 2001 and Kopke, 2001).

They extended their programme to include the local community with health education campaigns and improvement of quality of care in health centres, training of traditional healers as peer educators, risk assessments, legislative compliance and research and evaluation. DCSA Chief Executive Officer, Cristoph Kopke said that their strategy converted talk into meaningful action. He has called on corporate South Africa to advance their contribution to managing HIV/AIDS epidemic in the country, as DCSA cannot “win the war alone”, he further elaborated that their long-term goal is to “prevent new infections among our employees, their families and the communities” (Kopke, 2001).

Other huge South African companies that have formulated extensive HIV/AIDS programmes were Eskom and Illovo Sugar Mills. Woolworth's, Impala Platinum and Tongaat Hulett Group were 3 of the 16 companies surveyed in 1998 that had a formal HIV/AIDS policy document, that was available to workers, and extensive AIDS education and Counselling Programmes in place. These programmes included peer counselling, condom distribution, prevention of social discrimination, and syndrome treatment of sexually transmitted diseases. All of these businesses reported that their policy and programmes have been reviewed and updated regularly. According to Ellis and Terwin (2004), workplace programs needs to be consistently reviewed and updated in order to maintain the interest of the employees and remain effective (Galloway and Stein, 1998; Bisseker, 2001 and Ellis and Terwin, 2004).

3.5. Conclusion

Approximately 90% of the adults infected with HIV or AIDS are between the ages 24-44 years, the heart of the labour force, and with approximately 8000 people becoming infected with HIV everyday, it is no wonder businesses are reacting with panic in an attempt to deal with the HIV/AIDS epidemic. While some businesses have already introduced policies and funding AIDS prevention programmes to deal with HIV/AIDS in the workplace, others have allowed public sector agencies and nongovernmental organisations to establish

AIDS prevention programmes in the workplace (Sai, 1995). Whatever the initiative, it seems that most businesses have realised that HIV Care and Prevention Initiatives or Programmes may potentially have a positive economic effect given the cost of not doing anything.

This Chapter has detailed the impact of HIV/AIDS on the workforce and responses on how to manage the impact from all ends of the globe. The next chapter, Chapter 4 will give a brief overview of the research methodology used in this research.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. Introduction

This chapter details the research design issues used in this study. This encompasses the sampling design, data collection methods, procedures followed and the data analysis technique used in the process. Prior to the discussion of the research design, the objectives of the study will be presented.

4.2. Objectives of the Study

The objectives of this study are:

- I. To determine the general knowledge, transmission knowledge and prevention knowledge of AIDS prior to commencing an AIDS awareness training programme.
- II. To establish the general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness training programme.
- III. To determine whether there is a significant difference in the subject's general knowledge, transmission knowledge and prevention knowledge of AIDS after completing the AIDS awareness-training programme.
- IV. To determine whether there is a significant difference between the pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge of AIDS, among the respective biographical variables (gender, age, marital status, race groups, religious groups and language groups).

4.3. Sampling Design

The issues covered include the population and sample of the study, sampling techniques and characteristics of the sample.

4.3.1. Population and Sample

A population in a study refers to the “entire group of people, events, or things of interest that the researcher wishes to investigate” (Sekaran, 1992:225). However, often the population is too large to be used in the research and hence, the researcher limits the investigation to a representative sample. Reaves (1992) defines a sample as the small group of examples extracted from the actual population. This subset of the population, made up of members selected from the population is studied and the properties and characteristics derived from this sample is generalized to the population elements (Sekaran, 1992). In this study, the population comprised three manufacturing plants of a company with Plant 1 having 343 employees and Plants 2 and 3 having 153 and 129 employees respectively. By agreement, the name of the company will not be disclosed. The sample drawn for this study was from the largest plant with the intention to roll out the same programme to the remaining two plants.

4.3.2. Sampling Techniques

There are two common types of sampling techniques, probability and non-probability sampling.

In probability sampling, every member of the population has a known chance or probability of being selected for the sample (Reaves 1992:97). Probability sampling uses randomness and findings from a probability sampling are generalizable to similar populations from which a sample is drawn.

With non-probability sampling, “the elements in the population do not have a known or predetermined chance of being selected as subjects” (Sekaran 1992:229). With this technique, generalizability is limited with chances of biasness. The non-probability sampling technique can fit into two broad categories, namely convenience and purposive sampling.

In this study, the sampling technique used can be classified as convenience sampling. Convenience sampling involves collecting data from members of the population who are conveniently available to respond to your questionnaire. The researcher selected the sample that was conveniently accessible to her yet also reasonably representative of the population. The sample group was the only group located at the manufacturing plant as opposed to the groups that were located out of Durban. With the other two plants located

approximately 250km out of Durban and with 36 of the 343 employees from plant 1 located out of Kwazulu-Natal, it was convenient for the researcher to use the sample that was available to responded to the questionnaire and had attend the training programme when scheduled.

4.3.3. Sample Characteristics

The number of people at the Durban plant who responded to the questionnaire was 307 from a population of 343 people. However, only 181 people were selected to participate in the training programme. These 181 employees had attained a score of below 75% on the pre-test questionnaire. These employees were invited to participate in the training programme.

Tables 4.1 to 4.6 show the sampling characteristics of the group who participated in the training programme.

TABLE 4.1: Frequencies and percentages of the gender groups

		Frequency	Percent
Valid	Female	136	75.1
	Male	45	24.9
	Total	181	100.0

Table 4.1 shows the sample comprised 136 females and 45 males with a percentage of 75.1 and 24.9 respectively.

TABLE 4.2: Frequencies and percentages for the age groups

		Frequency	Percent
Valid	21-30	45	24.9
	31-40	41	22.7
	41-50	64	35.4
	51-60	31	17.1
	Total	181	100.0

Table 4.2 indicates that 35.4% of the respondents were in the 41-50 years age group, followed by the 21-30 and 31-40 years age group with 24.9% and 22.7% respectively. The 51-60 years age group had the lowest number of respondents with 17.1%.

TABLE 4.3: Frequencies and percentages for the marital status groups

		Frequency	Percent
Valid	Single	70	38.7
	Married	106	58.6
	Divorced	5	2.8
	Total	181	100.0

The majority of the respondents are married with 58.6% single and 2.8% divorced.

TABLE 4.4: Frequencies and percentages for the race groups

		Frequency	Percent
Valid	White	10	5.5
	Black	75	41.4
	Indian	90	49.7
	Coloured	5	2.8
	Other	1	.6
	Total	181	100.0

Table 4.4 indicates that majority of the respondents were Indian (49.7%) followed by 41.4% Black respondents, with Whites and Coloureds representing 5.5% and 2.8% respectively.

TABLE 4.5: Frequencies and percentages for the religion groups

		Frequency	Percent
Valid	Hindu	62	34.3
	Muslim	3	1.7
	Christian	107	59.1
	Other	9	5.0
	Total	181	100.0

Table 4.5 shows that the sample comprises 59.1% Christian respondents, 34.3% Hindu respondents with only 3 (1.7%) Muslim respondents and 9 (5%) who were classified as other.

TABLE 4.6: Frequencies and percentages for the language groups

		Frequency	Percent
Valid	Zulu	75	41.4
	English	104	57.5
	Other	2	1.1
	Total	181	100.0

The majority of the respondents in Table 4.6 had indicated that English was their preferred language with 41.4% choosing Zulu as their preference and 1.1% who were classified as other.

4.4. Data Collection Methods

Sekaran (1992) indicates that data can be collected in a number of ways, in different settings and from a variety of sources classified as primary or secondary source. Primary data source includes focus group, observation, face-to-face interviews, telephone interviews, computer assisted interviews, personally administered questionnaires and even projective tests. Examples of secondary data sources include personnel files, government publications and industrial analysis offered by the media.

In this study, data was collected by administering a questionnaire to each subject. According to Sekaran (1992), a questionnaire is a report an individual completes by answering a number of questions regarding their current and previous habits, feelings, perceptions and attitudes within closely defined alternatives.

4.4.1. Measuring Instrument

The measuring or research instrument used in this study was a knowledge and awareness questionnaire (Annexure I) developed by Vajeth (1993), a Senior Lecturer at the Faculty of

Management Studies, University of KwaZulu-Natal. The purpose of the questionnaire was to assess employee knowledge, in terms of general knowledge, transmission knowledge and prevention knowledge of AIDS. Vajeth (1993) established the reliability and validity of the questionnaire through in-house pretesting. Reliability refers to the consistency of a measuring instrument and validity refers to how well the questionnaire was developed that it measures the right concept that is the questionnaire measures what it was intended to measure (Sekaran, 1992:171). The questionnaire was found to have content validity in that it captures the domain of the characteristic knowledge of AIDS. The questionnaire was well interpreted, respondents understood the instructions and there was no confusion (Vajeth, 1993:182).

The questionnaire used in this study comprised of 2 sections. The first section, Section A, consisted of six questions relating to biographical information of the respondents covering aspects such as age, gender, marital status, race, religion and language. Section B was divided into three sub-sections totalling 24 statements. Section 1 comprise eleven statements focusing on General Knowledge, Section 2 had nine statements on Transmission Knowledge and the remaining four statements made up Section 3, Prevention Knowledge. These statements required Likert-type responses ranging from definitely true (1) to definitely false (5) or definitely possible (1) to definitely not possible (5). A weighing scale of 1 to 5 was used for weighing responses to the 24 statements, where the lower scores indicated correct responses and the higher scores indicated incorrect responses. Section B, Questions 1.9 to 1.11 had been reversed scored, accordingly definitely true or definitely possible responses indicated more knowledge on AIDS.

4.4.2. Aids Awareness Training Programme

The Aids Awareness Training Programme was developed to help improve employee Knowledge on HIV and Aids. The programme involved three 2-hour sessions over a period of three weeks. Due to the shift patterns of employees, the total programme lasted 6 weeks. The focus was on General Knowledge, Transmission Knowledge and Prevention Knowledge of AIDS. The Programme covered the causes of HIV and the seriousness of HIV/AIDS. Other aspects of the programme included transmission, diagnosis, symptoms, treatment, prevention, blood safety and safe sex. The last session was a series of videos that discussed sexually transmitted diseases and the dangers of unprotected sex.

4.4.3. Administration Procedure

The questionnaire was administered to the 307 employees that responded to the programme, at the manufacturing Plant 1 in Durban, to establish the employee's General Knowledge, Transmission Knowledge and Prevention Knowledge on AIDS. The questionnaire was administered in groups of 30 at the company-training centre, once completed it was handed back to the administrator. Each respondent was requested to write his or her company number on the top right hand corner of the questionnaire, to assist in identifying the programme or re-test group. This process was not used to identify employees but merely to identify participants for the retest group, accordingly ethical considerations were in no way compromised during this study. This questionnaire was marked and all employees who scored below 75% were encouraged to attend an AIDS awareness programme.

This Aids Awareness Programme group was referred to as the re-test group. This group comprised 58.96% employees who responded to the invitation. Four months after completion of the AIDS awareness programme, the re-test group was issued with the same questionnaire using the same administration procedure in groups of 25-30. A quick assessment of the documentation was done when collecting to ensure all statements were addressed. At no time were the respondents required to reveal their HIV status and ethical considerations were not jeopardised. Questionnaires were treated as confidential documents with restricted access.

4.5. Data Analysis Technique

The analysis of the data used both descriptive and inferential statistics. Descriptive statistics include frequencies, means and standard deviation and non-parametric inferential statistics such as the Kruskal – Wallis ANOVA was used.

4.5.1. Descriptive statistics

Huysamen (1996) reports that the purpose of descriptive statistics is to classify summarise and describe numerical data so that an overall impression can be established. Descriptive statistics is used when recording scores of the study is too cumbersome to undertake or too confusing to interpret, instead the researcher will summarise a set of scores (Harris, 1995).

The commonly used descriptive statistics are frequencies, measures of central tendency and measures of dispersion.

4.5.1.1. Frequencies and percentage

According to Sekaran (1992:259), frequencies focuses on how often certain phenomena occur, from which the percentage of the occurrence of the subcategories is calculated. Frequencies and percentages are generally obtained for nominal variables or biographical data. In this study, frequencies and percentage was used in interpreting biographical data.

4.5.1.2. Measures of central tendency

Both Sekaran (1992) and Huysamen (1996) describe measures of central tendency as a method for the researcher to understand or interpret the characteristics of the sample. The measure of central tendency used in this study is the mean. The mean is the arithmetic average of the scores in a distribution, used to portray a general picture of the data by providing an average or centre value for the data (Huysamen, 1996).

4.5.1.3. Measures of dispersion

Like the measure of central tendency, the measure of dispersion also provides the researcher with an understanding or “feel for the data” (Huysamen, 1996: 38). The measure of dispersion regarded as salient for this study is the standard deviation. The standard deviation indicates the extent to which scores deviate from the mean (Sekaran, 1992).

4.5.2. Inferential Statistics

Huysamen (1996) describes inferential statistics as that process whereby inferences are made regarding the properties of population based on the results obtained for appropriately selected samples from these populations. Inferential statistics involves drawing inferences or conclusions about scores or groups that are not available (Harris, 1995). In this study, non-parametric stats were used, as the data did not follow the distribution. The inferential statistics of this research involved the use of ANOVA and t-test.

4.5.2.1. Analysis of Variance (ANOVA)

Analysis of Variance also called ANOVA: ranks amongst the most commonly used statistical procedures. When researchers want to compare two or more means, an ANOVA

is used. According to Sekaran (1992), results of ANOVA indicates if the means of various groups are significantly different from one another or not.

4.5.2.2. T-test

According to Harris (1995:257), a t-test is a “statistical significance test used to test hypotheses about one or two means when the population standard deviation is unknown. Sekaran (1992) further elaborates that a t-test is used with nominal data that is split into two sub-groups. The t-test takes into consideration the mean and standard deviation of the two groups on the variable and examines if there is a significant difference in the mean, called a parametric test.

4.5.3. Other Statistical Test Used

4.5.3.1. Cronbach’s Coefficient Alpha

Cronbach’s coefficient alpha was used in the study to determine the reliability of the questionnaire. According to Huysamen (1996), this is most likely to be used when the inter-item reliability of the questionnaire can be measured. Reliability in this case refers to the consistency of the questionnaire. Cronbach’s coefficient alpha reflects the internal consistency coefficient measured on all possible distributions of the test (Huysamen 1996). The overall Cronbach’s Coefficient Alpha for the questionnaire used was 0.793.

4.6. Conclusion

A broad overview regarding the research methodology of this study has been given. Aspects such as objectives of the study, sampling technique and data collection methods have been identified and defined. The statistical analysis mentioned in this section was used in the study to obtain the results and findings presented in Chapter 5.

CHAPTER 5: PRESENTATION OF RESULTS

5.1. Introduction

In this chapter the results of this study is presented. This includes, the pre-test and retest, measures of central tendency; dispersion and inter correlation. The hypotheses formulated for this study is presented.

5.2. Objectives of the Study

The objectives of this study are:

- I. To determine the general knowledge, transmission knowledge and prevention knowledge of AIDS prior to commencing an AIDS awareness training programme.
- II. To establish the general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness training programme.
- III. To determine whether there is a significant difference in the subject's general knowledge, transmission knowledge and prevention knowledge of AIDS after completing the AIDS awareness-training programme.
- IV. To determine whether there is a significant difference between the pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge of AIDS, among the respective biographical variables (gender, age, marital status, race groups, religious groups and language groups).

5.3. Measures of Central Tendency and Dispersion (Pre-test & Retest)

Measures of central tendency and dispersion, namely, the mean and standard deviation were used to understand and interpret the pre-test and retest scores. The mean and standard deviation, relating to pre-test and retest of this study, are shown in Table 5.1 and 5.2 respectively.

TABLE 5.1: Pre test mean and standard deviation

	N	Mean	Std. Deviation
Pair 1 Pre General Knowledge	1.81	4.27	.435
Pair 2 Pre Transmission Knowledge	1.81	3.75	.816
Pair 3 Pre Prevention Knowledge	1.81	2.20	.444

The statistical analysis of this research indicates that the participants have general knowledge of AIDS, they understand how AIDS is transmitted and they know how AIDS can be prevented.

The Standard deviation results indicate slight variation in the responses of the participants, with the largest variation on transmission knowledge responses.

TABLE 5.2: Retest mean and standard deviations

	N	Mean	Std. Deviation
Pair 1 Retest General Knowledge	1.81	4.73	.368
Pair 2 Retest Transmission Knowledge	1.81	4.74	.521
Pair 3 Retest Prevention Knowledge	1.81	2.74	.370

The mean scores indicate a slight increase in general knowledge and prevention knowledge and a greater increase in transmission knowledge on AIDS.

The standard deviation scores indicate a very slight variation in responses, with the retest transmission knowledge being the largest.

5.4. Hypotheses

The following hypotheses have been formulated to assess the data.

5.4.1. Hypothesis 1

There is a statistically significant difference in overall pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge.

TABLE 5.3: Pre test and retest for General Knowledge, Transmission Knowledge and Prevention Knowledge

	t	p
Retest General Knowledge - Pre General Knowledge	-12.331	.000
Retest Transmission Knowledge - Pre Transmission Knowledge	-14.981	.000
Retest Prevention Knowledge - Pre Prevention Knowledge	-13.982	.000

P<0.05

In terms of general knowledge, transmission knowledge and prevention knowledge, there is a significant difference between the pre test and retest score. Accordingly, Hypothesis 1 is supported.

5.4.2. Hypothesis 2

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge between the gender groups.

TABLE 5.4: Pre test and retest for Gender Groups

	t	p
General Knowledge	1.696	.092
Transmission Knowledge	2.657	.009
Prevention Knowledge	-.909	.365

The results in Table 5.4 show a significant difference in the pre-test and retest scores for Transmission knowledge between males and females. There was no significant difference in the pre-test and retest scores between males and females in General Knowledge and Prevention Knowledge. Therefore, Hypothesis 2 is supported only in terms of Transmission Knowledge.

5.4.3. Hypothesis 3

There is a statistical significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the age groups.

TABLE 5.5: **Pre test and retest for Age Groups**

	F	p
General Knowledge	.299	.826
Transmission Knowledge	1.860	.138
Prevention Knowledge	.342	.795

Table 5.5 indicate no significant difference between the pre-test and retest scores for General Knowledge, Transmission Knowledge and Prevention Knowledge among the age groups. Accordingly, Hypothesis 3 is not substantiated.

5.4.4. Hypothesis 4

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the various marital status groups.

TABLE 5.6: **Pre test and retest for Marital Status Groups**

	F	p
General Knowledge	.195	.823
Transmission Knowledge	.490	.614
Prevention Knowledge	1.232	.294

In terms of general knowledge, transmission knowledge and prevention knowledge, there is no significant difference between the pre-test and retest scores among the marital status groups. Therefore, Hypothesis 4 is not substantiated.

5.4.5. Hypothesis 5

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the race groups.

TABLE 5.7: Pre test and retest for Race Groups

	F	p
General Knowledge	.823	.512
Transmission Knowledge	.403	.806
Prevention Knowledge	1.598	.177

The results in Table 5.7 show no significant difference in the pre-test and retest scores among the various race groups in terms of general knowledge, transmission knowledge and prevention knowledge. Accordingly, Hypothesis 5 is not substantiated.

5.4.6. Hypothesis 6

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the religious groups.

TABLE 5.8: Pre test and retest for Religion Groups

	F	p
General Knowledge	.456	.713
Transmission Knowledge	3.478	.017
Prevention Knowledge	.873	.456

Table 5.8 indicate no significant difference between the pre-test and retest scores among the various religious groups, in terms of general knowledge and prevention knowledge. There is a significant difference in the pre and retest scores of the religious groups in terms

of transmission knowledge. Therefore, hypothesis 6 is substantiated regarding transmission knowledge.

5.4.7. Hypothesis 7

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge, among the various language groups.

TABLE 5.9: Pre test and retest for Language Groups

	F	p
General Knowledge	1.801	.168
Transmission Knowledge	.001	.999
Prevention Knowledge	1.249	.289

In terms of general knowledge, transmission knowledge and prevention knowledge there is no significant difference between the pre test and retest scores among the various language groups. Accordingly, Hypothesis 7 is not substantiated.

5.5. Conclusion

The results derived from the data analysis have been presented for this study. The results show an increase in General Knowledge, Transmission Knowledge and Prevention Knowledge on the retest which was statistically significant. Significant differences between the Pre-test and Re-test scores were found for the gender and religious groups. The findings from the statistical analysis in this chapter will be interpreted and discussed in Chapter 6.

CHAPTER 6: INTERPRETATION OF RESULTS

6.1. Introduction

In this chapter the results of this study is interpreted and discussed. This encompasses the pre-test and retests measure of central tendency. The hypotheses formulated for this study is also discussed.

6.2. Objectives of the Study

The objectives of this study are:

- I. To determine the general knowledge, transmission knowledge and prevention knowledge of AIDS prior to commencing an AIDS awareness-training programme.
- II. To establish the general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness-training programme.
- III. To determine whether there is a significant difference in the subject's general knowledge, transmission knowledge and prevention knowledge of AIDS after completing the AIDS awareness-training programme.
- IV. To determine whether there is a significant difference between the pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge of AIDS, among the respective biographical variables (gender, age, marital status, race groups, religious groups and language groups).

6.3. Measures of Central Tendency and Dispersion (Pre-test & Retest)

The mean and standard deviation, relating to pre-test and retest of this study was presented in chapter 5 and is explained below.

6.3.1. Pre test mean and standard deviation

The statistical analysis of this research indicates that the participants have some general knowledge of AIDS, they understand how AIDS is transmitted and they know how AIDS is prevented. As indicated previously, the purpose of the programme was to improve the

participants General Knowledge, Prevention Knowledge and Transmission Knowledge. The Standard deviation results indicate slight variation in the responses of the participants, with the largest variation on transmission knowledge responses.

The mean results also indicate that while the participants have knowledge of general information on AIDS, Prevention of AIDS and Transmission of AIDS, and their general knowledge on AIDS is greater than their Prevention and Transmission knowledge.

With regular media broadcast on HIV and AIDS related information, it is not surprising for most participants entering into the programme to have some knowledge on HIV/AIDS. Knowledge, Attitude and Behavioural Studies conducted in the early 1990's by Mathews et al. (1990), and Friedland et al. (1991) cited by Vajeth (1993) found that 91% of their participants had good general knowledge on AIDS but that more than 50% lacked knowledge on modes of transmission and prevention.

Gouws, Colvin and Connolly (2002) reported that the Daimler Chrysler South Africa (DCSA) Knowledge, Attitude, Perception and Behaviour questionnaire showed that while 90% of their employees had scored over 50% on their KAPB questionnaire, indicating existing knowledge on AIDS being present, more employees scored higher on their General knowledge questions on AIDS than on the transmission and prevention knowledge questions. The results on this analysis indicate the same, that the General Knowledge of AIDS is higher than the Transmission and Prevention Knowledge of AIDS.

6.3.2. Retest mean and standard deviations

The mean results on the retest indicate that the participants have a slight increase in general knowledge on AIDS, more knowledge on how AIDS is transmitted and prevented. The standard deviation scores indicate a very slight variation in responses, with the retest transmission knowledge being the largest. This reveals that the retest group had showed signs of reduction in their variation of their responses after the training programme.

Johann du Preez in an IRIN Plus News article (2007: 48) was quoted saying that awareness training programmes definitely made a difference as it gets people talking about AIDS and it is creating peer group pressure, whereas before it wasn't even talked about. Du Preez is the Manager of Bavaria Farm who participated in the International

Organisation for Migration (IOM) Survey in 2004. In the same study conducted by the International Organisation for Migration (IOM) (2004) cited in IRIN Plus News (2007), it was found that HIV workshops was the first step to bringing a greater openness about HIV to the farms.

6.4. Hypotheses

The following hypotheses have been formulated to assess the data.

6.4.1. Hypothesis 1

There is a statistically significant difference in overall pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge.

In terms of general knowledge, transmission knowledge and prevention knowledge there is a significant difference between the pre test and retest score. Accordingly, Hypothesis 1 is supported.

The analysis reveals that on the retest General Knowledge, Transmission Knowledge and Prevention Knowledge increased. These findings are confirmed in research conducted by Sherr, Christie, Sher & Metz (1989) which concludes that exposure to education programmes does increase knowledge of AIDS. Further researchers that supported this theory was Wexler (1991) and Sheridan, Humfleet, Phair & Lyons (1990). These studies also noted that the difference in knowledge between their programme group and non-programme group was not that large and attributed this to the efforts made by the media and governmental organisations to increase HIV and AIDS awareness.

A study conducted by Swartz (1998) for the Department of Education and the Department of Labour aimed to increase learner's knowledge on HIV/AIDS and develop skills to promote positive and responsible behaviour. The programmes ran for 1 to 2 weeks. Posters, printed documents, videos were used as part of the programme. The report recognises that while knowledge had improved, knowledge alone did not automatically lead to practicing safe sex or responsible behaviours.

Vajeth (1993) reported that those who participated in the programme had a negligible difference on General Knowledge of AIDS from those in the non-programme group. However, on Prevention Knowledge and Transmission Knowledge the mean scores for the Programme group was significantly higher than the non-programme group.

6.4.2. Hypothesis 2

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge between the gender groups.

The results in Table 5.4 show a significant difference in Transmission Knowledge between males and females. Males scored higher than females, in terms of Transmission Knowledge. While there was no significant difference between gender groups in Prevention Knowledge the mean score indicate that females scored slightly higher than males in Prevention Knowledge. The results showed a significant difference in pre-test and retest scores between the gender groups only in terms of Transmission Knowledge. Therefore, Hypothesis 2 is supported only in terms of Transmission Knowledge.

The International Organisation for Migration (2004) study cited in IRIN Plus News (2007:48) found “compared to their male counterparts, female workers had lower levels of knowledge about “HIV and AIDS and were about half as likely to use condoms in casual sex relationships”. In another study by Peltzer and Promtussananon (2005), gender had no significant relationship to general knowledge – Promtussananon (2005) had 44% males and 56% females. However, HIV knowledge on transmission showed slight gender differences. Vajeth (1993) found a significant difference between males and females on General Knowledge and Prevention Knowledge however; there was no significant difference between males and females on Transmission Knowledge. Females scored higher in Prevention Knowledge and General Knowledge. Studies conducted in the late 1980 by Stroman & Seltzer (1989) and Vener & Krupka (1988) cited by Vajeth (1993:246) found males had higher prevention knowledge and attributed this to “...aggressive campaigns on the usage of condoms and the practice of safer sex. Most of the campaigns were perceived to be directed more at males rather than females, which could explain why males score higher in prevention knowledge”. In this study the programme group had more females than males and so the training programme was not restricted to a male

dominated campaign or awareness but covered both genders. In addition, while the 1993 campaigns targeted males the focus had shifted over the last 10 years to include females by way of promoting female condoms and campaigns.

6.4.3. Hypothesis 3

There is a statistical significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the age groups.

Table 5.5 indicate no significant difference between the pre-test and retest scores for General Knowledge, Transmission Knowledge and Prevention Knowledge among the age groups. Accordingly, Hypothesis 3 is not substantiated.

A study conducted by Eaton and Fisher (2000) found that younger people, that is, those below 35 have general knowledge on AIDS, i.e. they are aware that AIDS is a disease that is fatal but they are less knowledgeable about HIV and how it is physically transmitted from one person to another and the methods for preventing HIV infection. The study showed high levels of misconceptions about the risk of contacting HIV from casual contact with a person with HIV/AIDS, such as sharing toilet seats, eating utensils, clothes, being exposed to saliva from coughing or spitting and dry kissing

Peltzer and Promtussananon (2005) reported that age was inversely related with HIV/AIDS Knowledge. The researchers explained that older individuals could be educationally disadvantaged. An initial study by Peltzer (2001) found no significant effect of knowledge by age. The DCSA study reported by Gouws, Colvin and Connolly (2002) found that older employees 40+ had poorer prevention knowledge in terms of condom usage than those under 30 followed by those in the 31-40 year group.

Vajeth (1993) cited no significant difference between age and General Knowledge and Transmission Knowledge. A very significant difference between age and Prevention Knowledge was found. Further analysis was conducted to determine which age groups revealed the significant differences on the prevention knowledge of AIDS. The 31-40 & 41-50 age group had greater knowledge than the 20-30 year age group. The older group had more knowledge than younger group. Vajeth (1993) cited Friedland et al., (1991).

Ijsselmuiden et al., (1990) and Matthews et al. (1990), as studies that included age as a variable and intimate that age is positively correlated with knowledge levels.

6.4.4. Hypothesis 4

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the various marital status groups.

In terms of general knowledge, transmission knowledge and prevention knowledge, there is no significant difference between the pre-test and retest scores among the marital status groups. Therefore, Hypothesis 4 is not substantiated.

Gouws, Colvin and Connolly (2002) reported that the DCSA survey found no relationship between AIDS knowledge and marital status.

6.4.5. Hypothesis 5

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the race groups.

The results in Table 5.7 show no significant difference in the pre-test and retest scores among the various race groups in terms of general knowledge, transmission knowledge and prevention knowledge. Accordingly, Hypothesis 5 is not substantiated.

The study conducted by Peltzer and Promtussananon (2005) indicated that whites had the highest knowledge of AIDS (M=16.5, SD= 4.4) followed by Asians (M=15.0, SD=3.6), Coloureds (M=13.3, SD=4.1) and Blacks (M=12.1, S.D=3.6). A study conducted by Eaton and Fisher (2000) reported that Whites and Asians seemed to have more knowledge about HIV/AIDS than Coloured and Black students did. Gouws, Colvin and Connolly (2002) reported that the Daimler Chrysler survey showed Black Africans had significantly lower overall knowledge compared to other race groups; differences between the other races were not statistically different.

6.4.6. Hypothesis 6

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the religious groups.

Table 5.8 indicate no significant difference between the pre-test and retest scores among the various religious groups, in terms of general knowledge and prevention knowledge. There is a significant difference in the pre and retest scores of the religious groups in terms of transmission knowledge, with the Christian group scoring higher than other religious groups. Therefore, hypothesis 6 is substantiated regarding transmission knowledge.

No specific study was found using religion as a variable or dealing with religion and aids. The researcher had no specific reason for including religion as a variable however; it is interesting to find that there is significant difference in terms of transmission knowledge of the religious groups. This could be attributed to religious interpretations of speaking about sex and transferring knowledge on sexually transmitted diseases and HIV.

6.4.7. Hypothesis 7

There is a statistically significant difference in pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge among the various language groups.

In terms of general knowledge, transmission knowledge and prevention knowledge there is no significant difference between the pre test and retest scores among the various language groups. Accordingly, Hypothesis 7 is not substantiated.

Eaton and Fisher (2000) concluded that English speakers have a better knowledge about HIV and AIDS than other language groups. This could have been attributed to the fact that only 0.08% of Africans have English as a home language, and that most messages were in English on Radio, TV or school, with more Asians and Whites with English as home language. In this study the awareness programme was in English, all participants understood English and so language was not a barrier.

6.5. Conclusion

The hypotheses and their results that were presented in the previous chapter, chapter 5, was interpreted and discussed in conjunction with available past research. The following chapter, chapter 7, will contain recommendations and conclusions based on the basis established from the study.

CHAPTER 7: CONCLUSION & RECOMMENDATION

7.1. Introduction

This study highlighted the knowledge levels of employees that participated in an AIDS awareness-training programme. The literature review examined AIDS from a biological perspective, a global and South African perspective and an Industrial relations perspective. The workplace issues pertaining to AIDS were discussed and responses to the AIDS crisis were highlighted. AIDS policies, training programmes and employee's assistance programmes were analysed, as options for organisations, in their fight against AIDS. The conclusion drawn from the results of this study are summarised below.

7.2. Conclusion

The intentions of this research were to test the objectives formulated for this study. The results are summarised and listed below:

- I. Objective 1 was to determine the general knowledge, transmission knowledge and prevention knowledge of AIDS prior to commencing an AIDS awareness-training programme. The results of the study established that all participants had some General Knowledge, Transmission Knowledge and Prevention Knowledge on AIDS.
- II. The second objective was to establish the general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness-training programme. An AIDS awareness-training programme was conducted and those who participated in the programme were retested to establish their General Knowledge, Transmission Knowledge, and Prevention Knowledge on AIDS.
- III. Objective 3 was to determine whether there is a significant difference in the subject's general knowledge, transmission knowledge and prevention knowledge of AIDS after completing an AIDS awareness-training programme. Employees who participated in the programme had improved their knowledge on AIDS after attending the training programme.

IV. The fourth and final objective was to determine whether there is a significant difference between the pre-test and retest scores in terms of general knowledge, transmission knowledge and prevention knowledge of AIDS, among the respective biographical variables (gender, age, marital status, race groups, religious groups and language groups). The results of the study had found no significant difference between pre-test and retest score for age groups, race groups, marital status groups and language groups. The results did however indicate some variation in pre-test scores and retest scores between the gender groups. Males scored higher than females, in terms of Transmission Knowledge. While there was no significant difference between gender groups in Prevention Knowledge the mean score indicate that females scored slightly higher than males in Prevention Knowledge. The results also indicated a significant difference in Transmission Knowledge among the Religious Groups, with the Christian group having scored higher than other religious groups.

Researchers like Whiteside and Sunter (2000), Shell (2000) and Shisana and Simbayi (2002) have all highlighted the effects of AIDS on the sex composition of the workforce, racial composition of the workforce and the age structure workforce. The decline in skills and increases in indirect costs have been unavoidable. It is not surprising companies have all focused their energies in joining the fight against HIV and AIDS.

The findings in this study support the perception by companies that providing awareness training programmes will assist by increasing the knowledge of what is AIDS, how is it transmitted and how it can be prevented. This study revealed that after a training programme, employees were more knowledgeable on AIDS than before the training programme. Although these are tentative findings, it is evident that AIDS awareness training programmes do impact positively on the level of AIDS knowledge.

7.3. Recommendation

The study set out to determine if AIDS training programmes increase employee General Knowledge, Transmission Knowledge and Prevention Knowledge of AIDS. It has established the following recommendations for the company and for future studies of a similar nature.

7.3.1. Recommendations for the company

The following recommendations have been highlighted for the company from the results.

- I. The study has shown that most participants are aware of the causes and seriousness of HIV and AIDS; it is therefore recommended that the company look at programmes that move beyond awareness, these may include risk assessment, planning and communication.
- II. An HIV and AIDS Policy and Procedure should be considered. The HIV and AIDS Policy should be communicated to all employees and this policy and procedure should be accessible to all employees. Workers should also be informed of their rights concerning HIV/AIDS counselling and testing before introduction to a VCT programme.
- III. In addition, it is proposed a Behaviour Change programme or Community outreach programme is introduced. This will ensure that employees coming into the organisation from the surrounding area are all educated on AIDS.
- IV. It is also recommended that the company endeavour to strengthen their existing HIV/AIDS training programme into a more regular training programme that keeps people up to date on the latest available on HIV treatments and drugs. This will help strengthen the knowledge employees already have about HIV, address commonly held myths regarding HIV/AIDS, encourage behaviour changes and changing attitudes of people towards showing empathy and a caring environment for people living with AIDS.
- V. A similar study should be undertaken to test the programme again, taking a lower score of maybe 50%, instead of the 75% used in this study, when selecting retest group.

As previously indicated several limitations could have influenced the findings of this study. Should the company decide to undertake a research of a similar nature, it would require more development and refinement of the process.

7.3.2. Recommendations for future studies

While every researcher hopes that their study will stimulate further research into the area discussed, the limitations and problems encountered during this study encourages me to caution to other researchers into this field of research.

- I. Many surveys, questionnaires and research have addressed AIDS education programmes and their effectiveness, the reality is this field information is outdated. Continuing in this field will only encounter difficulties with locating these old researches.
- II. In addition, new research should accept that awareness increases knowledge but does not necessarily change behaviour. Considering the implications and impact of HIV and AIDS, not only in the workplace, but also on the economy as a whole, research needs to be more directed and focused on behaviour changes to prevent the spread as well as on attempts to find a possible cure for AIDS.
- III. Researchers wanting to continue with the evaluation of training programme effectiveness will possibly encounter a lack of participation and information. This could be attributed to the limitation of current research moving away from the evaluation of training programme effectiveness.
- IV. Although many companies have stepped up to the challenge of combating the global spread of the AIDS epidemic, results from many survey listed in the study show that still more work has to be done. Taking the lead in the fight against AIDS are large corporations by the implementations through innovative workplace HIV& AIDS programmes. A small minority of firms have even conducted research to assess the impact of AIDS on their workforce. However, these kind of research may not be practical for smaller organisations, like the one that has participated in this study.
- V. It is hoped that this study will stimulate further research into the areas of AIDS education programmes and their effectiveness and implementation into the workforce.

BIOGRAPHICAL DATA

Please put a cross in the appropriate block.

AGE

20-30	31-40	41-50	51-60
-------	-------	-------	-------

SEX

MALE	FEMALE
------	--------

MARITAL STATUS

SINGLE	MARRIED	DIVORCED
--------	---------	----------

RACE

WHITE	BLACK	INDIAN	COLOURED	OTHER
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RELIGION

HINDU	MUSLIM	CHRISTIAN	OTHER
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HOME LANGUAGE

ZULU	ENGLISH	AFRIKAANS	OTHER
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SECTION 1: GENERAL KNOWLEDGE

Thank you for spending some time answering this questionnaire, which assesses people knowledge and awareness of the AIDS virus infection. Please indicate if you have attended any HIV/AIDS Programme

√/X

Please answer the questions as honestly as you can.

1. Please answer the following questions about AIDS.

Make a cross in the box that most closely reflects your answer.

1.1. AIDS leads to death.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.2. There is no cure for AIDS at present.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.3. Any person with AIDS virus can pass it on to someone else during sexual intercourse.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.4. A pregnant woman who has the AIDS virus can give the AIDS virus to her baby.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.5. The AIDS virus can be transmitted from sharing needles for drug use with a person who has AIDS, or sharing blades for ritual incisions.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.6. AIDS can reduce the body's natural protection against disease.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.7. A person can be infected with the AIDS virus and not have the disease AIDS.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.8. AIDS is an infectious disease caused by a virus.

Definitely TRUE	Possibly TRUE	Don't Know	Possibly FALSE	Definitely FALSE
--------------------	------------------	------------	-------------------	---------------------

1.9. There is a vaccine available to the public that protects a person from getting AIDS.

Definitely
TRUE

Possibly
TRUE

Don't Know

Possibly
FALSE

Definitely
FALSE

1.10. AIDS is especially common in older people.

Definitely
TRUE

Possibly
TRUE

Don't Know

Possibly
FALSE

Definitely
FALSE

1.11. Looking at a person is enough to tell if he or she has the AIDS virus.

Definitely
TRUE

Possibly
TRUE

Don't Know

Possibly
FALSE

Definitely
FALSE

SECTION 2: TRANSMISSION KNOWLEDGE OF AIDS

AIDS can be transmitted in several ways.

Please answer the questions about how AIDS is spread.

Make a cross in the box that most closely reflects your answer.

2. I can get AIDS by:-

2.1. Living near a hospital or home for AIDS patients.

Definitely
POSSIBLE

Very
LIKELY

Don't Know

Very
UNLIKELY

Definitely
NOT
POSSIBLE

2.2. Attending school with a child who has the AIDS virus.

Definitely
POSSIBLE

Very
LIKELY

Don't Know

Very
UNLIKELY

Definitely
NOT
POSSIBLE

2.3. Working near someone who has the AIDS virus.

Definitely
POSSIBLE

Very
LIKELY

Don't Know

Very
UNLIKELY

Definitely
NOT
POSSIBLE

2.4. Using public toilets.

Definitely
POSSIBLE

Very
LIKELY

Don't Know

Very
UNLIKELY

Definitely
NOT
POSSIBLE

2.5. Eating in a restaurant where the cook has the AIDS virus.

Definitely
POSSIBLE

Very
LIKELY

Don't Know

Very
UNLIKELY

Definitely
NOT
POSSIBLE

2.6. Being coughed or sneezed on by someone who has the AIDS virus.

Definitely POSSIBLE	Very LIKELY	Don't Know	Very UNLIKELY	Definitely NOT POSSIBLE
------------------------	----------------	------------	------------------	-------------------------------

2.7. Mosquitoes or other insects.

Definitely POSSIBLE	Very LIKELY	Don't Know	Very UNLIKELY	Definitely NOT POSSIBLE
------------------------	----------------	------------	------------------	-------------------------------

2.8. Sharing plates, forks, or glasses with someone who has the AIDS virus.

Definitely POSSIBLE	Very LIKELY	Don't Know	Very UNLIKELY	Definitely NOT POSSIBLE
------------------------	----------------	------------	------------------	-------------------------------

2.9. Kissing (with exchange of saliva) a person who has the AIDS virus.

Definitely POSSIBLE	Very LIKELY	Don't Know	Very UNLIKELY	Definitely NOT POSSIBLE
------------------------	----------------	------------	------------------	-------------------------------

SECTION 3: PREVENTION KNOWLEDGE

3. How effective do you think the following methods are in preventing the AIDS infection.

3.1. Using a diaphragm?

Very Effective	Don't Know	Not Effective at all
-------------------	------------	-------------------------

3.2. Using a condom?

Very Effective	Don't Know	Not Effective at all
-------------------	------------	-------------------------

3.3. Using spermicidal jelly, foam or cream?

Very Effective	Don't Know	Not Effective at all
-------------------	------------	-------------------------

3.4. Two people who do not have the AIDS virus having sex only with each other?

Very Effective	Don't Know	Not Effective at all
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Thank you for completing this questionnaire.

BIBLIOGRAPHY

Addison, G. (2001). Get Well Soon. People Dynamics. volume 19(6). 12-16

Ababa, A. (2000). HIV/AIDS in Africa: its impact on the world of work. AIDS: The greatest leadership challenge. African Development Forum 2000. Retrieved from the World Wide Web www.ilo.org

Alleyne, G. (2000). The Health and Wealth of Nations. Aids Patient Care and STDs. volume 14(9). 501-504

Arndt, C. & Lewis, J.D. (2000). The macro implications of HIV/AIDS in South Africa: A preliminary assessment report presented at the IAEN Conference. July 2000. Finance and Development December 14. Retrieved from the World Wide Web www.cadre.org.za.

ASSA (2004). New AIDS Model Reflects Significant Impact of Intervention. ASSA Press Release July 2004. Retrieved from the World Wide Web www.assa.org.za

Barks-Ruggles, E. (2001). The impact of AIDS on business in South Africa: problems with data collection and recommendations for businesses and researchers. AIDS Analysis Africa. volume 11(16)

Barnett, T. & Whiteside, A. (1999). Guidelines for Preparation and Execution of Studies of the Social and Economic Impact of HIV/AIDS. Health Economics and HIV/AIDS Division (HEARD) University of Natal, Durban, South Africa

Baruch, Y. & Clancy, P. (2000). Managing Aids in Africa. International Journal of Human Resources Management. volume 11. 789-806

Bisseker, C. (2001). Anglo's leap of faith. 23 February 2001. Business Day.

Bloom, D.E. (2000). Converging Agendas: AIDS and Business. AIDS Patient Care and STDs. volume 14(9). 505-508

Bollonger, L. & Stover, J. (1999). The Economic Impact of AIDS. Glastonbury, CT: The Futures Group International. Retrieved from the World Wide Web www.iaerv.org/impact/stovboll.htm

Bruton, N. (2002). Statistics on HIV/AIDS and the impact on the economy. Response Group Trend line. Presentation to the Labour Relations and Human Resources Unit, University of Port Elizabeth. Retrieved from the World Wide Web www.iaerv.org/stats/impact.htm

Buckingham, S.L. & van Gorp, W.G. (1994). HIV-associated Dementia. A Clinician's guide to early detection, diagnosis and intervention. Families in Society: The Journal of Contemporary Human Services. volume 75 (6). 333-343

Burton, L. (2001). Aids Survey. People Dynamics. volume 19(6). 23-27

Cadre (2000) The Economic Impact of HIV/AIDS on SA and its implications for Governance: A Bibliographic Review. Funded by Centre for Aids Development, Research and Development in November 2000. USAID. Johannesburg.

Chakraborty, H., Sen, P.K. & Helms, R.W. (2001). Viral Burden in genital secretion determines male-to-female sexual transmission of HIV-1. Journal of Acquired Immune Deficiency Syndrome. volume 15. 621-627

Champion, J.D., Shain, R.N., Piper, J. & Perdue, S.T. (2001). Sexual abuse and sexual risk behaviour of minority women with sexually transmitted diseases. Western Journal of Nursing. volume 23 (3). 241-254

Chaundhary, C.M. (1991). Research Methodology. Jaipur: RBSA Publishers.

Chun, T.W., Finzi, D., Margolick, J., Chadwick, K., Schwartz, D. & Siliciano, R.F. (1995). Fate of HIV – 1 – infected T-cells: quantitative analysis of the transition. Nature Medicine. volume 1. 1284-1290

Code of Good Practice (2000). Key aspects of HIV/AIDS and Employment. Business Blue Book of South Africa. Cape Town: National Publishing

Cohen, J. (2005). AIDS: Male circumcision thwarts HIV infection. Journal of Science. volume 1. 308-860

Conor, E.M., Sperling, R.S. & Gelber, R. (1994). Reduction of Maternal-infant transmission of human immunodeficiency virus type -1 with treatment – Paediatric AIDS Clinical Trials. New England Journal of Medicine. volume 331. 1173-1180

COSATU (1999). Campaign against HIV/AIDS: A guide for shop stewards. Retrieved from the World Wide Web www.cosatu.org.za

Crafford, G.J. (1992). Aids policy formulation in the workplace and the economic costs of AIDS: A Western Cape Survey. Masters in Commerce. Department of Economics. University of Stellenbosch.

Curran, J.W., Lawrence, D.N. & Jaffe, H. (1984). Acquired immunodeficiency syndrome (AIDS) associated with transfusions. New England Journal of Medicine. volume 310. 69-75

Department of Health (2000). HIV/AIDS Strategic Plan for South Africa, 2000-2005. South African National Department of Health, Pretoria.

Department of Health (2003). National Antenatal HIV zero prevalence survey. South African National Department of Health, Pretoria.

Dlamini Nozipho. (2007). UN Appoints new envoy for Aids in Africa. 24 May 2007 BuaNews

Dorrington, R., Bradshaw, D. & Budlender, D. (2002). HIV/AIDS Profile in the provinces of SA. Indicators for 2002. November 2002 Medical Research Council, Centre for Actuarial Research Actuarial Society of SA. 2002. Retrieved from World Wide Web www.mrc.ac.za

Eaton, L. & Fisher, A.J. (2000). HIV and AIDS Knowledge among South African Youth. Southern African Journal for Child and Adolescent Mental Health. volume 12. 97-124

Ellis, L. and Terwin, J. (2004). The impact of HIV/AIDS on Selected Business Sectors in South Africa. Bureau for economic Research. SABCOHA SA.

Entwisle, S. (2004). HIV and the workplace: employee handbook to HIV/AIDS. Published by AIDS Calgary Awareness Association. Briefing Document # 19, Canada.

Evian, C (2000). Primary Aids Care. 3rd Edition. Johannesburg: Jacana Education.

Evian, C. (2004). Prevalence of HIV in Southern Africa 2000-2001. South African Medical Journal. volume 94(2). 125-130

Fowler, M.G. & Newell, M.L. (2002). Breastfeeding and HIV -1 transmission in resource limited settings. Journal of Acquired Immune Deficiency Syndrome. volume 30. 230-239

Galloway, M.R. & Stein, J. (1998). HIV/AIDS in the workplace: what South African Companies are doing? AIDS Bulletin. volume 7(1)

Galvin, S.R. & Cohen, M.S. (2004). The role of sexually transmitted diseases in HIV transmission. Nature Reviews Microbiology. volume 2. 33-42

Gillies, P. (1998). Effectiveness of alliances and partnerships for health promotions. Health Promotion International. volume 13(2). 99-120

Green, D. (2000). HIV and Aids: the facts. Human Dynamics. Retrieved from the World Wide Web www.healthfirst.co.za

Grimwood, A., Crewe, M., & Betteridge, D. (2000). HIV/AIDS current Issues. South African Health Review. volume 1. 287-299

Hamoudi, A. (2000). HIV/AIDS and the Changing Burden of Disease in South Africa: A brief note on the evidence and Implications. Retrieved from the World Wide Web www.mrc.ac.za

Harris, M.B. (1995). Basic Statistics for Behavioural Science Research. USA: Allyn and Bacon.

Helman, G.G. (2000). Culture, Health and Illness. London: Butterworth-Heinemann Publishers.

Heywood, M.J. (1996) Mining Industry enters a new era of Aids prevention: Eye Witness SA. Aids Analysis Africa. volume 6(3)

Heywood, M.J. (2000). HIV testing in the workplace: clarifying the meaning of South Africa's Employment Equity Act. Aids Analysis Africa. volume 10(6). 13-14

Hodges-Aeberhard, J. (1999). Policy and legal issues relating to HIV/AIDS and the World of Work. Geneva International Labour Office. Retrieved from the World Wide Web www.ilo.org/public/english/protection/trav/aids/about/policy

Huysamen, G.K. (1996). Psychological Measurement. An Introduction with South African Examples. Third revised edition. South Africa: J.L. van Sahaik Publishers.

IRIN Plus News. (2007). HIV and AIDS – Educational Development. Issue: 15 March 2007

Jewkes, R., Penn-Kekana, L., Levin, J., Ratsaka, M. & Schreiber, M. (2001). Prevalence of emotional, physical and sexual abuse of women in three South African Provinces. South African Medical Journal. volume 91. 421-428

Kindra, J (2002). Aids Drugs for All. 17 October 2002. Mail & Guardian

Kline, P. (1996). An Easy Guide to Factor Analysis. London: Routledge.

Kopke, C (2001). Daimler Chrysler South Africa Introduces HIV/AIDS Workplace Strategy. 18 June 2001. Daily News, Pretoria South Africa.

Latkin, C.A., Hua, W. & Davey, M.A. (2004). Factors associated with peer HIV prevention outreach, in drug using communities. AIDS Education and Prevention. volume 16. 499-508

Macher, A.M. (1998). The pathology of AIDS. Public Health Report. volume 103(3)

MacInnis, R. (1997) "What's care to do with it? Responding to the AIDS pandemic" AIDSLINK volume 44. 1-3

Marck, J. (1997). Aspects of male circumcision in Sub-equatorial African History. Health Transmission Review. volume 7. 337

Martin, D.J., Brooks, R.A, Ortiz, D.J. & Veniegas R.C. (2003). Perceived employment barriers and their relation to work force entry intent among people with HIV/AIDS. Journal of Occupational Health Psychology. volume 8(3). 181-194

Montessori, V., Rouleau, D. & Raboud, J. (2000). Clinical characteristics of primary HIV infection in injection drug users. Journal of Acquired Immune Deficiency Syndrome. volume 14. 1868-1870

Narain, JP. Chela, C. & van Praag, E. (2000) Planning and implementing HIV/AIDS Care Programmes: A step by Step approach. World Health Organisation, Regional Office for South-East Asia, New Delhi, pp1-18.

NMMM IDP (2002). Integrated Development Plan 2002-2006. First edition. 22 July 2002. Municipal manager of the Nelson Mandela Metropolitan Municipality. Retrieved from World Wide Web www.mrc.ac.za

Palella, P.J., Delaney, K.M. & Moorman, A.C. (1998). Declining Morbidity and Mortality among patients with advanced HIV infection. New England Journal of Medicine. volume 338. 853-860

Parker, W., Kistner, U., Gelb, S., Kelly, K. & O'Donovan, M. (2000). The Economic Impact of HIV/AIDS on South Africa and its implications for Governance. Johannesburg: The Centre for Aids Development, Research and Evaluation (CADRE). Retrieved from the World Wide Web www.cadre.org.za

Parliament of South Africa. (2002). Report of the Parliamentary Task Group on sexual abuse of children. Retrieved from the World Wide Web www.polity.org.za/html/govdocs/reports/children

Peltzer, K. (2001). Factors affecting behaviours that address HIV risk among Senior Secondary School pupils in South Africa. Psychological Reports, volume 89. 51-56

Peltzer, K. & Promtussananon, S. (2005). HIV/AIDS Knowledge and Sexual Behaviour among Secondary School Students in South Africa. Journal of Social Sciences, volume 1(1). 1-8

Pikher, C.D., Eron, J.J., Galvin, S., Gay, C. & Cohen, M.S. (2004). Acute HIV revisited: New opportunities for treatment and prevention. Journal of Clinical Investigation, volume 113. 937-945

Reaves, C.C. (1992). Quantitative Research for the Behavioural Sciences. Singapore: John Wiley & Sons Inc.

Sai, K. (1995). AIDS and the private sector: The burden and the responsibility. Journal of Acquired Immunodeficiency Syndrome, volume 2(1). 4-8

Schoub, B.D. (2000). Aids and HIV in perspective: A guide to understanding the virus and its consequences. Second edition. Cambridge: Cambridge University Press.

Sekaran, U. (1992). Research Methods for business: A skill building approach. Second Edition. London: John Wiley and Sons Inc.

Shell, R.C.H. (2000). Yangen'inkomo endlwini. The cow enters the hut. Aids in the poorest province of South Africa, 1976-2001. Working Paper No.8; paper revised for DEMSA annual conference in Port Elizabeth, October 2-6th 2000. Retrieved from the World Wide Web www.mrc.ac.za

Sheridan, K., Humfleet, G., Phair, J. & Lyons, J. (1990). The Effects of AIDS Education on the knowledge and attitudes of Community Leaders. Journal of Community Psychology, volume 18. 354-360

Sherr, L., Christie, G., Sher, R. & Metz, J. (1989). Evaluation of the effectiveness of AIDS Training and Information courses. South African Medical Journal, volume 76. 358-362

Shisana, O. & Simbayi, L. (2002). Nelson Mandela/Human Science Research Council (HSRC) Study of HIV/AIDS. South African National HIV Prevalence, Behavioural Risks and Mass Media Household Survey 2002. HSRC/Medical Science Research Council (MSRC) for AIDS Development Research and Evaluation (CADRE). Retrieved from the World Wide Web www.hsrc.ac.za

Smart, R. & Strode, A. (1999). South African Labour Law and HIV/AIDS. Aids Analysis Africa. volume 10 (1). 14-15

Smith, G. & Napier, J. (2001). Can we cope with another “Lost Generation”? A bottom up risk analysis to HIV/AIDS in South Africa. Aids Analysis Africa. volume 11(15). 7-8

Stein, J. (2001). HIV/AIDS and the South African Media Workplace policies and programmes. Johannesburg: The Centre for Aids Development, Research and Evaluation (CADRE). Retrieved from the World Wide Web www.cadre.org.za

Stevens, M. (2001). AIDS and the workplace with specific focus on employee benefits: issues and responses. Centre for Health Policy School of Public Health. University of the Witwatersrand.

Swartz, L. (1998). Life skills and HIV/AIDS Education Programme Survey Report 1997-1998 for the Department of Education and department of Health.

The State (2000). South African Population Report 2000: Population, poverty and vulnerability. The National Population Unit. Department of Social Development. Retrieved from the World Wide Web www.aids.org.za

Thomas, S. (2002). However, you look at it, you will pay: Corporate SA and AIDS. 12 July 2002. Financial Mail

UNAIDS. (2000). The Business Response to HIV/AIDS: Impact and lessons learned. Geneva. Retrieved from the World Wide Web www.businessfightsaids.org/webfiles/zips/impacts.pdf

UNAIDS. (2003) HIV/AIDS – “it’s your business”. Geneva. Retrieved from the World Wide Web www.unaids.org

UNAIDS. (2004). 2004 Report on the Global HIV/AIDS Epidemic. Geneva. Retrieved from the World Wide Web www.unaids.org

UNAIDS. (2006). Executive Summary on the Global HIV/AIDS Epidemic. Geneva. Retrieved from the World Wide Web www.unaids.org

UNDP (2004) United Nations Development Program Report on Aids at the Workplace. Retrieved from World Wide Web www.youandaids.org/Themes/AidsandWorkplace.asp

Vajeth, T.A.A. (1993). The Awareness of AIDS in the Workplace. Submitted in partial fulfillment for the Degree of Masters of Commerce. University of Kwazulu-Natal. Westville Campus.

Valdiserri, R.O., Ogden, L.L. & McCray, E. (2003). Accomplishments in HIV Prevention Science: Implications for stemming the epidemic. Nature Medicine. volume 9. 881-886

Van Empelen, P., Kok, G., van Kesteren, N.M., van den Borne, B., Bos, A.E. & Schaalma, H.P. (2003). Effective methods to change sex-risk among drug users: a review of psychosocial interventions. Social Science and Medicine. volume 57. 1593-1608

Van Praag, E. (1995). The continuum of care: Lessons from developing countries. International AIDS Society Newsletter. volume 3. 11-13

Watts, D.H. (2002). Management of HIV infection in Pregnancy. New England Journal of Medicine. volume 324. 1879-91

Wexler, H.K. (1991). Evaluation of an AIDS Prevention Programme for ‘at risk’ parolees. Paper presented at the 99th Annual Convention of the American Psychological Association in San Francisco, CA. August 16-20, 1991

Whiteside, A & Sunter, C. (2000). Aids the challenge for South Africa. Cape Town: Human & Rousseau, Teffelberg. Retrieved from the World Wide Web www.businessfightsaids.org

World Health Organisation.(2000). Key elements in HIV/AIDS Care and Support. Draft working document, World Health Organisation, Geneva

Zuma, J. (2002). Working to reduce and defeat epidemic. 14 October 2002. Business Day