

**HIV/AIDS KNOWLEDGE OF SECONDARY
SCHOOL LEARNERS IN SEFHARE,
BOTSWANA**

by

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for the degree of

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SUPERVISOR: PROF VJ EHLERS

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Dedication

I am dedicating this dissertation to Almighty God who has made it possible for me start and finish this work. He gave me the strength and the people who helped in making my dream become a reality. Also, to those who are working tirelessly, in other to get the necessary information regarding HIV/AIDS across to the needy populations

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The principal of Sefhare Community Junior Secondary School (SCJSS), Mr Palayiwa, who enabled the learners to participate in the study. Also, not forgetting the other teachers who offered me materials used during the course of the study.

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HIV/AIDS KNOWLEDGE OF SECONDARY SCHOOL LEARNERS IN SEFHARE, BOTSWANA

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Declaration

I declare that **HIV/AIDS KNOWLEDGE OF SECONDARY SCHOOL LEARNERS IN SEFHARE** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

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ABSTRACT

Quantitative, descriptive research, using self-completion questionnaires, was conducted to determine the level of HIV/AIDS knowledge of the learners in Sefhare. The sample, comprising 92 learners, was selected from forms 1-3.

Of the learners, 53.4% knew what HIV/AIDS stand for, but only 13.6% said AIDS is caused by HIV and only 4.5% said AIDS is an incurable disease. The ABC of protecting oneself against HIV (abstain from sex, be faithful to one sex partner, use condoms) was mentioned by merely 57.6% of the learners.

The learners' lack of knowledge should be addressed by school HIV/AIDS programmes offered at schools in Botswana. As 81.5% of the learners were willing to be tested for HIV, this service should be made available with simultaneous confidential personal HIV/AIDS education, irrespective of the HIV test results. Teachers' and parents' HIV/AIDS knowledge should also be updated regularly.

Keywords – Botswana, HIV/AIDS knowledge, prevention of HIV infection, secondary school learners, teenagers' sexual beliefs

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LIST OF ABBREVIATIONS

The following abbreviations were used throughout this dissertation.

ABC	Abstinence, Be faithful, Condomise
ACHAP	African Comprehensive HIV/AIDS Partnership
AED	Academy for Educational Development
AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral therapy
ARVs	Anti-retroviral
BAIS	Botswana AIDS Impact Survey
BHP	Botswana-Harvard Partnership (Botswana)
BIDPA	Botswana Institute of Development and Policy Analysis
BOCAIP	Botswana Christian AIDS Intervention Programme
BONELA	Botswana Network on Ethics and Law
BONEPWA	Botswana Network of People Living with HIV/AIDS
CDC	Centers for Disease Control and Prevention
CIETtrust	Centro de Investigacion de Enfermedades Tropicales trust
CSO	Central Statistical Office (Botswana)
DFID	Department for International Development (UK)
DHSS	Department of Health and Social Services (USA)
DNA	Deoxyribonucleic acid
HAART	Highly Active Anti-retroviral Therapy
HIV	Human Immune Deficiency Virus
JSI	John Snow Incorporated
ICASO	International Council of AIDS Service Organizations
LAPCA	Lesotho AIDS Programme Coordinating Authority
MDG	Millennium Development Goals

MoE	Ministry of Education (Botswana)
MoH	Ministry of Health (Botswana)
MTCT	Mother to Child transmission
NACA	National AIDS Coordinating Agency
NGO	Non-Governmental Organisation
NSF	National Strategic Framework for HIV/AIDS (Botswana)
OIs	Opportunistic Infections
PLWAs	People Living with AIDS
PLWHA	People Living with HIV/AIDS
PLWHIV	People living with HIV
PMTCT	Prevention of Mother-to-Child Transmission (of HIV/AIDS)
RHO	Reproductive Health Outlook
RNA	Ribonucleic acid
SSA	Sub-Saharan Africa
STI	Sexually Transmitted Infections
UCSF	University of California: San Francisco
UK	United Kingdom
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNGASS	United Nations General Assembly
UNHCR	United Nations High Commission for Refugees
UNISA	University of South Africa
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
VL	Viral load
WHO	World Health Organization

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS), was first reported among the gay community and the injectable drug users in the United States of America (USA) in 1981 (DHHS 2007). According to the World Health Organization (WHO 2006a:23) AIDS can kill because the infected individual's immune system is unable to fight infections. The effect of the Human Immunodeficiency Virus (HIV), that causes AIDS, can be detected by measuring the number of circulating CD4 cells in the blood stream or the viral load which is defined as the number of human immune-deficiency virus in the blood stream. A healthy individual has a CD4 cell count of about 1 000 cells per mm³ and once it falls to a level below 200 cells per mm³ (DHHS 2007), the individual is likely to suffer from various opportunistic infections (OIs) unless he/she is treated effectively with anti-retroviral drugs (ARVs).

The number of the copies of viral replication in the body of an infected individual is referred to as viral load. It is measured as the number of copies of HIV RNA per millilitre (copies/ml) (MoH 2005a: 18). An individual with a viral load above 400 copies is prone to opportunistic infections, which are caused by a compromised immune system (CDC 2008).

In 2007, AIDS claimed an estimated 2.1 million lives globally and an estimated 2.5 million people were newly infected with the virus. In this same period, the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that 32.2 million people worldwide were living with HIV of whom 22.5 million lived in sub Saharan Africa (SSA) (UNAIDS 2007:1).

HIV is a retrovirus because it reverses the genetic material, DNA, of its host as it cannot survive on its own, causing AIDS, which affects the person's immune system. Humans' immune systems act like armies that protect their bodies from infections. It does this

through the numerous white blood cells according to the National AIDS Coordinating Agency (NACA 2005; Williams & Dye 2003:1535).

AIDS indicates a health-depleted condition that results from the deficiency of the body's immunity. HIV attacks the human body by breaking down its immune system, rendering it unable to fight off diseases (NACA 2005). Thus, AIDS is seen as the end-stage of HIV infection during the time which the body cannot fight infections by itself.

1.1.1 Modes of transmission of HIV

There are various modes of transmission of HIV from one individual to another; the common route of transmission in Botswana, as well as in most countries in the SSA, is through heterosexual intercourse between a male and a female. Modes of transmission of HIV include unprotected sex, blood transfusion with HIV infected blood, mother-to-child transmission (MTCT), also known as vertical transmission, and sharing injection needles (as drug dependent persons sometimes do) (CDC 2008).

If a person engages in sexual intercourse with an infected person without using a condom, he/she can get infected. The sexual act can be both vaginal and anal (CDC 2008; NACA 2005). If a person shares needles or syringes used by an infected person, either for injecting drugs or drawing blood or for any other purpose involving piercing, he/she can get infected. Instruments used for piercing and tattooing also carry some risk of infection (Gisselquist, Rothenberg, Potterat & Drucker 2002:657; Schmid, Buvé, Mugenyi, Garnett, Hayes, Williams, Calleja, De Cock, Whitworth, Kapiga, Ghys, Hankins, Zaba, Heimer & Boerma 2004: 482).

According to Busch, Kleinman and Nemo (2003:959), a person can get infected with HIV, if he/she is transfused with infected blood. If surgical devices like syringes and scalpels, or other instruments, used on an infected person, are used on another person without proper sterilisation, they can transmit HIV (Dente & Hess 2006:11).

An HIV positive mother can transmit the virus to her child during pregnancy or birth and/or during breastfeeding (NACA 2005). The mortality of children born to sero-positive pregnant women is higher than their sero-negative counterparts making

prevention of mother to child transmission (PMTCT) of HIV a priority for HIV transmission reduction (Zijenah, Moulton, Iliff, Nathoo, Munjoma, Mutasa, Malaba, Zvandasara, Ward & Humphrey 2004:273).

Theoretically oral sex without condoms (on men) or barriers like dental dam, vaginal dams or plastic wrap (on women) can also transmit the infection (NACA 2005; Yang, Li, Stanton, Liu, Liu, Wang, Fang, Lin & Chen 2005:270). A dental dam is a thin, rectangular sheet of latex rubber that can be used during oral-vaginal or oral-anal sex to prevent the transmission of sexually transmitted infections (Bailey, Farquhar, Owen & Mangtani 2004:245).

1.2 HIV/AIDS - A GLOBAL PANDEMIC

By December 2007, the global number of people infected with HIV/AIDS totaled an average of 33.2 million people (approximately 30.8 million adults, 15.4 million women and 2.5 million children under 15 years of age). There was a total of 2.5 million newly HIV-infected people comprising 2.1 million adults and 420 000 children under the age of 15 years. The AIDS deaths amounted to 2.1 million people comprising 1.7 million adults and 333 000 children under the age of fifteen (UNAIDS 2007:1).

1.2.1 HIV/AIDS in Sub-Saharan Africa

SSA has been the worst hit by the HIV infection with 68.0% of all infections occurring in the region in 2007 (UNAIDS 2008b:1). The scale and trend of HIV prevalence rates in the region vary considerably, with west and east African countries having lower prevalence, whilst the southern African countries have the highest prevalence in the region (UNAIDS 2007:4).

SSA is the global epicentre of the AIDS pandemic and remains the region worst affected. More than 68.0% (22.5 million) of all HIV positive people live in this region where more than 76.0% (1.6 million) of all AIDS deaths occurred in 2007. It is also estimated that 1.7-2.4 million people in this region were newly infected with HIV during 2007. The majority of people living with HIV in SSA (61.0%) are women (UNAIDS 2007:15). The impact of HIV in SSA is threatening development in all sectors of the society. Although people of all ages are affected by the virus, most of those affected are

in the age group 25-45. This group is particularly important not only in terms of economic productivity but also as carers, parents and providers. The loss of productive workers and increased spending on health care services require difficult decisions about resource allocation across all government sectors (UNAIDS 2005:12).

1.2.2 HIV/AIDS in Botswana

Botswana, a developing SSA country, has one of the highest HIV prevalence rates in the world (MoH 2006a:1; Smart 2006; Weiser, Wolfe, Bangsberg, Thior, Gilbert, Makhema, Kebaabetswe, Dickenson, Mompati, Essex & Marlink 2003:281) and has a population of 1.76 million (UNAIDS 2006a:15). The Botswana AIDS impact survey (BAIS) conducted in 2004 estimated the HIV prevalence in the general population at 17.1%. In 2005, antenatal clinic HIV prevalence among pregnant women aged 15-49 was 33.4%. The 2006 Botswana second generation HIV/AIDS surveillance revealed a prevalence of 32.4% among pregnant women attending government antenatal clinics (MoH 2006b:27; NACA/CSO 2006).

In 2002, Botswana officially launched an anti-retroviral therapy (ART) programme on a national scale and became the first African country to provide ARVs free of charge to its citizens who qualify for treatment. The programme became known as *MASA*, the Setswana word for “new dawn” (WHO 2006a:85). The *MASA* programme was launched initially at four sites in Botswana consisting of two referral hospitals and two district hospitals. The programme was scaled up to cover the entire 32 district and primary hospitals in the country in 2004, thus, provision of antiretroviral therapy (ART) became available in every district of Botswana.

The introduction of HAART in the 1990s brought new hope to the people living with HIV/AIDS (PLWHA) and has qualitatively changed the HIV clinical landscape (Fogarty, Roter, Larson, Burke, Gillespie & Levy 2002:95). More recently, the increased availability of treatment has improved survival rates and lowered the incidence of opportunistic infections in persons living with AIDS (PLWAs) (UNAIDS 2005). People who use ARVs effectively can survive for many years with this chronic disease. ARVs do not cure HIV. However, ARVs are effective in controlling the virus and can even reduce the level of the virus to undetectable levels in the blood. These drugs prevent the rapid multiplication of HIV and at the same time, boost the body’s immune system,

increasing the length and quality of life of PLWAs while enabling them to lead full and productive lives (WHO 2006a:26). The goal of HAART is to suppress the viral load to an undetectable level for as long as possible and elevate the CD4 cell counts (Fogarty et al 2002:93; Splete 2005).

Sexual health problems facing young people in the country include a high incidence of sexually transmitted infections (STIs) and social vices such as alcohol and substance abuse contributing to the spread of HIV/AIDS (Phorano, Nthomang & Ntseane 2005:188).

1.3 RESEARCH PROBLEM

A research problem is a troubling situation in need of a solution, improvement or alteration. It is an area of concern where there is a gap in the knowledge base needed for professional practice (Burns & Grove 2005:70; Polit & Beck 2004:65).

The threat posed by the level of prevalence of HIV/AIDS and the population group involved in the research formed the basis of the research problem. Kinghorn, Coombe, McKay and Johnson (2002) stated that “Levels of basic HIV/AIDS knowledge among young people are generally high, but there is no clear sign that teenage infection rates are falling”.

1.3.1 Source of the research problem

The lifestyle and the rate of the spread of HIV among learners in Botswana prompted the researcher to look into the reasons that may propel the sexual lifestyle of the learners. This is in the light of the steps taken by the government to sensitise the population concerning the dangers involved in getting infected with HIV/AIDS (WHO 2003: 1; WHO 2008). The researcher also attempted to determine what the learners actually knew about HIV/AIDS, how they applied this knowledge and where they acquired such knowledge (Preece & Ntseane 2004: 5).

According to the WHO (WHO 2005:1), the HIV/AIDS prevalence among antenatal clinic attendees in Selebi-Phikwe in 2003, a town in the northern central region of Botswana

was 52.0% and 48.5% in 2005. This town is about 100km from the study site, Sefhare, which might have HIV/AIDS prevalence similar to Selebi-Phikwe due to their proximity.

More than half of all HIV/AIDS infections occur before the age of 25. Young people are generally at elevated risk of HIV infection because of psychosocial, emotional, and physical factors as well as economic dependence, high levels of sexual activity, peer pressure and gender inequality (Kaiser Family Foundation 2004).

1.3.2 Background to the problem

Prior to 1985 when the first case of HIV infection was diagnosed, the health status of the Botswana population was improving steadily and the vital health indicators of the country were among the best in the region. With the advent of the epidemic, there has been a sharp decline in life expectancy from 65 years in 1991 to 40.4 years in 2000, attributable to HIV/AIDS (WHO 2004:5). The maternal mortality rate also increased from 350 deaths per 100 000 live births in the 1990s to 380 deaths per 100 000 live births in 2005 (WHO 2006b:1), attributable to HIV/AIDS.

According to Kinghorn et al (2002:19), it was estimated that 35.5% of all HIV infections among females in Botswana occur between the ages of 15 and 19 and the majority of the senior secondary learners in Botswana fell within this age range. Among males, this figure is 14.0%. Thus with most children completing ten years of basic education, a high proportion of infection might occur while children are still at school.

Education has been seen as a good avenue for awareness creation and prevention purposes and the Botswana government engaged in nationwide awareness creating campaigns so as to ensure that everyone knows about the dangers involved with HIV infections, transmitted mostly through sexual intercourse (NACA 2003:9; Global HIV Prevention Working Group 2002:1490). The population group aged 10-24 was called the “window of hope”. They are the transition between teenagers and adolescents, thus preventing HIV transmission in this group goes a long way to reduce the overall incidence and prevalence of HIV/AIDS in Botswana. This population group, according to the WHO (2006b:2), was called young people. The right actions to make preventive initiatives work, could help the most vulnerable population group to remain HIV negative. The role of education and involvement of other stakeholders in mitigating the spread of

HIV among learners, such as the Ministry of Education and teachers was emphasised by Bennell, Chilisa, Hyde, Makgothi, Molobe and Mpotokwane (2001:i).

Young people make up a segment of the vulnerable group to HIV infection. Thus, necessary information, skills and services required for reducing the vulnerability within the group is paramount to achieving the United Nation's Millennium Developmental Goals (MDGs) with respect to HIV/AIDS and the youth (UNAIDS 2008b).

1.3.2.1 Millennium development goals (MDGs)

MDGs were set by all government leaders at the United Nations Millennium Summit in September 2002. The goal of the government leaders was to accelerate coordinated development projects around the countries in the world with emphasis on reducing infections such as HIV/AIDS and malaria and poverty in the developing nations of the world (UNESCO 2002:7, UNDP 2009). They came up with eight goals and specific targets aimed at achieving the goals. The MDGs are as follows;

Goal 1: Eradicate extreme poverty and hunger

Goal 2: Achieve universal primary education

Goal 3: Promote gender equality and empower women

Goal 4: Reduce child mortality

Goal 5: Improve maternal health

Goal 6: Combat HIV/AIDS, malaria and other diseases

Goal 7: Ensure environmental sustainability

Goal 8: Develop a global partnership for development

The thrust of the study will be based on MDG 6 which focused on combating HIV/AIDS, malaria and other diseases. Two of the three targets set as indicators for measuring the achievement of goal 6 focused on HIV, namely:

Target 6a: Halt and begin to reverse the spread of HIV/AIDS.

Target 6b: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it.

Target 6a, in particular, deals with issues related to the reduction of the prevalence of HIV infection among the age group 15-24 referred to as young people by the WHO (2006a:2). Part of the aims of the United Nations (UN) to achieve an AIDS free generation is a reduction in the number of newly infected adolescents, by provision of facilities for HIV testing and counseling and improved access to anti-retroviral therapy (ART). Also, safe delivery practices for pregnant adolescents and women, including breast milk substitutes to reduce mother to child transmission (MTCT) of HIV (Ki-Moon 2007:71-73).

About 5 000 - 6 000 young people get infected with HIV everyday globally, making interventions aimed at curtailing the spread of HIV among this age group very important (WHO 2006a:4).

According to Yamauchi (2007:vii), there is an association between education and the risk of contracting HIV/AIDS, and most of the infected individuals fall within the age group 20-39. Knowledge gained in avoiding risky sexual behaviours is worthwhile, since, an informed decision could be made prior to engaging in sexual activities. Thus, the early introduction of knowledge and skills to learners of secondary schools could help stem the spread of HIV/AIDS. In a related study carried out by Peltzer and Promtussananon (2005:4), they found out that the junior secondary school learners included in the survey carried out in South Africa, had varying degrees of knowledge with respect to locality, with the urban learners having a higher level of knowledge of HIV/AIDS than those from the rural areas.

1.3.3 Statement of the research problem

“Levels of basic HIV/AIDS knowledge among young people are generally high, but there is no clear sign that teenage infection rates are falling. Ongoing problems include a lack of skills to avoid unsafe sex and misconceptions about HIV/AIDS” (Kinghorn et al 2002: ii). This suggests that the knowledge in question might still be limited. Studies on HIV/AIDS have been conducted in Botswana. For instance, the Botswana Institute for Development Policy Analysis (2005) conducted a study focusing mainly on knowledge,

attitudes, beliefs and practices in the vocational training sector. A survey was conducted by NACA/CSO (2005) to generate nationally representative, population-based estimates of HIV/AIDS prevalence amongst the population. The survey was also designed to identify and document those factors (behaviour, knowledge, attitudes, and cultural factors) associated with HIV/AIDS. The survey results are intended to establish benchmarks against which successive progress on the impact of the national response to HIV/AIDS can be measured. Despite these studies, there has not been evidence of reducing teenage infection rates of HIV/AIDS in Botswana. Against this background, there is an urgent need to complement current programmes by way of introducing something new to improve the secondary school learners' knowledge of HIV/AIDS. This provided the basis for this study.

1.4 PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study was to determine the level of knowledge of secondary school learners about HIV/AIDS in Sefhare, Botswana.

Specifically, the objectives of the study were to:

- determine the level of the learners' knowledge about HIV/AIDS.
- suggest ways of improving secondary school learners' knowledge about HIV/AIDS in Sefhare, Botswana.
- suggest ways of preventing the spread of HIV/AIDS among the learners.

1.4.1 Research questions

- What is the current level of knowledge of secondary school learners concerning HIV/AIDS?
- What are the new/alternative ways/methods of reducing HIV infection among secondary school learners?
- What are the general suggestions to reduce the spread of HIV/AIDS?

1.5 SIGNIFICANCE OF THE STUDY

Lessons learnt will be used to improve awareness of HIV/AIDS among secondary school learners and also, to introduce and initiate programmes relevant to the population group with respect to the study results.

1.6 DEFINITIONS OF KEY CONCEPTS

The following list provides the definitions of terms and concepts that will be used throughout the report.

AIDS: Acquired Immune Deficiency Syndrome refers to the constellation of symptoms produced by HIV (Hunter 2000:3). It is a surveillance definition based on signs, symptoms, infections, and cancers associated with the deficiency of the immune system that stems from infection with HIV (UNAIDS 2008a:1). It means that the body loses the ability to fight against infections because the immune system is weakened by HIV. As the name, Acquired Immunodeficiency Syndrome, indicates, AIDS is a health condition that results from the deficiency in the body's immunity following HIV infection. HIV attacks the human body by breaking down its immune system, especially the CD4 cells, meant to fight diseases. Over a period of time, the immune system weakens and the body loses its natural ability to fight diseases. At this stage, various diseases affect the infected person.

CD4 cell: A type of immune system cell that is depleted during the progression of HIV infection. They are cells which fight infections. So the reduction of CD4 cells below $200/\text{mm}^3$ makes the person susceptible to infections, called opportunistic infections (OIs) (WHO 2006b:23).

CD4 cell counts: It is used to determine the stage of HIV/AIDS disease and also to monitor an individual's response to ART. It is one of the criteria that can be used for deciding when to start HAART (Poppa, Davidson, Deutsch, Godfrey, Fisher, Head, Horne & Sherr 2003:55). The normal CD4 cell count is about 1 000 cells per mm^3 (WHO 2006b:23) and a low or depleted CD4 count is usually accepted to be 200 per mm^3 or less, when ART is normally commenced.

Epidemic: A disease that affects a large number of people in a particular location within a relatively restricted time frame. This is contrasted to 'endemic', a disease that afflicts a population in a given area for a very long time. The difference between the two terms reflects the relative degree of adaptation of a population to a disease, in that endemic disease is viewed as an entity with which a population lives and survives. An epidemic emerges suddenly, affects a large number of people, then tapers off and in many cases

persists at a lower level and becomes endemic. Epidemic usually refers to a disease that is infectious (Hunter 2000:1).

HAART: Highly active anti-retroviral therapy is defined as HIV/AIDS treatment containing three or more anti-HIV medicines for the suppression of HIV viral replication in the human body (Population Briefs 2004).

HIV: The Human Immune Deficiency Virus (Hunter 2000:3) causes AIDS, a health condition in which a person is affected by a series of diseases because of poor immunity. HIV by itself is not an illness and does not instantly lead to AIDS. An HIV-infected person can lead a healthy life for several years before he/she develops AIDS (NACA 2005; UNAIDS 2008a:1).

Infectious disease: A disease communicated through micro-organisms from one human being to another. This type of disease is also known as 'communicable', as it is passed from one individual to another (Hunter 2000:3).

Knowledge: The term mainly refers to what people know and in this case, what the learners at the secondary school know about HIV/AIDS, how they perceive the disease and its transmission, as well as what measures are undertaken to prevent and protect themselves against infection.

Learners: The term refers to the school age children attending the secondary schools in Sefhare, Botswana.

Sero-Prevalence: Sero-prevalence is the number of persons in a population who test positive for a specific disease based on serology (blood serum) specimens; often presented as a percentage of the total specimens tested or as a rate per 100 000 persons tested. The proportion of persons, who have serologic evidence of HIV infection, antibodies to HIV at any given time, constitutes the prevalence. It is used to describe how commonly HIV occurs in a particular population, by testing people's blood for HIV antibodies (UNAIDS 2008a). It is much higher than incidence because it represents the accumulation of infection over many years. HIV prevalence is measured for different population groups but adult prevalence usually refers to the prevalence

among people aged 15 years and above. Child prevalence can measure prevalence among 0-5 or 0-15 year olds (Hunter 2000:2).

Surveillance: The observation of the total number of cases of a disease present in a population at a given period of time, including old and new cases (Hunter 2000:2).

Viral load (VL): Levels of HIV found in the blood. It is measured as the number of copies of HIV RNA per millilitre (copies/ml). VL generally goes below the level of detection (less than 400 copies per ml) by six months after starting ART (MoH 2005a:18).

1.7 ASSUMPTIONS UNDERLYING THE STUDY

The objectives of this study are based on the assumptions that a high level of knowledge of HIV/AIDS will influence learners' attitudes and behaviours. Thus learners with a low level of knowledge will engage in risky behaviours and be prone to HIV infections while those with a high level of knowledge should be able to make informed and safer decisions concerning their sexual behaviours.

1.8 RESEARCH DESIGN

A cross-sectional, quantitative, descriptive cohort study, which will be retrospective and descriptive in nature, will be used in this research.

1.8.1 Research paradigm

The study will take the form of a non-experimental descriptive quantitative study (Bowling 2002:1). It will involve careful descriptions of an observed phenomenon. The study opted for a descriptive survey in order to convert data into numerical indices and to employ statistical analyses to summarise and describe the findings. The descriptive survey will be used to measure characteristics of a sample at one point in time.

1.9 RESEARCH METHOD

According to Mouton (2001:56), research methodology outlines the process of the research and what tools are needed to achieve the research objectives. The research methodology will be discussed in more detail in the chapter 3 of this dissertation.

1.9.1 Study population and selection process

The study population includes all secondary school learners in the junior secondary school in Sefhare Botswana. The study population comprises the individuals who conform to the eligibility criteria and are available for a particular study (Burns & Grove 2005:342; De Vos 2002:198).

For the purpose of the study, only the learners enrolled in forms 1-3 of the junior secondary school in Sefhare during 2009 were included in the study.

1.9.2 Sample and sampling method

A sample is a subset of a population selected to participate in a study. Sampling is the process of selecting a portion of the population to represent the entire population. The selected elements are then referred to as the sample (Polit & Beck 2004:291).

Non-probability sampling will be used in the study, because only the learners at the participating school, in forms 1-3, who were willing to complete questionnaires, and whose parents or guardians signed the consent forms, were included in the study.

1.9.3 Study site

The study site was the community junior secondary school (CJSS) in Sefhare, Botswana. Sefhare is a village situated in the central part of Botswana with a population of 4 195 persons (1 838 males and 2 357 females) (CSO 2008).

There is one junior secondary school in Sefhare, Botswana, namely, Sefhare community junior secondary school (MoE 2007:4). The total number of learners in the school is 418, with 136 learners, 134 learners and 148 learners in Forms 1, 2 and 3 respectively.

1.9.4 Research instrument

A questionnaire with mainly closed-ended, but also a limited number of open-ended, items was developed specifically for this study (see Annexures B and C for the English and Setswana versions). The questionnaire was used to collect data related to HIV/AIDS knowledge of the learners.

The questions were arranged in a simple and understandable sequence for form 1-3 learners. The questionnaire comprised items derived from the literature review.

1.9.5 Data gathering process

An official letter was sent to the principal of the junior secondary school after receiving approval from the Health Research Council at the Ministry of Health, Botswana and from the Research and Ethics Committee of the Department of Health Studies, University of South Africa. The questionnaire was administered by the researcher and trained assistants.

1.9.6 Data analysis

Data collected were analysed using the Statistical Package for Social Sciences (SPSS) version 16. The researcher was assisted by a statistician and an interpreter in analysing and interpreting the data (see Annexures J and K).

1.9.7 Validity and reliability

The validity of a data collection instrument refers to the extent that it measures what it intends to measure. This implies that a valid instrument actually measures the concept it is supposed to measure accurately (Stommel & Wills 2004:222).

Reliability of a data collecting instrument refers to the accuracy or precision of an instrument (De Vos 2002:168-169). It is a matter of whether a specific method if applied more than once to the same object would give the same result (Babbie & Mouton 2001:119-120). The data collecting instrument was pre-tested on ten learners, from the same school who were excluded from participation in the actual study.

1.10 LIMITATIONS AND SCOPE OF THE STUDY

The study focussed on the junior secondary learners in forms 1-3 in Sefhare, Botswana. Thus, other junior secondary school learners in other regions of Botswana were excluded from the study. The study targeted teenagers aged up to 19 years who were enrolled at the junior secondary school during 2009. The research focused on this age group mainly because the HIV infection seemed to start in this cohort, with a tendency of increasing prevalence over time (MoH 2006a:36). The data that were collected focused on knowledge of HIV/AIDS in order to find out whether the students were knowledgeable about the consequences, challenges and problems posed by HIV/AIDS.

1.11 ETHICAL CONSIDERATIONS

Research ethics involves protecting the rights of the respondents and the institution in which the research was done, and maintaining scientific integrity (Babbie & Mouton 2001:531; Burns & Grove 2005:181-206).

Approval to conduct the study was obtained from the Botswana Ministry of Health through the National Health Research Committee.

Ethical clearance was also obtained from the Ethics and Research Committee of the Department of Health Studies, UNISA (see Annexure A). Informed consent was obtained from each respondent's parents or guardians, before the questionnaire was completed by any learner (see Annexures G and H for the English and Setswana versions). The researcher and a research assistant explained the nature of the study to the learners' parents or guardians, including the study's purpose, that the learner would be required to complete a questionnaire anonymously, and that all information would be treated confidentially. The researcher and research assistants were available while the learners completed the questionnaires.

Any learner, parent and/or guardian could discuss any issue with the researcher and/or research assistants. A contact telephone number was supplied. The learners were younger than 21 and Botswana's research council requires parents or guardians to provide consent for such research participation (MoH 2005a:1).

The parents or guardians of potential respondents were also informed that participation in the study would be completely voluntary and that refusal to participate in the study would not affect their relationships with the researcher or other persons in any manner whatsoever.

1.12 ORGANISATION OF THE DISSERTATION

Chapter 1: This chapter outlined what the study intended doing and described the background, aims and objectives, as well as the concepts used in the report.

Chapter 2: Based on the literature reviewed, this chapter reflects on the magnitude of the HIV/AIDS pandemic in the Sub-Saharan Africa (SSA) and the population on which it concentrates (young people). This chapter also discusses the magnitude of the pandemic, globally, and especially amongst learners, focussing on the potential role of knowledge in addressing the spread of HIV among young people.

Chapter 3: The research design adopted, in order to explore and describe knowledge of HIV/AIDS among the learners at the junior secondary school in Sefhare, will be addressed in detail.

Chapter 4: This chapter presents the empirical findings of the research, based on the data obtained from the learners' completed questionnaires.

Chapter 5: The final chapter presents the conclusions, recommendations and limitations of the study.

1.13 SUMMARY

The chapter provided an overview of HIV/AIDS pandemic in the world, SSA and Botswana and background information about the study. The next chapter will provide an overview of the literature pertaining to HIV/AIDS among learners globally, in SSA and in Botswana.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

SSA is the region most affected by the HIV/AIDS pandemic. At the end of 2007, 33.2 million people were living with HIV/AIDS in the region, accounting for 68.0% of the total global HIV/AIDS prevalence (UNAIDS 2007: 1). At the end of 2007, SSA's adult HIV/AIDS prevalence rate was 5.0%. Of the region's HIV-positive adults, 61.0% were women (UNAIDS 2007:1).

AIDS poses challenges to the social, political and economic frameworks of many countries. The disease is caused by the inevitable destruction of the body's defences by HIV, eventually culminating in death, if the disease is not treated. The devastation brought about by the disease is exacerbated by its non-discriminatory and incurable nature, though it can be managed by using ARVs effectively. Its principal mode of transmission in SSA, heterosexual intercourse, threatens the basis by which societies regenerate themselves. HIV/AIDS prevalence among young people threatens the future social and economic development of many SSA countries, including Botswana.

According to the University of California San Francisco (UCSF report 2001:2), factors fuelling the epidemic in Africa include:

- Subordinate status of women
- High prevalence of STIs
- Migration (inter and intra-country), both regular commuting related to employment and that precipitated by conflict, political instability and environmental disasters
- Sexual violence
- Poverty
- Socio-economic and ethnic marginalisation

- Weak health infrastructures
- A young rapidly growing population (44.0% of the population which is growing at 2.5% annually is younger than 15)
- Stigma and fatalism surrounding AIDS
- Ignorance of one's HIV status
- Lack of treatment to suppress the viral load of those infected thus rendering them more infectious
- Limited information and services for sexual and reproductive health especially among the youth

Campbell, Foulis, Maimane and Sibiya (2005:1) attributed the spread of HIV/AIDS in vulnerable communities to stigma, the pathology attributed to youth sexuality (especially that of girls) and negative images of young people.

2.2 GLOBAL STATUS OF HIV/AIDS

Every day, over 6 800 persons become infected with HIV and over 5 700 persons die from AIDS, mostly because of inadequate access to HIV prevention and treatment services. The HIV pandemic remains the most serious infectious disease challenge to public health (UNAIDS/WHO 2008:4).

By December 2007, globally there were a total of 2.5 million people newly infected with HIV; this comprised 2.1 million adults and 420 000 children under 15 years. There were 33.2 million people living with HIV/AIDS of whom 30.8 million were adults and 2.4 million were children under 15 years. A total of 2.1 million people died due to HIV/AIDS in 2007 (UNAIDS 2007:1).

In many parts of the developing world, the majority of new HIV infections occur among young adults, with young women being especially vulnerable. About one-third of the persons living with HIV/AIDS were estimated to be aged 15-24 (UNAIDS 2001:2).

2.3 HIV/AIDS IN BOTSWANA

The first case of HIV/AIDS in Botswana was diagnosed in 1985 (WHO 2005:1). Since then there has been a rapid spread of HIV infection in the population with increasing mortality and morbidity rates (NACA 2006: 10-11). The impact of HIV/AIDS has affected both urban and rural communities (NACA 2003:12). The UNAIDS estimated that the adult HIV/AIDS prevalence for Botswana in 2007 was 24.1%, with about 270 000 people above 15 years living with HIV/AIDS (UNAIDS 2007:4).

In 2002, Botswana officially launched an ART programme on a national scale and became the first African country to provide ARVs free of charge to its citizens who qualified for treatment. The programme became known as *MASA*, the Setswana word for “new dawn” (WHO 2006a:85). The *MASA* programme was launched initially at four sites in Botswana consisting of two referral hospitals and two district hospitals. The programme scaled up to such an extent that by the end of 2004, all 32 districts and primary hospitals throughout the country were providing ART. Botswana’s Ministry of Health (MoH 2008:3) stated that by the end of December 2007, an estimated 75 082 patients were on treatment in the public sector, of whom 61.0% were females. A further 8 336 patients had been outsourced from the public to the private sector under the government’s out-sourcing programme. Another 9 514 patients were being treated in the private sector of the country comprising the medical aid schemes and the work place programmes. This gave a total of 92 932 patients receiving highly active anti-retroviral therapy (HAART) in Botswana.

Botswana has formal and informal settings for HIV testing and reporting, thus making it easier to pick up new cases. Formal settings include the clinics, district hospitals and referral centres, where routine testing is carried out on individual patients. The goal of this is to curb the spread of the HIV infection among the population and to induce lifestyle changes to reduce the spread of HIV in a bid to curtail the morbidity and mortality associated with the infection (McGregor 2002; MoH 2008:3; Smart 2006; WHO 2006b:85).

Tebelopele, a non-governmental organisation (NGO), serves as an avenue for voluntary counselling and testing (VCT) for HIV in Botswana. There are 32 centres around Botswana where these services are rendered free of charge (NACA 2005: 4).

The effect of the HIV epidemic has been felt in every sector of Botswana's national life, with profound effects on the socio-economic sector of the country. The gains of good governance were reversed by the advent of HIV/AIDS. Botswana's economic success had been helped by a stable democratic political system, good governance and progressive social and economic policies (ACHAP 2008).

The 15–49 age group has the highest rate of HIV infection, making the situation of paramount importance to the government of Botswana. According to the United Nations Development Programme (UNDP 2005:19), HIV has inflicted the “single greatest reversal in human development” in modern history.

2.3.1 HIV/AIDS status among young people in Botswana

The spread of HIV infection among the youth has been on the rise since the epidemic started. Teenagers and young adults constitute almost a third of the 33.2 million PLWHAs. globally The scenario is similar in Botswana with 15 000 children under the age of 15 being infected and living with HIV/AIDS and 280 000 adults between the ages of 15-49 living with HIV/AIDS (UNAIDS 2008b: 4).

According to NACA (2005: 12), a high proportion of children younger than 15, tested HIV positive during a quarterly reporting period, this was in comparison to 15–19 age group (26.7% versus 19.5% respectively). These statistics cause concern considering that the population of Botswana totalled approximately 1.882 million in 2007 (Population Reference Bureau 2009: 8).

2.4 RESPONSES TO HIV/AIDS IN BOTSWANA

Due to the fact that the scourge of HIV/AIDS was felt in every sector of the socio-economic life of Botswana, it was imperative that the government should take definitive actions to curb the spread of HIV and reduce the occurrence of new infections.

The former president of Botswana, Festus Mogae declared HIV/AIDS a national emergency in 1999 and formed the National AIDS Coordinating Agency (NACA) in 2000, to manage the multi-sectoral response to the HIV/AIDS epidemic and the National Strategic Framework (NSF), which is the blueprint of Botswana government's fight against HIV/AIDS. The Botswana government came up with programmes such as the public private partnership with the Bill and Melinda Gates Foundation and with Merck and Company Limited, called the African Comprehensive HIV/AIDS Partnership (ACHAP 2007:10). This partnership was instituted "to support Botswana's national comprehensive HIV/AIDS strategy to prevent new infections and to reduce the morbidity and mortality of HIV/AIDS" (ACHAP 2007: 7).

Involvement of NGOs such as John Snow Incorporated, Clinton Foundation, Hope World Wide Africa-Botswana, Botswana Network of Ethics Law and HIV/AIDS (BONELA), Botswana Network of People Living with AIDS (BONEPWA), Botswana Harvard Partnership (BHP), Botswana Christian AIDS Intervention Programme (BOCAIP), Academy of Educational Development (AED) have assisted Botswana's government in combating the spread of HIV/AIDS. Each partner or NGO is involved in different activities according to their mandates, working towards the same goal of mitigating the effect of the HIV/AIDS in the Botswana population at large.

Development partners such as the World Health Organization (WHO) and Joint United Nations Programme on HIV/AIDS (UNAIDS), assist in providing technical and logistic support required for combating the scourge of HIV/AIDS (ACHAP 2008). Increasing technical support is being made available through organisations such as UNICEF, UNDP and UNFPA under the Global Fund that aims to fight AIDS, tuberculosis (TB) and STIs. The challenge, however, is to strengthen the health care system to be able to deliver a comprehensive package of care and treatment to the thousands of people who urgently need it in Botswana.

The Botswana government also instituted workplace HIV/AIDS prevention programmes aimed at mitigating the effect of HIV/AIDS, ensuring adequate manpower needed to continue nation building and provide services and create awareness among the workforce (NACA 2003: 24).

Programmes developed by the Botswana government include

- anti-retroviral therapy (ART)
- prevention of mother-to-child transmission (PMTCT)
- voluntary counselling and testing (VCT) for HIV
- routine HIV testing (RHT)
- condom procurement and distribution
- orphan care
- community home-based care (CHBC)

2.4.1 The impact of HIV/AIDS

HIV/AIDS hinders development, causing a devastating toll on individuals and families. In countries like Botswana, that are hard-hit by the HIV/AIDS epidemic. It is erasing decades of health, economic and social progress – reducing life expectancy by years, deepening poverty, contributing to and exacerbating food shortages. Life expectancy at birth in Botswana has been reduced to 49 years in the presence of HIV/AIDS, which in its absence should have been 72 years (Population Reference Bureau 2008).

2.5 FACTORS FUELLING THE HIV/AIDS EPIDEMIC

No single factor, biological or behavioural, determines the spread of HIV infection. Most HIV transmissions in SSA occur through heterosexual intercourse, with unsafe blood transfusions and unsafe injections accounting for a small fraction of infections. While sexual behaviour is the most important factor influencing the spread of HIV in Africa, that behaviour varies greatly across cultures, age groups, socioeconomic classes and gender. Sexual behaviour is itself influenced by a host of factors, ranging from the daily and pragmatic events such as economic and social circumstances to the complex and abstract such as culture (UNAIDS 2001:2).

The interplay of multiple factors obscures causal linkages and prevents categorical conclusions. A large part of SSA population is young and therefore more likely to be sexually active. Young people comprise the largest generation in history to enter adulthood. This is a generation of one billion boys and girls aged 10-19 years (one sixth of the world's total population). Over half of the population of SSA comprises young people (Population Reference Bureau 2000).

Hence all stakeholders in HIV/AIDS issues have to concentrate on the youth to build and strengthen the future leadership and nations of the coming years. If this does not happen the HIV/AIDS pandemic will undermine future development of many nations in the world. The spread of HIV/AIDS worldwide is associated with poverty, micro and macro economic issues, a breakdown in traditional social structures, gender status, and cultural issues (UNAIDS 2001:25-26). In Botswana, some of the key factors thought to exacerbate the spread of HIV/AIDS include:

- concurrent sexual partnerships
- gender imbalances in matters related to sexuality
- alcohol abuse
- high levels of poverty, and
- high prevalence of certain STIs related to HIV transmissions (UNAIDS 2001:25-26)

2.5.1 Traditional practices

The WHO (2006b:34) purported that there was no doubt that all countries were experiencing a decline in traditional sexual values and culture which coincided with a growing pressure to identify young people as a special category. Young people are using aspects of traditional culture to fashion a new culture. Male circumcision in SSA, using unhygienic means, presents a challenge to create new practices with reduced risks of HIV/AIDS infections (WHO 2006:505-588).

Young men might perceive their sexual needs to be beyond their control and demand immediate satisfaction, hence:

- Different cultural understandings of young women's and men's sexuality
- Different expectations of young women and young men in relation to sexual conduct
- Centrality of virginity to young women's sexuality and its challenges
- The experience of coerced sexual activity and rape among young women (UNAIDS 2001:34-35)

The Lesotho AIDS Programme Coordinating Agency (LAPCA in (Soskolne & Shtarkshall 2002: 1302; Castro & Farmer 2005: 53-59) maintains that various cultural beliefs have had negative effects on HIV/AIDS programming. One of these beliefs is that having sex with a virgin can cure AIDS. This had led to young girls and infants being vulnerable and faced with senseless sexual assaults. Traditional practices such as circumcision for boys and girls has led to them being infected with HIV as some traditional healers use unsterilised utensils or blades on recruits. Girls experience genital manipulation and scarification. During foreplay, it cannot be guaranteed that hands are clean or do not have bleeding wounds. During funerals, it is a traditional practice, in some societies like Ghana and Cameroon, for the bereaved families to shave their heads to show they are mourning. It has been the norm to use one razor blade to shave everyone (Van der Geest 2000:103–109). These practices increase the risk of HIV infection.

In most parts of Africa, ignorance about HIV/AIDS remains profound and it is considered a crucial reason why the epidemic has run out of control. In some rural areas across Africa the epidemic is blamed on witchcraft, instigated (for example) by a jealous neighbour. Others ascribe it to a curse inflicted upon an individual by the spirits of the ancestors. Some people do not believe in condoms or having a single sex partner. Future HIV/AIDS interventions must identify and take cognisance of myths, misinformation and misconceptions and identify the dangers to the people before myths can grow stronger and become the basis of attitudes, perceptions and risk practices of young people concerning sex and HIV/AIDS (Pelser 2002:51).

It is within these traditional and cultural beliefs that discussions on sex and sexuality are taboos. Evidence from a variety of countries suggests that open communication about sex between family members and young people remains the exception rather than the rule (Campbell & MacPhail 2005: 339; Kirkman, Rosenthal & Feldman 2005: 50).

Cultures where traditional systems help young people to learn about their adult roles and responsibilities, these systems recognise the needs of young people for social changes. These institutions can be used to implement HIV-related health promotion programmes including sex education. Practitioners in Mumbai designed HIV-prevention programmes targeting girls and found that it was crucial to first gain the support of parents and other community members and local leaders (ICASO 2007:30).

It is important that future programmes foster greater trust and more open communication between young people and adults. This is most important where open channels of communication are absent, or where there are suspicions that adults or young people may be hindered from protecting themselves against HIV infection.

2.5.2 Education

According to the IMF report (in Haacker 2002:13), the HIV/AIDS epidemic affects the education sector in various ways. The number of teachers declined due to increased mortality. The number of learners has also decreased due to declining birth rates and increased mortality. There is also a risk that access to education will deteriorate. Many children will be orphans and might not be able to continue with their education because they have lost one or both parents and their financial support. In rural settings where there are few schools, the death of teachers may result in disruptions in schooling if teachers cannot be replaced. According to UNAIDS/WHO report (2008:6), Botswana reportedly had 95 000 children (aged 0- 17 years), orphaned directly by HIV/AIDS, who had lost their mother or father or both parents to AIDS.

“The impact of HIV/AIDS will affect both the supply of and demand for educational services. For example, the supply of teachers decreases because of increasing absenteeism due AIDS. Training costs for teachers (and other education officers) rise to replace those lost to the epidemic. Less public finance will be available for the schools, in part because of the diversion of public funds to address the manifold impacts of the epidemic. The demand for schooling is also affected by AIDS. Because an AIDS death to an adult results in the loss of household labour and/or income, children are often required to leave school and remain at home or go to work to compensate for losses or to avoid school fees. Girls, in particular, might have to forfeit their education opportunities. Orphans often lose the necessary financial, material and emotional support that they need for successful schooling” (USAID 2000:33).

In some countries of SSA, adolescent girls have HIV rates up to five times higher than adolescent boys. Hence the Beijing commitment to promote girls’ awareness and

participation in social, economic and political life. This could enhance girls' abilities to sustain their livelihood, and provide them with leadership and self-esteem training in order to encourage and develop their decision-making potential and capacity. Adolescents, mainly girls, must be educated and receive information regarding reproductive and sexual health, STIs and HIV/AIDS prevention (UNICEF 2002:26).

2.5.3 Role of the Botswana ministry of education in combating HIV infection

Botswana's Ministry of Education (MoE) instituted a programme in conjunction with the United States Centers for Disease Control (CDC), in Botswana through the BOTUSA project. This is called the "window of hope" aimed at creating awareness and teaching the learners life skills required to make important informed decisions concerning sexuality among the learners in secondary schools with the eventual reduction of HIV infections at an early ages (MoE 2007:v).

The HIV infection rate among young persons is very low, according to NACA (2004), 3.9% and 6.6% in the 10-14 and 15-19 age groups respectively. This makes this population group an effective target for preventive exercises needed to curb the spread of HIV infection, which could have a great impact on the overall incidence in the long run (MoE 2007:vii).

The MoE identified specific areas of focus required to achieve the goal of sustained low or no infection rate among the learners, namely; self awareness, values, goal setting, communication, decision making, managing stress, sexuality, facts and myths, risk reduction, benefits of relationships, dilemmas, social responsibility, healthy living. These were taught in the life skills curriculum in the secondary school throughout the duration of secondary education.

According to Van Dyk (2001:153-198), a successful HIV/AIDS education programme should:

- not be presented in isolation
- form part of life skills education
- be integrated into the existing school curriculum
- begin as early as possible
- be an ongoing process

- include parents, community leaders, and spiritual leaders
- ensure that the educator is at ease with the contents of the HIV/AIDS curriculum
- never be presented in a way that might frighten the learners
- present balanced information
- incorporate all sectors of young learners

Botswana's MoE has tried to tailor its curriculum to achieve most of the basic fundamentals needed to achieve success among the learners and the larger population.

2.5.4 Knowledge about HIV/AIDS

According to the UNAIDS report (2008a:98), it is evident that there is awareness about HIV/AIDS. While knowledge alone is often insufficient to produce long-lasting behaviour change, an accurate understanding of the risks of HIV and how to prevent exposure is a prerequisite to risk reduction. Survey data from 64 countries indicated that 40.0% of males and 38.0% of females aged 15–24 had accurate and comprehensive knowledge about HIV and about how to avoid transmission (UNAIDS 2008a).

Bankole, Biddlecom, Guiella, Singh, Zula (2007: 28–43), gathered in their survey among children aged 12–14 years in Burkina Faso, Ghana, Malawi and Uganda, that very young adolescents were beginning to be sexually active and many believed their close friends were sexually active. They realised that youths had high levels of awareness but little in-depth knowledge about pregnancy and HIV prevention. This would hamper the effect of any effort geared towards reducing HIV infection prevalence rates.

2.5.5 Impact of knowledge on the spread of HIV/AIDS

Botswana ratified the Convention on the Rights of Children on the 13th of April 1995 (UNHCR 2004:3). This means that every young person, according to Article 12, has a right to information and should be given information on HIV and how to avoid infection. There are many billboards with slogans on HIV/AIDS all over the country but the problem is whether they are conveying the right and relevant information to the targeted population. The young people have the right to assistance to develop their skills and attitudes that help them to deal with situations which may expose them to the virus.

There are many youth associations that are involved in different HIV/AIDS awareness programmes. These young people use interactive methods including peer education in which they are allowed to talk freely to each other about relationships, safe sex, peer pressure, expectations, visions and exchange experiences. The HIV/AIDS epidemic, however, is taking its toll and ravaging the lives of many youths of Botswana.

Critical to the success of any prevention strategy is the empowerment of the individual through the dissemination of information. Consequently, the effectiveness of the dissemination mechanism in providing information is important. Education and information are touted as necessary to promote and encourage non-risk behaviours as well as alleviate negative societal reactions accompanying HIV/AIDS and those afflicted. The stigma and fears surrounding HIV/AIDS and the mass discrimination against infected individuals often manifest in reluctance at all levels (governmental, private, communal and individual) to acknowledge the relatedness of HIV/AIDS to the lives and livelihood of everyone.

The quality of information, and avenues through which information are relayed, determine who will benefit and how much benefit can be derived from such information. Radio and television serve as media of communicating information in Botswana cities and towns. Villages such as Sefhare, the research site, has limited links to information. Teachers and family members constitute the main avenues for information dissemination in such villages.

2.6 THE MEDIA AND HIV/AIDS

Data from forty countries show that more than half of 15-24 year olds had never heard about AIDS. Their levels of risk perception were also alarmingly low, 93.0% of 15-19 year old girls did not see themselves as being at risk of HIV infection. Knowledge alone is not sufficient to prevent the spread of HIV, it needs to be internalised and translated into behaviour. However, young people cannot begin to protect themselves if they do not know the facts. When youths are provided with accurate information on sexual and reproductive health, they are more likely to delay the onset of sexual activities and to practise safer sex when they do become sexually active (UNICEF 2002:9).

The mass media are a powerful weapon against HIV/AIDS. Media campaigns that use famous actors, athletes or musicians provide role models for young people. The media can disseminate information among young people such as the ABCs of HIV prevention. The media can also tackle difficult issues, such as how to handle unwanted sexual advances, negotiate condom use and redefine what it means to be a 'real man'. Good programming in the mass media can counter popular misconception about adolescents, reveal the discrimination and abuse young people face and highlight the contributions they make to their communities (UNICEF, UNAIDS & WHO 2002:28-9).

Radio stations addressing HIV/AIDS issues, motivate youths to exchange their views, feelings and beliefs. However, Tuoane, Kimane and Molise (2002:96) reported that adolescents stated that the media also played a role in influencing people to abuse substances, particularly alcohol and cigarettes. Thus, the Botswana government should censor information conveyed by the mass media to reduce levels of misinformation which could contribute to new HIV infections.

2.7 SUMMARY

This chapter presented an overview of HIV/AIDS in Botswana as well as globally. It also included a literature review on impeding factors that hinder societies from preventing the spread of HIV/AIDS. The chapter has also at length discussed the factors fuelling the spread of the epidemic such as traditional practices that prevent open discussions about sex and sexuality issues. Education has been discussed to showcase the effects of HIV/AIDS on teachers and youth. Many young people might not complete their education because they are either infected or affected by the disease and/or by their teachers' mortality (Kelly 2002: 31). Young people's sexual, alcohol and drug abuses might contribute to the spread of the HIV epidemic. Youths, especially girls, might lack experience in decision-making because they lack life skills. Some measures and modes of communication that could be used such as media, parents-to-children communication and peer communication could also promote behavioural changes and good practices.

The next chapter will describe the research methodology adopted to conduct the study about learners' HIV/AIDS knowledge in Sefhare, Botswana.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter considers the research methodology and design that was used to collect and analyse data. The chapter provides an overview of the research site, as well as the main decisions taken to arrive at the research design used in the study. Additionally, it describes the research design in terms of the study population, sampling methodology, data collection and analysis methods used.

3.2 STUDY DESIGN

The study design can be defined as an outline for conducting a study in a way that will maximise control over factors that could interfere with the validity of the research results (Polit & Hungler 1999:155). The purpose of the study was to document current information on HIV knowledge of junior secondary school learners in Sefhare, Botswana.

A non-experimental, quantitative, descriptive, cross-sectional study was used in this research. It involved careful descriptions of the observed phenomenon. The researcher opted for a quantitative study in order to convert data into numerical indices and to employ statistical analysis techniques to obtain results and findings from the sample of respondents. The descriptive study methodology was used to measure characteristics of the sample at one point in time. Descriptive research tends to convert data into

numerical indices and employs statistical analysis techniques to generalise the findings from the sample of respondents to a population.

3.2.1 Non- experimental design

According to Brink (1999:108), a non-experimental study is carried out in a natural setting and the phenomena are observed as they occur. Data can be collected without making changes or introducing treatments. This design was chosen because it allowed the researcher to collect data in a natural setting and since the study was descriptive, a non-experimental design was appropriate since the intent of descriptive research is not to explain the underlying causes of variables of interest (Polit & Hungler 1999:175).

The non-experimental design was also appropriate because according to Polit and Hungler (1999:177), a number of characteristics associated with individuals are inherent and are not subject to experimental control. In this study, the variables concern human knowledge and high risk sexual behaviours which cannot be collected using experimental research.

3.2.2 Quantitative design

Burns and Grove (1997:808) described quantitative research as a "... formal, objective, systematic process to describe and test relationships..." According to Babbie and Mouton (2001:49), a quantitative researcher believes that the best way to measure properties of a phenomenon, the attitudes of individuals towards certain topics, is through quantitative research. Numbers are assigned to perceive quantities of things. The approach used in this study involved the systematic collection of quantifiable information about knowledge of the learners in Sefhare CJSS about HIV.

3.2.3 Descriptive study design

Descriptive study designs provide a description of variables in order to answer the research question (Brink 1999:109). A descriptive design is also a way of discovering new meaning and describing what exists, determining the frequency with which something occurs and is usually used where there is little information about a phenomenon (Burns & Grove 2005:26).The design aims at describing phenomena

rather than explaining them. This design could be important in laying foundations for future studies (Polit & Hungler 1999:144). Descriptive studies do not focus on the link between variables but their purpose is to observe, describe and document aspects of a situation as they naturally occur (Burns & Grove 2005:232). The purpose of this study was to document a situation that relates to HIV/AIDS knowledge among learners as it naturally occurred. This design has been chosen because it would generate information about HIV/AIDS knowledge of the secondary school learners in Sefhare, Botswana; that could influence their chances of becoming HIV positive or to remain HIV negative.

3.2.4 Cross sectional study design

The study was conducted at one point in time involving all the secondary school learners who met the inclusive sampling criteria at the stage when the data were collection. All these learners completed questionnaires within the same period of time and every respondent completed only one questionnaire. This is known as a cross sectional design compared to a longitudinal design where the same respondents would be followed up over a period of time.

3.3 RESEARCH METHOD

The research method outlines the process of the research and the tools needed to achieve the research objectives (Mouton 2001: 56).

3.3.1 Research population

Burns and Grove (2005:806) define a study population as “all elements (individuals, objects, events, or substances) that meet the sample criteria for inclusion in a study”, which is sometimes also referred to as the target population. The accessible population is that part of the target population to which the researcher has “reasonable access” (Burns & Grove 2005:789).

Eligibility criteria are the specifications used by the researcher that designate the specific attributes of the target population to determine which subjects are selected for participation in a study (Polit & Hungler 1999:644). Potential respondents were included in the study based on the following eligibility criteria:

Inclusion criteria:

- Learners in Sefhare CJSS, Botswana enrolled during the 2009 session were included in the study
- Age range of 13–19 years was used for the purpose of the study
- Every eligible male and female learner was included in the study population.

Exclusion criteria:

- Learners who were not registered for the 2009 session were excluded from the study
- Learners outside the age range of 13–19 years were also excluded from participation in the study

3.3.2 Research setting

The study was conducted in the CJSS situated in Sefhare, Botswana, which is strategically located to serve the villages around Sefhare (MoE 2007:4). Sefhare is a village situated in the central region of Botswana. It has a population of 4 195 persons (1 838 males and 2 357 females) (CSO 2008).

3.3.3 The sample and sampling procedure

A sample is a small portion of the population that a researcher is studying in a particular site or setting (Burns & Grove 2005:293). The sample in this study comprised consented learners in Sefhare CJSS. A total of 92 respondents comprised the sample. Sampling is the process of selecting people, events, behaviours or other elements with which to conduct a study (Burns & Grove 2005:341). In this study, a non-probability sampling approach was used. Non-probability sampling is a process in which a sample is selected from elements or members of a population through non-random methods (Brink 1999:212). There are different types of non-probability sampling which include convenience sampling, quota sampling, purposive sampling, network sampling and theoretical sampling (Burns & Grove 2005:350). In this study, convenience sampling was used. Brink (1999:207) describes convenient sampling as a non-probability sampling method which involves the selection of the most readily available people or

elements. Non-probability sampling is economical and practical and requires less time to meet the desired sample size (Burns & Grove 2005:351). Non-probability sampling has a disadvantage in that every person does not have an equal chance of being included in the sample and some segments of the population might be over or under represented and the results might not be generalisable (Polit & Hungler 1999:260).

The researcher talked to the headmaster of Sefhare CJSS about the study and requested permission to talk to the learners at a convenient time. The researcher explained the study and its purpose to the learners, emphasising voluntary participation, confidentiality and honesty. Male and female learners who volunteered to participate in the study were handed consent forms to be signed by their parents/guardians granting permission to the learners to complete questionnaires (see Annexures B and C). Each responding learner received a questionnaire when he/she handed the signed consent form to the researcher during the two days when the researcher collected data at the CJSS. The researcher handed out consent forms, received and checked signed consent forms, handed out and collected questionnaires. The researcher was also available should any learner wish to discuss any aspect of the questionnaire.

Since it was impossible to predetermine who would be willing to participate and who would get consent from their parents or guardians, a random sample could not be selected. A convenience sample had to be selected based on the form 1, 2 and 3 learners who attended the CJSS on the two days that the researcher collected data, the learners' willingness to respond to the survey and obtain signed consent from their parents/guardians, the learners' return of the signed consent forms, accepting questionnaires, completing and returning questionnaires to the researcher.

3.3.4 Sample size

Sample size refers to the number of elements that are included in the sample (Burns & Grove 2005:343). There were 416 learners registered in the school for the 2009 academic session; 139 learners in form 1, 131 learners in form 2 while 146 learners were in form 3. The researcher distributed 120 consent forms to 40 learners in each form to be given to their parents or guardians to sign or approve their child's participation in the study. Only 100 completed consent forms were returned by the learners; subsequently, these learners were given the questionnaire to complete. Out of

the completed questionnaires, 92 questionnaires were usable because some were only partially completed. Thus, the final sample size was 92. The researcher and research assistants received every completed questionnaire and requested learners to complete any items which might not have been filled in. This ensured that most items had 92 responses.

3.4 DATA COLLECTION

Data collection refers to the techniques employed to gather data. In this research, self-completion questionnaires were used to collect the data from the form 1, 2 and 3 learners at Sefhare CJSS. Questionnaires provide a quick way of obtaining data and it is less expensive in terms of time and money than individual interviews would be (Brink 1999:153).

3.4.1 Data collection instrument

A questionnaire with open and closed-ended items was developed specifically for this study (see Annexure B). The questionnaire was used to collect data related to HIV/AIDS knowledge of the form 1, 2 and 3 learners at CJSS.

The questions were arranged in a simple sequence so as to be understandable by form 1-3 learners. The questionnaire comprised items derived from the literature review.

3.4.1.1 Structure of the questionnaire

The questionnaire, comprising open- and closed-ended questions, was designed by the researcher based on the literature review. The questionnaire consisted of four sections. The first page of the questionnaire introduced the researcher and the study, and also stated the ethical considerations of the study.

- Section A: comprised questions relating to the biographic data including age, sex and religion
- Section B: these questions related to the learners' HIV/AIDS knowledge
- Section C: asked questions about learners HIV/AIDS information sources
- Section D: addressed learners' knowledge about ways of protecting oneself against HIV infection

The questionnaire was translated into Setswana as a requirement for approval by the Research and Ethics department of Botswana's MoH to conduct a study in Botswana. The translation was done by a person who is competent in both spoken and written Setswana and English. (See Annexure K for a letter from the translator indicating his qualifications and stating that he had translated the questionnaire into Setswana. Also see Annexure B for the English questionnaire and Annexure C for the Setswana questionnaire).

3.4.2 Data management

Completed questionnaires were kept locked up by the researcher. These questionnaires contained no names or markers that could be linked to any specific respondent. Only the researcher and the statistician had access to the completed questionnaires. These were kept locked up until the research report had been accepted by the researcher's examiners and by the authorities that granted permission for the data to be collected. After the acceptance of the research report, the completed questionnaires would be destroyed as well as the data entered on the researcher's computer for data analysis.

3.4.3 Validity

Validity is an important criterion for evaluating a research instrument's worth. The validity of a data collection instrument refers to the extent that it measures what it intends to measure. In other words, a valid instrument actually measures the concept it is supposed to measure (Stommel & Wills 2004:222). The questionnaire's validity was tested based on content validity and construct validity. The questionnaire was also assessed based on sensitivity, specificity, positive predictive value and negative predictive value.

3.4.3.1 Content validity

Content validity is concerned with the sampling adequacy of the content being measured. According to Katzenellebogen, Joubert and Abdool Karim (1999:92) the measure should include or account for all elements of the variables that are being investigated. In this study, the variables were all included in the measuring tool. Knowledge was measured by checking the correctness of the learners' responses about

HIV/AIDS facts, including the mode of transmission, what HIV/AIDS is and myths about HIV/AIDS. Also, questions about protection against HIV/AIDS were asked.

Content validity is relevant to the development of effective measures. Researchers designing a new instrument should begin with a thorough conceptualisation of the construct so that the instrument can capture the entire content domain. Two key issues in evaluating the content validity of an instrument are whether individual items are relevant and appropriate in terms of the construct, and whether the items adequately measure all dimensions of the construct. With regard to items' relevance, some researchers compute agreement indices and a formal content validity index (CVI). In this research, the researcher's supervisor and one expert from the MoH, Botswana, were given the instrument to validate. Through their inputs, the instrument was modified based on their advice and suggestions. This exercise enhanced the content validity of the questionnaire.

3.4.3.2 Construct validity

Construct validity is an instrument's adequacy in measuring the focal construct. It is based on the reasonable relationship among variables (Babbie & Mouton 2001:122). The key construct validity questions are: what is this instrument really measuring? Does it adequately measure the abstract concept of interest? In this study the knowledge of HIV/AIDS of the learners is being measured through the use of a questionnaire. The construct validity of the instrument used in this study was achieved by performing a factor analysis using a principal component method of analysis. It is expected that the results obtained were similar to those obtained by the items of each similar construct of the original instruments where the items were adapted.

3.4.4 Reliability

Reliability of a data collection instrument refers to the accuracy or precision of an instrument (De Vos 2002:168-169). It is the consistency with which an instrument measures the target attribute. Stommel and Wills (2004:209) defined reliability as the relative absence of unsystematic, random measurement error. That implies that if the same data collection instrument is used by different data collectors to obtain the same information, the recorded data should be comparable.

Reliability estimates are only specific to the sample being tested and therefore high reported reliability values on an established instrument do not guarantee that reliability will be satisfactory in another sample or with a different population. It is therefore important that reliability testing be performed on each instrument used in a study prior to performing other statistical analyses.

3.4.5 Stability

It refers to the extent to which similar results are obtained on two separate administrations. Stability is concerned with the consistency of repeated measures which is referred to as test-retest reliability, a procedure used to establish the reliability of the instrument (Strydom, Fouche & Delport 2002:168). The data collection instrument was pre-tested on ten learners and their responses analysed before the main data collection commenced.

3.4.6 Cronbach's alpha coefficient

The reliability coefficients are important indicators of an instrument's quality. Unreliable measures do not provide adequate tests of a researcher's assumptions. If the data fail to confirm a prediction, one possibility is that the instruments were unreliable and not necessarily that the relationship did not exist. Knowledge about an instrument's reliability is thus critical in interpreting research results, especially if research hypotheses are not supported.

Cronbach's alpha is a statistical estimator used as a measure of the reliability of a psychometric instrument (Vehkalanti, Puntanen & Tarkkonen 2006:6). It is determined by using the following formula:

$$\alpha = \frac{N}{N-1} \left(\frac{\sigma_X^2 - \sum_{i=1}^N \sigma_{Y_i}^2}{\sigma_X^2} \right)$$

where N is the number of components (items or tests). The SPSS version 16 was used to estimate Cronbach's alpha coefficient for the scheduled data collection instrument. According to Burns and Grove (2005:374) a reliability coefficient of 0.70 is sufficient for

a newly developed psycho-social instrument. For this study, the Cronbach's alpha coefficient obtained was 0.623. The reason for the low reliability coefficient may be due to differences in the context of the study, setting of the study, content of the instrument and the type of study performed. Another reason for the low reliability coefficient might be the type of sample used to achieve the reliability coefficient. Also, the number of items included in the questionnaire might have had an effect on the reliability coefficient obtained.

3.5 DATA ANALYSIS

Data collected were analysed using the SPSS version 16 to calculate the Cronbach's coefficient for this study. The researcher was assisted by a statistician in Gaborone, Botswana in analysing and interpreting the data. (See Annexure J for the statistician's qualifications and statement that he had assisted the researcher in analysing and interpreting the data).

3.5.1 Measurement

The variables considered were level of knowledge of HIV/AIDS of learners, sources providing HIV/AIDS information and level of knowledge about opportunities available for protection against HIV infection

3.5.1.1 Level of knowledge of HIV/AIDS of learners

Ascertaining what the learners knew about HIV/AIDS, the cause of the disease, how it is spread and myths surrounding the disease, whether it has a cure or not, would assist in designing more effective HIV/AIDS education programmes for learners at the CSJJ.

3.5.1.2 Sources providing HIV/AIDS information

Ways learners can access information could be formal or informal. A formal information setting refers to the school, while informal settings could vary according to the constitution of the specific household (grand parents, parents, guardians, siblings and friends). Radio and television broadcasts, as well as newspapers and magazines could also be sources of HIV/AIDS information.

3.5.1.3 Knowledge about protecting oneself against HIV infection

Protection against HIV infection is vital for prevention and curbing the spread of the disease, thus, available ways of prevention were addressed in the questionnaire.

3.6 ETHICAL CONSIDERATIONS

The protection of the rights of human subjects is a high priority among members of scientific and health care communities (Polit & Hungler 1999:29). Research ethics observed in this study were in accordance with those stated by Polit and Hungler (1999:153), namely the principles of beneficence, respect for human dignity and justice.

3.6.1 Principle of beneficence

The principle includes multiple dimensions which are freedom from harm, freedom from exploitation, benefits of research and risk/benefit ratio. These dimensions were considered in this study by ensuring that participants and their parents/guardians were informed about the study, the learners agreed to respond to the survey, the parents/guardians signed consent forms. Each learner had a choice as to whether or not to complete a questionnaire (subsequent to obtaining consent from the parent/guardian). The learners were only requested to complete questionnaires implying that no one had been subjected to any potentially harmful procedure. The respondents were not exposed to any risks. Although the individual respondents might not have derived personal benefits from completing the questionnaires, learners in Botswana could collectively benefit from more effective health education programmes, informed by research results obtained from studies such as the current one. The researcher was available at the school site for two days and willing to answer any questions. A telephone number was included in the information letter should any learner, teacher, parent or guardian wish to discuss any aspect of the questionnaire or the survey.

3.6.2 Principle of respect for human dignity

This principle ensured that the rights to self determination and full disclosure were respected (Polit & Hungler 1999: 33). This was ensured by providing all the information about the study so that each respondent could decide whether or not to participate without incurring any penalties or prejudicial treatment whatsoever. No person was forced to participate in the study. The learners and their parents/guardians were treated respectfully.

3.6.3 Principle of justice

This principle includes fair treatment and the right to privacy (Polit & Hungler 1999: 35). This right was fulfilled by ensuring that no identifying information was collected from participants and confidentiality was ensured throughout the research process. No name of any participating learner would be mentioned in any research report.

3.6.4 Steps taken to comply with ethical considerations

The researcher took the following steps to comply with the ethical requirements of research:

- Permission to conduct the research was requested and granted, from the Ethics and Research Committee of the Department of Health Studies, Unisa, after submission of a research proposal and research instrument (see Annexure A).
- After permission had been received from Unisa, a copy was attached to the research proposal to seek permission from the Botswana MoH through the National Health Research Committee to conduct the research in the Sefhare CJSS.
- Permission was granted by the National Health Research Committee to conduct the study in Sefhare CJSS (see Annexure E).
- A consent form (see Annexures G and H) was signed by the parents or guardians of the learners who were willing to participate in the study.
- The learners and their parents/guardians were fully informed about the purpose of the study and that their responses would remain anonymous; that they could participate voluntarily and could discontinue doing so at any point without incurring any ill effects. This ensured respondents' rights to voluntarily decision-

making as to whether or not to participate or to withdraw from the study at any time without any risks (Polit & Hungler 1999:33). As only questionnaires were administered, the respondents were not subjected to any harmful effects. However, talking about sexual matters might have been embarrassing to some learners. Therefore the researcher was available to answer questions and a telephone number was supplied (on the information letter) in case further information was required.

- Confidentiality and anonymity were maintained as no identifying information was collected from the respondents. The completed questionnaires were accessible to the researcher and statistician only. The researcher kept all data locked up. Once the research report had been accepted, the researcher would destroy all raw data. The research report would only portray figures and statistics and discussions but no names.
- Although every completed questionnaire was checked by the researcher or a research assistant, no name was recorded on any questionnaire. The learners were not known to the researcher and/or research assistants and vice versa. Thus no completed questionnaire could be linked to any specific learner. In this way anonymity was guaranteed. The learners had been informed that they should submit the completed questionnaire to the researcher or research assistants and that they could obtain further information from these persons.

3.7 SUMMARY

During this study, data collection occurred during June 2009 and included learners who were registered for the 2009 academic session and were in forms 1 – 3 at the Sefhare CJSS.

A cross-sectional, quantitative, descriptive study design was used to collect data from respondents. Data were collected from consented learners completed questionnaires that had been specifically designed for this study. The collected data were analysed using the SPSS version 16.

Chapter 4 presents the analysis and discussion of the collected data.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION OF THE RESEARCH RESULTS

4.1 INTRODUCTION

This chapter presents and discusses the results that were obtained from the questionnaires completed by the respondents. The purpose of the study was to document HIV/AIDS knowledge of learners in Sefhare CJSS with the aim of proffering solutions wherever possible. The objectives of the study were to:

- Determine the level of the learners' knowledge about HIV/AIDS
- Suggest ways of improving secondary school learners' knowledge about HIV/AIDS in Sefhare, Botswana
- Suggest ways of preventing the spread of HIV/AIDS among the learners.

The researcher planned to recruit a total of 120 learners from the school, 40 learners from each level (Forms 1, 2 and 3). However, 92 learners took part in the study due to non-approval by parents or guardians or learners' inability to produce signed consent forms and incomplete questionnaires. Data obtained from the completed questionnaires will be discussed in this chapter. The empirical information is displayed in tables, pie charts and bar charts. Analysis was done by using SPSS version 16. The chi square, X^2 , test was used to determine whether there was any significant difference between the expected frequencies and the observed frequencies in one or more categories of a data set. The requirements of the test were as follows:

- Quantitative data
- One or more categories
- Independent observations
- Adequate sample size (not less than 10)
- Simple random sample
- Data in frequency form
- All observations must be used

Significance of the difference in expected and observed frequencies is obtained by calculating the chi square value using the following formula,

$$\chi^2 = \frac{(O - E)^2}{E}$$

where **O** is the Observed Frequency in each category
E is the Expected Frequency in the corresponding category
df is the "degree of freedom" (n-1)
χ² is Chi Square

The value obtained is checked against the tabulated value on the chi square table at a specific level of probability (Burns & Grove 2005:570-572).

The results will be presented under the following headings, demographic data, respondents' knowledge about HIV/AIDS, sources of HIV/AIDS information, ways known to protect oneself against HIV infection. All figures will be rounded off to one decimal place.

4.2 DEMOGRAPHIC DATA OF RESPONDENTS

This section addresses results pertaining to respondents' ages, gender, places of birth and religious affiliations.

4.2.1 Respondents' ages

The learners' ages ranged from 13-19 years; 75.0% (n = 69) of the respondents were in the 15–19 years age group while 25.0% (n =23) were aged 13-14 (see table 4.1). The age range for both male and female learners in this study was similar to the one reported in Botswana (Second Generation) HIV/AIDS Surveillance (BAIS II in NACA 2006:42). The age range is representative of learners who have completed seven years of primary school in Botswana and also, of the learners in a rural setting, such as Sefhare.

Table 4.1: Age ranges of respondents (n=92)

Age range	Frequency	Percentage
13 – 14	23	25.0
15 – 19	69	75.0
Total	92	100.0

4.2.2 Respondents' gender

There were more females 62.0% (n= 57) compared to 38.0% (n= 35) males in the study. Gender distribution may affect the results of the study. Though, the ratio of males to females in the school is almost 1:1, it was not possible to achieve an equal representation of both genders due to the non-probability sampling and the fact that only learners whose parents had given written consent were included in the study. The gender of the respondents is reflected in table 4.2.and the distribution per class in table 4.3.

Table 4.2: Gender of respondents (n=92)

Gender	Frequency	Percentage
Male	35	38.0
Female	57	62.0
Total	92	100.0

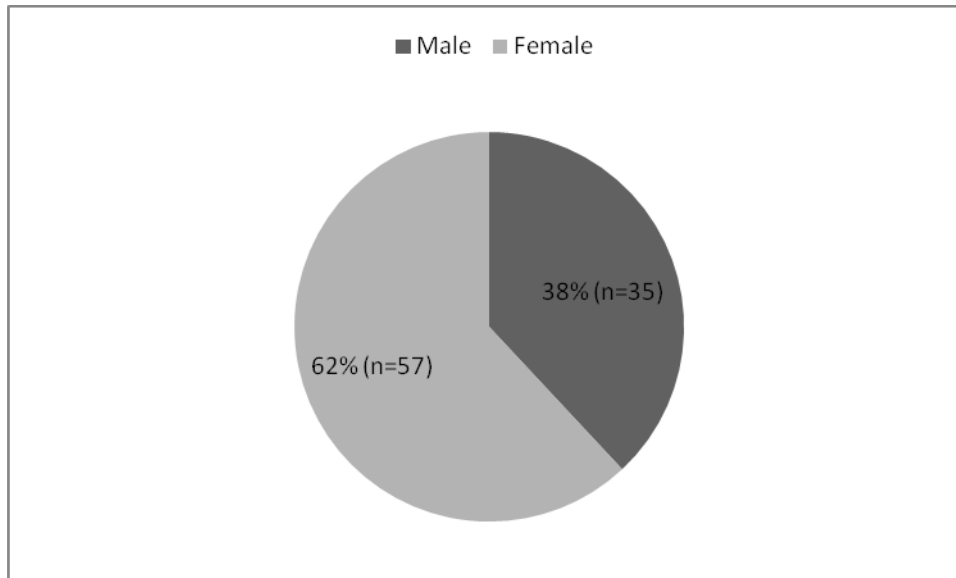


Figure 4.1 Gender of respondents (=92)

Table 4.3: School grades (forms) of the total number of secondary school learners in Sefhare (n=416)

Class	Number of girls	Number of boys	Total	Total %
Form 1	68	71	139	33.4
Form 2	69	62	131	31.5
Form 3	76	70	146	35.1
Total	213	203	416	100.0

4.2.3 Respondents' religious affiliations

These were categorised according to Christianity, Islam, traditional and other religions. Of the respondents 88.1% (n=81), reported religious affiliations while 11.9% (n=11) did not specify any religious affiliation. Christianity had the largest number, namely 49 (60.5%); followed by traditional at 34.6% (n=28) and Islam had the lowest percentage of respondents, 4.9% (n=4). Table 4.4 shows the distribution of respondents according to their religious affiliations.

Table 4.4: Respondents' religious affiliations (n=81)

Religious affiliation	Number of respondents	Percentage
Christianity	49	60.5
Traditional	28	34.6
Islam	4	4.9
Total	81	100.0

4.2.4 Respondents' places of birth

Learners were asked where they were born, whether in a rural or urban settings. More respondents were born in rural settings, namely 64.1% (n=59), while 31.5% (n=29) were born in the urban settings, and 4.3% (n=4), did not specify their places of birth. Table 4.5 shows the distribution of respondents according to their places of birth.

Table 4.5: Respondents' places of birth (n=92)

Place of birth	Frequency	Percentage
Urban area	29	31.5
Rural area	59	64.1
Not specified	4	4.4
Total	92	100.0

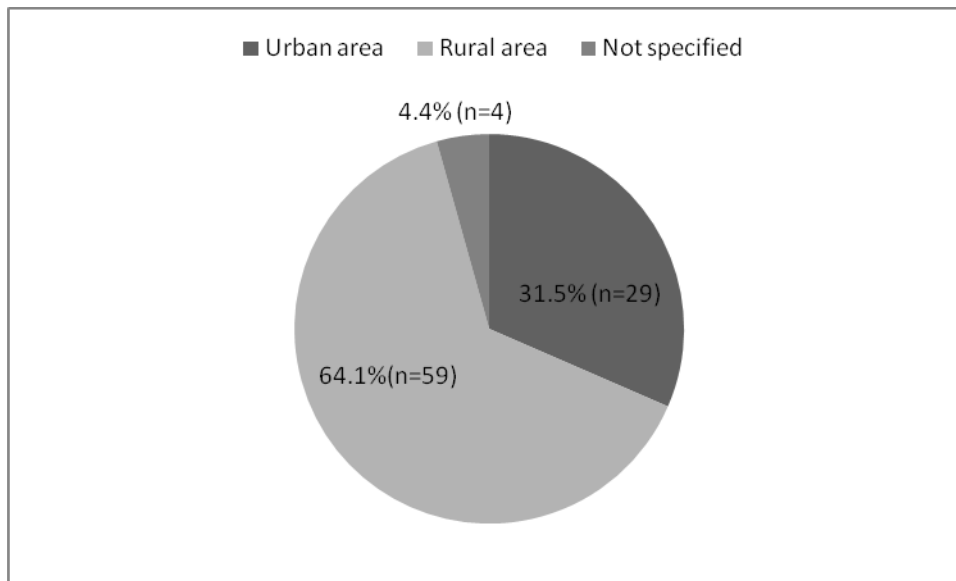


Figure 4.2 Respondents' places of birth (n=92)

Figure 4.1 indicates that 64.1% (n=59) of the respondents were born and grew up in rural settings, suggesting the possibility of lower levels of HIV/AIDS knowledge. Learners from rural areas might have had more limited access to HIV/AIDS information than their urban counterparts.

4.2.5 Respondents' school grades (forms)

A total of 92 respondents were involved in the study; form 1- 27.2% (n=25), form 2- 33.7% (n=31), form 3- 39.1% (n=36). Table 5 shows the distribution of respondents according to the class from which they were recruited. Most of the respondents were in form 3 (39.1%; n=36).

Table 4.6 Respondents' school grades (forms) (n=92)

Class	Number of respondents	Percentage
Form 1	25	27.2
Form 2	31	33.7
Form 3	36	39.1
Total	92	100.0

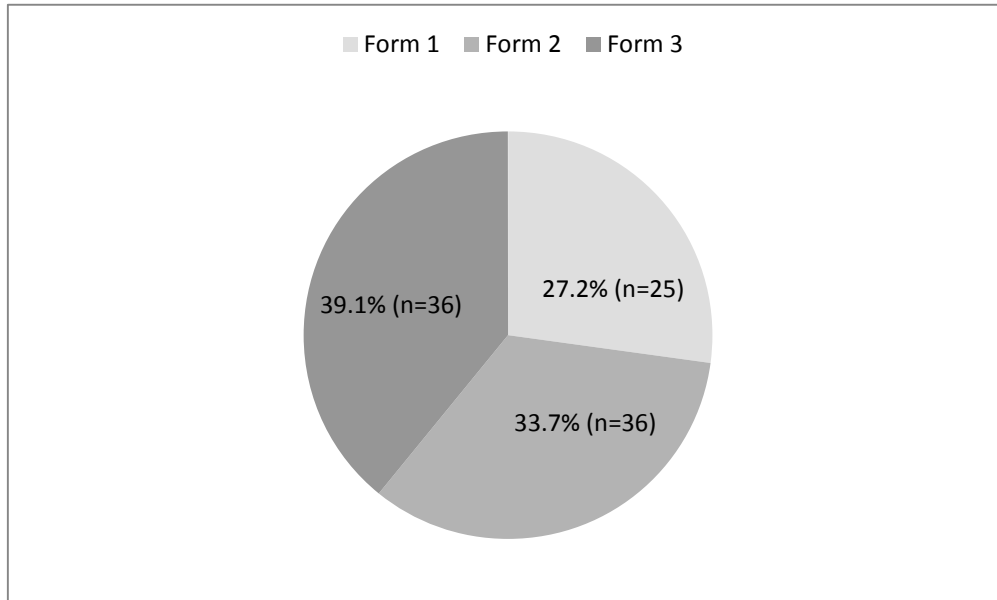


Figure 4.3 Distribution of respondents according to school grades (n=92)

4.3 RESPONDENTS' KNOWLEDGE ABOUT HIV/AIDS

This section assesses respondents' HIV/AIDS knowledge; whether they knew the meaning of HIV/AIDS, the transmission modes, ways of self-protection against HIV infection and whether an HIV positive person could look healthy.

4.3.1 Respondents' knowledge of the meaning of HIV and AIDS

An open-ended question "Do you know what HIV and AIDS mean?" was asked. The goal was to determine how many learners could describe the meaning of the two abbreviations.

Learners (91.3%; n=84) provided different answers about the meaning of HIV and AIDS but 8.7% (n=8) provided no responses to this question. A high response rate was anticipated because Botswana's Ministry of Education had introduced HIV/AIDS education into the curriculum of the public schools in the country since 1998, when a policy on

HIV/AIDS education was developed by the Ministry of Education (MoE 1998:1). Figure 4.3 shows the responses of the learners to the question: “Do you know what HIV and AIDS mean?” Of the respondents 53.4% (n=47) defined HIV and AIDS. Of the respondents only 4.5% (n=4) stated that HIV/AIDS is incurable while 8.7% (n=8) of the 92 respondents included in the study gave no response.

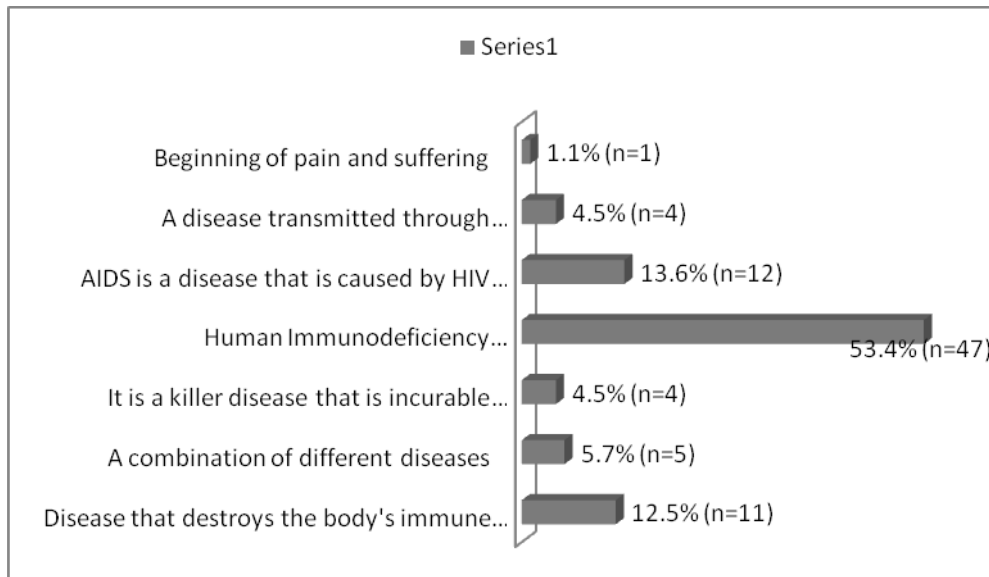


Figure 4.4 Respondents’ knowledge about the meaning of HIV and AIDS (n=84)

Most learners understood what HIV/AIDS was but they could not explain the meaning of HIV/AIDS. Of the respondents 53.4% (n=47) gave the expected response (by providing the correct terms for the abbreviations) while 13.6% (n=12) correctly said AIDS is a disease caused by HIV. AIDS, is a progressive disease with varying symptoms depending on the degree of destruction of an individual’s immune system, as correctly stated by 5.7% (n=5) of the respondents. According to 4.5% (n=4) of the respondents, HIV/AIDS is said to be a killer incurable disease because when an individual is HIV positive, he/she stays positive, for life, there is no cure for HIV/AIDS but it can be managed with ARVs. Untreated HIV infection can be the beginning of suffering for an individual as stated by 1.1% (n=1), because of the nature of the disease in compromising an individual's immunity.

Table 4.7 – Respondents’ knowledge about the meaning of HIV and AIDS according to school grade (form) (n=84)

Responses	Respondents’ school grade			Total	
	Form 1	Form 2	Form 3	N	%
Disease that destroys the body's immune system	6	4	1	11	13.1
A combination of different diseases	1	2	2	5	5.9
It is a killer disease that is incurable disease	1	1	2	4	4.8
Human Immunodeficiency Virus, Acquired Immunodeficiency Deficiency Syndrome	9	16	22	47	55.9
AIDS is a disease that is caused by HIV virus	2	5	5	12	14.3
A disease transmitted through unprotected sex	2	2	0	4	4.8
Beginning of pain and suffering	0	1	0	1	1.2
Total	21	31	32	84	100.0

The responses were stratified into grades of the respondents. Form 3 gave the highest response with respect to defining HIV and AIDS (68.8%; n=22) while 42.9% (n=9) and 51.6% (n=16) in Forms 1 and 2 respectively were able to correctly state the meaning of HIV and AIDS. This might be attributed to the relatively more exposure form 3 learners had had to HIV/AIDS education at school, compared to the form 1 and 2 learners.

Table 4.8 Determination of significance of observed responses from learners using chi square (χ^2) (n=84)

Responses	Respondents' school grade						Row total
	Form 1 Observed Value (O)	Form 1 expected Value (E)	Form 2 O value	Form 2 E value	Form 3 O value	Form 3 E value	N
Disease that destroys the body's immune system	6	3	4	3.7	1	4.3	11
A combination of different diseases	1	1.3	2	1.7	2	2	5
It is a killer disease that is incurable disease	1	1.1	1	1.4	2	1.6	4
Human Immunodeficiency Virus, Acquired Immunodeficiency Syndrome	9	13	16	16	22	18.4	47
AIDS is a disease that is caused by HIV virus	2	3.3	5	4	5	4.7	12
A disease transmitted through unprotected sex	2	1.1	2	1.4	0	1.6	4
Beginning of pain and suffering	0	0.3	1	0.3	0	0.4	1
Column Total	21	21	31	31	32	32	84

For the results in the chi square table, table 4.8, the calculated χ^2 , which was 22.02 is less than the tabulated χ^2 23.68 (p value = 0.05 and df=14). This implies that there is no significant difference in the learners' knowledge of the meaning of HIV and AIDS and the difference in learners' responses may be due to chance or the sample chosen for the study.

4.3.2 Respondents' knowledge about modes of HIV transmission

When the learners were asked in a closed ended question about the modes of transmission of HIV with multiple responses, 81.5% (n=75) of them knew that unprotected sex with an infected person is one mode of HIV transmission. Unprotected sex is the major route of HIV transmission in Africa (Cohen 2003:1; Murphy, Greene, Mihailovic & Olupot-Olupot 2006:1443; NACA 2005; WHO 2004:55).

Only 46.7% (n=43) of the learners knew that HIV can be transmitted through blood transfusions (Busch et al 2003:959); 53.3% (n=49) did not know that HIV can be transmitted through blood transfusions; 31.5% (n=29) knew HIV can be transmitted by sharing sharp objects with infected individuals (Gisselquist et al 2002:657; Schmid et al 2004:482) while 64.1% (n=59) did not know HIV can be transmitted through this means and 4.3% (n=4) gave no response. Although 81.5% (n=75) of the respondents knew that HIV can be transmitted from mother to child (Zijenah et al 2004:273), 18.5% (n=17) did not know this to be the case. In the study carried out by Mlingo in Zimbabwe, a similar result was obtained in which 96.0% of the respondents adduced unprotected sex as the major mode of HIV transmission; in the same study 25.3 % of the respondents knew that HIV transmission could occur through the use of sharp objects (Mlingo 2008:47).

Questions regarding myths associated with HIV produced mixed responses. As many as 89.1% (n=82) of the respondents knew HIV could not be transmitted through mosquito bites while 10.8% (n=10) thought this could happen This is a lower percentage as compared to 69.2% and 71.6% reported for the age groups 10-14 and 15-19 respectively, in the BAIS II (NACA 2006:35) study of the respondents involved in this study, 91.3% (n=84) did not know if there could be HIV transmission by sharing plates with HIV positive persons, 4.3% (n=4) of the learners responded that there could be HIV transmission through this means. Almost all (94.6%; n=87) respondents, knew that sharing toilets with HIV positive persons could not result in HIV transmission while 5.4% (n=5) thought this was possible. Among the respondents involved in the study, 92.4% (n=85) knew that HIV transmission could not occur through coughing by an infected person. Also, 89.1% (n=82)

responded that HIV could not be transmitted through tattooing while 10.3% (n=10) of the respondents knew that HIV could be transmitted through this route; this was in line with the fact that only 31.5% knew HIV could be transmitted by sharing sharp objects with infected persons.

Table 4.9 HIV/AIDS transmission responses to yes/no question (n=92)

Yes/no responses	Correct response		Incorrect response		Total	
	n	%	n	%	N	%
Sex with an infected partner	75	81.5	17	18.5	92	100
Mosquito bite	82	89.1	10	10.9	92	100
Eating from the same plate with an infected partner	88	95.7	4	4.3	92	100
Mother to child	75	81.5	17	18.5	92	100
Kissing	5	5.4	83	94.6	92	100
Using the same toilet with an infected person	87	94.6	5	5.4	92	100
Blood transfusion	39	42.4	53	57.6	92	100
Coughing	89	96.7	3	3.3	92	100
Tattooing	10	10.9	82	89.1	92	100

4.3.3 Voluntary counseling and testing (VCT)

Of the respondents, 89.1% (n=82) had not been tested for HIV while only 10.9% (n=10) had been tested.

Table 4.10 – Voluntary counseling and testing (n=92)

Have you been tested for HIV?	Yes	No	Row total	Calculated χ^2	Tabulated χ^2	p value	Df
Observed frequency	10	82	92	81.8	3.84	0.05	1
Expected frequency	9.1	82.9	92				

Of the respondents, 10.9% (n=10) stated they had been tested for HIV. This is consistent with the results obtained in the BAIS II (NACA 2006:37), which reported 0.8% for 10-14 age group and 10.6% for 15-19 age group had used VCT services.

The result from the chi square calculation shows that the calculated χ^2 , 81.8, is greater than the tabulated χ^2 , 3.84 at 0.05 probability level (p value) and 1 degree of freedom. This implies that there is a significant difference in number of respondents who had been tested for HIV and those who had not been.

Of the respondents, 81.5% (n=75) indicated their willingness to be tested for HIV while 18.5% (n=17) did not want to undergo HIV testing.

4.3.4 Respondents' knowledge about behaviours necessary to remain HIV negative

Learners were requested to mention behaviours that would ensure that they could remain HIV negative. Only 37.0% (n=34) gave at least one correct response to this question. Their responses included abstinence 100.0% (n=34), being faithful 61.8% (n=21), using condoms 64.7% (n=22). These were the envisaged responses from the learners, which is known as the ABC of HIV/AIDS.

Other behaviours that could ensure that an individual stays HIV negative mentioned by individual learners included: testing blood before transfusion, using contraceptives, not sharing sharp objects, not drinking alcohol, being protected from incest, avoiding prostitution, staying healthy, guarding against the loss of one's appetite, maintaining good behaviour, losing weight, living with people without fear, thinking properly, breastfeeding babies, taking drugs properly, using sex toys instead of resorting to sexual intercourse.

Of the respondents, 41.2% (n=14) mentioned three different behaviours of remaining HIV negative, 11.8% (n=4) mentioned 2 behaviours and 47.0% (n=16) mentioned only one behaviour that could ensure an individual remain HIV negative.

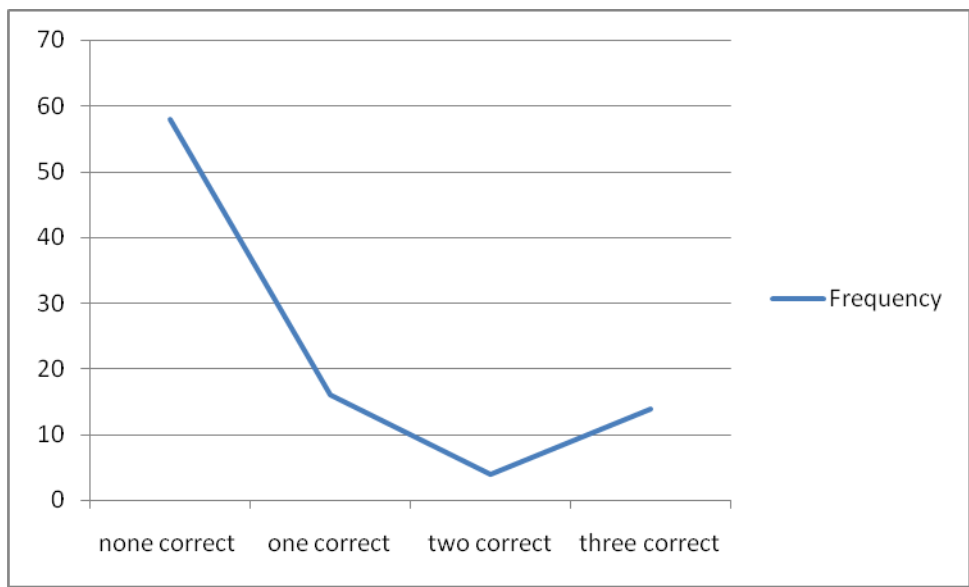


Figure 4.5 Number of correct answers for remaining HIV negative (n=34)



Figure 4.6 Number of HIV preventive strategies mentioned by females (n=58) and males (n=34)

As indicated in figure 4.6, female learners mentioned more HIV preventive strategies as compared to their male counterparts.

4.4 SOURCES OF HIV/AIDS INFORMATION

This section sought to understand from which sources learners obtained their information about HIV/AIDS. Sources of information varied from formal settings (through teachers in schools) to informal settings like the home, involving parents and peers on playgrounds.

Of the learners, 32.6% (n=30) stated that they learnt most of what they know about HIV/AIDS from their teachers. This result was similar to the study carried out by Mlingo (2008:44) in Zimbabwe where the school was also the most frequently cited source of information on HIV/AIDS. Though the response rate was not as high as the Zimbabwe study (92.0%; n=69), this might be attributed to the differences in study sites used in these two studies.

Learners' sources of knowledge about HIV/AIDS were reportedly:

- 23.9% (n=22) medical doctors
- 33.0% (n=30) teachers

As many as 75.0% (n=69) of the respondents were aged between 15 and 19. Teenagers are vulnerable to social and developmental vices associated with growing up, for example, involvement in sexual acts and drug abuse (UNESCO 2006:10). According to UNESCO (2006:11), there should be active participation by the learners and teachers in the HIV/AIDS learning process. Myths and misconceptions should be investigated and addressed to provide accurate knowledge to the learners (MoE 2007: vii; van Dyk 2001:153).

Only 2.2% (n=2) of the learners attributed their HIV/AIDS knowledge to radio/television broadcasts. This might be due to the rural setting in which the school was situated and its associated poverty-stricken area with limited access to radios and televisions. Thus information by word-of-mouth from teachers, parents/guardians, peers or medical

personnel was the major source of HIV/AIDS information for most respondents. This result differed from what Mlingo obtained in Zimbabwe, where 60.0% adduced their knowledge to television and 41.3% reported the radio as their source of HIV/AIDS information (Mlingo 2008:44). However, Mlingo’s research was done in Harare, the capital city of Zimbabwe, where more respondents had access to radios and televisions in this urban area, compared to the current study’s rural area.

Table 4.11 Best sources of learners’ information about sex and sexuality (n=88), significance of response determined using Friedman test on SPSS version 16

Question	Source	N	Percentage	Mean rank
Which of the following is the best source of teaching teenagers about sex and sexuality?	Traditional healer	1	1.1	5.88
	Radio/TV	2	2.2	5.93
	Mass media	2	2.2	5.88
	Friends	2	2.2	5.82
	Family planning educator	7	7.6	5.60
	Parents	11	11.9	5.39
	Nurse	11	11.9	5.28
	Doctor	22	23.9	4.84
	Teacher	30	32.6	4.46
Total		88	100.0	

The responses provided to the question, which was “which of the following is the best source of teaching teenagers about sex and sexuality?” were the variables that were tested. The calculated chi square was 89.088 while the tabulated value was 16.92 ($p=0.05$). Thus the tabulated chi square was lower than the calculated, thus, the difference in frequency of source of the learners’ information about sex and sexuality was not due to chance but statistically significant (Kirkman et al 2005:59).

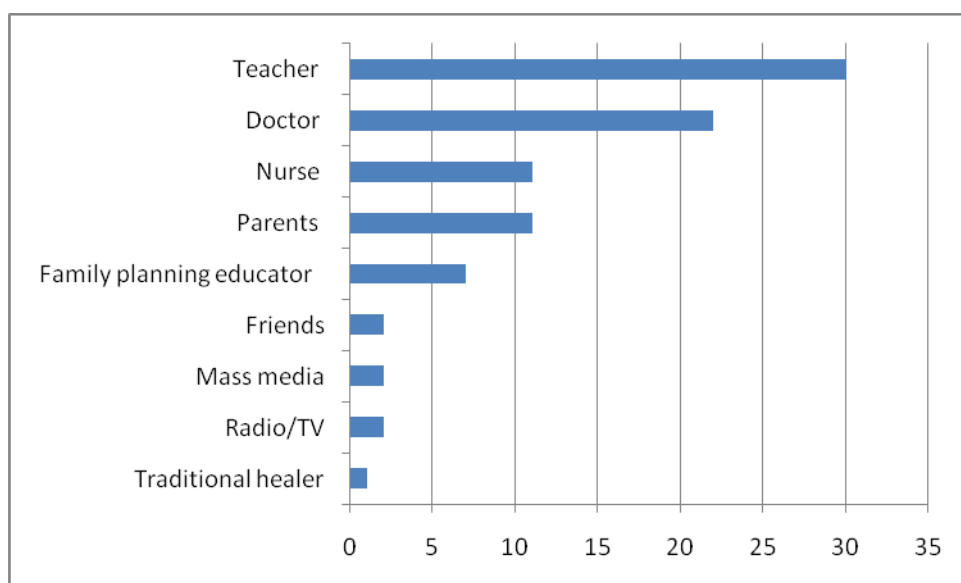


Figure 4.7 Best sources of learners' information about sex and sexuality (n=88)

4.4.1 Most important things to know about HIV/AIDS

The respondents were asked an open ended question concerning the most important things to know about HIV/AIDS. The responses are as tabulated in Table 4.12.

Table 4.12 Most important things to know about HIV/AIDS (n=55)

Responses	Frequency N	Percentage %
What HIV/AIDS is	6	10.9
How HIV is spread	18	32.7
How to protect oneself from contracting HIV	8	14.5
Knowledge about treatments available for HIV/AIDS	5	9.1
How to live positively with HIV/AIDS	4	7.3
Symptoms of HIV/AIDS	5	9.1
Knowing that HIV/AIDS is incurable	9	16.4
TOTAL	55	100.0

According to the 55 responses provided to this question, the three most important things to know about HIV/AIDS are to know how HIV/AIDS is spread (32.7%; n=18), that HIV/AIDS is incurable (16.4%; n=9) and how to protect oneself from getting HIV infected (14.5%; n=8).

4.5 WAYS KNOWN TO PROTECT ONESELF AGAINST HIV INFECTIONS

This section attempted to determine whether respondents perceived themselves to be at risk of HIV infection, knew how to protect themselves and the dangers of failing to protect themselves.

4.5.1 Perceived risk of HIV infection

Of the respondents 68.5% (n=63) did not respond to the open-ended question: "Why do you think you are at risk of contracting HIV/AIDS?" Some of the comments were:

- Because we share razor blades
- Because there is no cure
- Because I have many partners
- Because I am involved in unprotected sex
- Because I have not tested myself
- Because there are many rapists
- Because I am taking care of an HIV patient

Although only 31.5% (n=29) of the respondents answered this question, they knew they were at risk of contracting HIV. Responses such as "I have many partners" and "I am involved in unprotected sex" showed the extent of sexual activities engaged in by some of the learners. In a similar study carried out in Botswana involving adults, 50.0% of the respondents said they thought they were at risk of contracting HIV (CIETtrust 2008:53).

In a similar study carried out by Mlingo in Zimbabwe, 80.0% of the respondents did not think they were at risk of contracting HIV while 18.7% thought they were at risk of contracting HIV. The difference in this study and the current study is that 98.3% of the Zimbabwean respondents gave their responses (Mlingo 2008:53) while only 31.5% responded to the question in the current study conducted in Botswana.

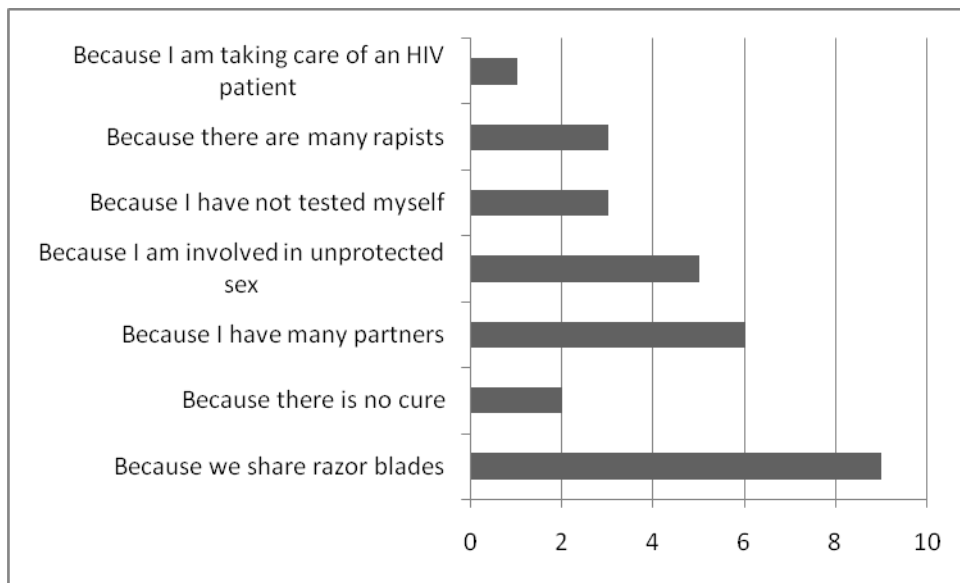


Figure 4.8 – Perceived risk of infection with HIV (n=29)

4.5.2 Respondents' knowledge of protecting themselves from contracting HIV

Respondents were asked an open-ended question about how they could protect themselves from contracting HIV. Of the respondents 57.6% (n=53) mentioned abstinence, faithfulness and consistent use of condoms. This is in line with the philosophy of ABC of HIV/AIDS (ABC is the acronym for abstinence, be faithful to one partner and condomise, if the other options are not practicable) (Murphy et al 2006:1443). Abstinence only was mentioned by 32.6% (n=30) and 9.8% (n=9) mentioned using a condom as a way of protection against infection with HIV. In a study carried out by Mwanbete and Mtaturu (2006:165) in Tanzania, abstinence and the use of condoms in the prevention of contracting STDs was cited by 33.0% and 6.0% of the responses respectively this is consistent with the number of respondents who gave these responses in the present study.

According to UNICEF, UNAIDS and WHO (2008: iv), knowledge of HIV prevention among young people aged 15-24 is one of the indicators of UNGASS and MDG, thus the scope of the indicator covered the age group included in the study. The percentage of youths who can identify two ways of prevention, namely, using condom and being faithful to a partner was part of the measure for the indicator. In this study, 57.6% (n=53), were able to mention three ways of preventing themselves from contracting HIV infections.

Table 4.13: Participants’ knowledge of ways of protection against contracting HIV (n=92)

Question	Response	Frequency	Percentage
To your knowledge, what is the best way to protect yourself from contracting HIV?	Abstinence, faithfulness and consistent use of condoms	53	57.6
	Abstinence	30	32.6
	Using a condom	9	9.8
	Total	92	100.0

4.5.3 Main reason why teenagers are sexually active

The learners were asked a single option question about the main reason for teenagers’ sexual activities. Of the respondents, 94.6% (n=87) responded to the question while 5.4% (n=5) did not give any response. Out of those who gave a response, 74.7% (n=65) attributed teenage early sexual activity to peer pressure, 10.3% (n=9) adduced it to pressure from boyfriends and girlfriends, while 8.1% (n=7) believed this was due to boredom, 3.5% (n=3) attributed the phenomenon to teenagers wanting to experiment, poverty was believed to be the reason for early sexual activities in teenagers by 2.3% (n=2) and drug abuse was the main reason according to one (1.2%) respondent.

4.5.4 Dangers for girls having sex with older men

An open-ended question was asked about dangers to girls who engage in sex with older men. Some HIV positive men reportedly believe having sex with a virgin could cure HIV

infections. Poverty might necessitate women to engage in sex-for-money. These aspects could contribute to the spread of HIV/AIDS (Hillman 2007:2; UCSF 2001:2; UNESCO 2002:6).

Table 4.14: Dangers for girls having sex with older men (n=92)

Question	Responses	Frequency	Percentage
What are the dangers to girls who have sex with older men?	Infection with STIs, (including HIV) and pregnancies	68	73.9
	Pregnancy and dropping out of school	18	19.5
	Developing cancer of the cervix	2	2.2
	Loss of virginity	2	2.2
	Arrested for breaking up marriages	2	2.2
	Total	92	100

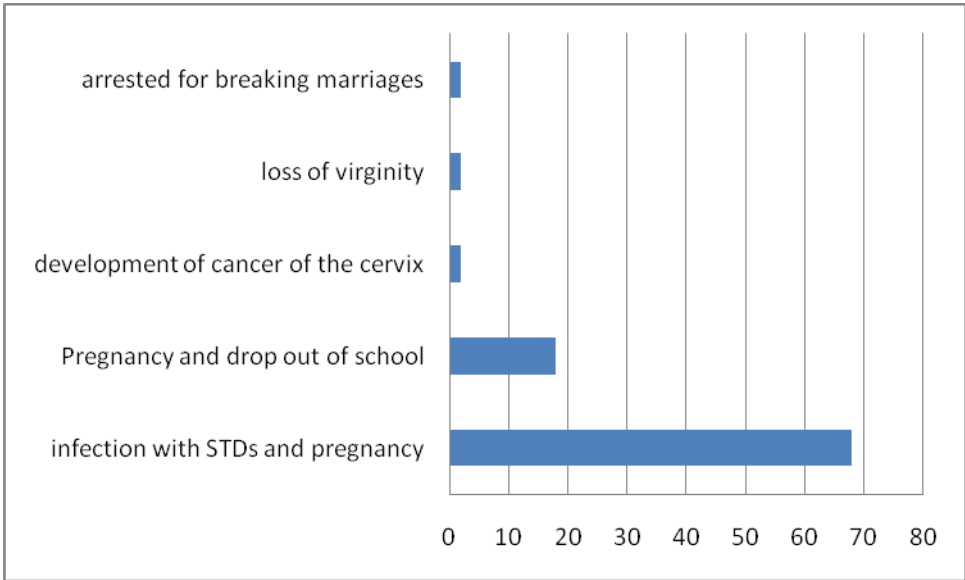


Figure 4.9 Girls’ risks of having sex with older men (n=81)

Out of the 81 respondents, 84.0% (n=68), knew that infection with STDs, including HIV, and pregnancies are possible results of young girls having sex with older men. According

to Ki-Moon (2007:3), young girls are vulnerable to HIV and STDs in such sexual relationships. Adolescent pregnancies within the age range of the respondents, aged 13-19, could produce numerous negative side effects such as interruption of schooling, limited earning capacities of the girls, perpetuated poverty and challenges to raise babies with limited resources (WHO 2004:5). All these potential challenges would be compounded if the adolescent mother also became HIV positive during her pregnancy or while breastfeeding, with lifelong effects for both the mothers and the babies.

Pregnancy and subsequent expulsion from school was seen by 22.2% (n=18) as one of the dangers of engaging in a sexual relationship with an older person. According to a study carried out by Dunne, Leach, Chilisa, Maundeni, Tabulawa, Kutor, Forde and Asamoah (2005: viii), in Botswana and Ghana, girls were more likely to drop out of school compared to boys. This was attributed to pregnancy and early marriage.

Cancer of the cervix due to sexual intercourse is a possibility because men carry the Human Papilloma (HP) virus asymptotically and infect women who can subsequently develop cancer of the cervix. HIV positive women seem to develop cancer of the cervix at younger ages than HIV negative women (Rich 2009). However, cancer of the cervix remains relatively uncommon among young women.

Engaging in sexual intercourse leads to loss of virginity. Some groups in Africa place a high premium on virginity, thus, for a girl to lose her virginity prior to marriage could be regarded as a sign of infidelity (Gupta 2000:2) to her husband. This could adversely affect the bridal price ("lobola") payable by the husband.

4.6 SUMMARY

The chapter presented the analysis and discussion of the data obtained from the 92 completed questionnaires. More female (62.0%; n=57) than male (38.0%; n=35) learners completed questionnaires. Of the 92 respondents, 64.1% (n=59) lived in rural areas; 39.1% (n=36) were in form 3, 33.7% (n=31) were in form 2 and 27.2% (n=25) were in form 1. Out

of the 81 respondents who indicated their religious affiliations, 49 (60.5%) belonged to Christian, 34.6% (n=28) to traditional and 4.9% (n=4) to Islam religions.

Although the majority of the learners (92.3%; n=84) had some knowledge about HIV/AIDS, only 53.4% (n=47) could explain the meaning of HIV/AIDS. Concerning the modes of HIV/AIDS transmission, most learners (81.5%; n=75) knew that unprotected sex with an infected person could result in HIV infection, and 81.5% (n=75) mentioned MTCT. Only 46.7% (n=43) knew that HIV/AIDS could be transmitted by blood transfusions and 31.5% (n=29) indicated that it could be spread by sharing sharp objects with infected persons. However, only 10.3% (n=10) knew that HIV could be transmitted through tattooing, although sharp needles are used (and possibly re-used) during tattooing.

In spite of knowing about VCT, only 10 (10.9%) of the learners had undergone VCT. As many as 81.5% (n=75) indicated that they were willing to undergo VCT, but failed to indicate why they had not yet done so.

Of the learners (n=34) who replied to an open-ended question, all (100.0%; n=34) mentioned abstinence, 61.8% (n=21) faithfulness and 64.7% (n=22) condoms to remain HIV negative. Only 41.2% (n=14) of the learners mentioned all three protective behaviours. The learners' major sources of HIV/AIDS information were teachers (33.0%; n=30) and medical doctors (23.9%; n=22), while the television and radio played negligible roles in this regard. According to the learners, the most important things to know about HIV/AIDS are to know how HIV is spread (32.7%; n=18), that HIV is incurable (16.4%; n=9) and how to protect oneself (14.5%; n=8).

Only 31.5% (n=29) of the learners admitted to being at risk of contracting HIV/AIDS. Early sexual activities were attributed to peer pressure by 74.7% (n=65) of the respondents. The major risk of young girls having sex with older men were identified as STIs (including HIV) and pregnancies (84.0%; n=68). The limitations, conclusions and recommendations are presented in chapter 5.

CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter presents the limitations, conclusions and recommendations of the study regarding the HIV/AIDS knowledge of form 1, 2 and 3 learners at Sefhare CJSS in Botswana. The main issues that are covered relate to the knowledge of HIV/AIDS, avenues for obtaining information concerning HIV/AIDS and ways of protecting oneself against HIV infection.

5.2 RESEARCH DESIGN, METHOD AND PURPOSE

A quantitative research design was used in the study. A questionnaire was used to collect data from 92 respondents recruited through non-probability sampling.

The purpose of this study was to determine the level of knowledge of secondary school learners about HIV/AIDS in Sefhare, Botswana. The conclusions, based on the research findings discussed in chapter 4, will be used to address the objectives which were formulated in chapter 1 of this dissertation.

5.3 LIMITATIONS

The study was conducted in one public rural secondary school in Botswana among forms 1, 2 and 3 learners. The results obtained might not be

generalisable to other schools or other settings like urban or private secondary schools.

The age range of learners in the junior secondary school was 13-14 and 15-19 because learners in junior school can only start at 13 years, after successfully completing seven years (seven grades) in the primary school. This was not comparable to the age range used by NACA in the BAIS II (NACA 2006:42) survey, where the age ranges were 10-14 and 15-19. These differences in age ranges might have affected the comparability of this study's findings with those of the national BAIS II survey.

Non-random sampling was used, implying that the results obtained from the respondents might or might not be similar to those that would have been obtained from all learners at the school. There is no guarantee that those learners who were willing to ask their parents/guardians to sign the consent forms for them to complete questionnaires, and those who were unwilling to do so, had similar knowledge levels about HIV/AIDS.

Data were collected by questionnaires only. Although all possible steps were taken to ensure that the questions would be understood by junior secondary school learners, some misunderstandings might have occurred. Such possibilities might have been detected during structured interviews.

Only a quantitative survey, using questionnaires, was conducted. More in-depth and meaningful results might have been obtained by individual in-depth or focus group discussions.

The results reflect only the learners' HIV/AIDS knowledge levels as indicated by their responses on the questionnaires. No information was gathered about the actual implementation of their HIV/AIDS knowledge.

Nevertheless, learners require HIV/AIDS knowledge before they can implement appropriate preventive behaviours. Despite the limitations of this study, the following conclusions were reached on the basis of the study findings, and recommendations are suggested for enhancing these learners' HIV/AIDS knowledge in Sefhare, but possibly also in other rural public schools in Botswana.

5.4 CONCLUSIONS

The conclusions will be presented in terms of the objectives listed in chapter 1 of this dissertation.

5.4.1 The learners' HIV/AIDS knowledge

The form 1, 2 and 3 learners knew about HIV/AIDS, but lacked specific aspects of knowledge as reflected by the following findings (specific recommendations will be provided in section 5.5).

- * The learners' HIV/AIDS knowledge was generally high with 91.3% (n=84) providing responses related to HIV/AIDS. However, the meaning of the two acronyms HIV and AIDS could only be provided by 56.0% (n=47) of respondents.

- * Unprotected ('unsafe') sex as one of the modes of transmission of HIV was reported by 81.5% (n=75) and 81.5% (n=75) knew about MTCT while 46.7% (n=43) mentioned blood transfusions. Although 31.5% (n=29) of the respondents knew that HIV could be spread by sharing sharp objects such as injection needles, only 10.9% (n=10) knew that HIV could be spread by instruments used for tattooing.

- * Most learners (89.1%; n=82) knew HIV could not be transmitted through mosquito bites and (94.6%; n=87) knew that sharing toilets with HIV infected persons could not result in HIV infections.

5.4.2 Improving learners' HIV/AIDS knowledge in Sefhare, Botswana

Although only 31.5% (n=29) of the respondents replied to this question, they indicated that high levels of morality ('abstinence'), avoiding large numbers of sex partners ('being faithful'), preventing rape and unprotected sex ('condomise') could protect one from becoming infected with HIV. Viewed against the HIV/AIDS programmes offered at Botswana schools, all learners should have supplied all three these answers. Consequently, it could be concluded that the HIV/AIDS school programme did not succeed in imparting the basic knowledge about the ABC of preventing HIV/AIDS to all these secondary school learners.

Most learners knew risks were involved when young girls engaged in sexual activities with older men, including HIV infections and pregnancies, that would impede the academic progress of such female learners. The main reason for teenagers' sexual activities was reportedly peer pressure. Thus it could be concluded that the HIV/AIDS school programme did not seem to successfully empower learners to avoid sex with older partners nor to cope with peer pressure.

5.4.3 Preventing HIV/AIDS infections among learners in Sefhare

Peer pressure was deemed to be the main reason for teenagers' early sexual activities by 74.7% (n=65) of the respondents. thus, engaging the learners in peer group activities geared towards engaging in behaviours that will help reduce possible infections with HIV or other STDs. Activities such as press clubs, literary and debating societies or sporting activities help keep the learners' minds active

and also, reduce the incidence of engaging in social vices that can predispose them to HIV infection.

Also, the community can assist in providing informal situations or environment for learning or imbibing culture of late sexual debut by laying emphasis on sexual purity and virginity prior marriage or until an individual is ready to take on responsibilities.

5.5 RECOMMENDATIONS

The recommendations will be presented according to those pertaining to enhancing learners' HIV/AIDS knowledge, improving health services, and for future research.

5.5.1 Recommendations for enhancing learners' HIV/AIDS knowledge

- Most of the learners involved in the study acquired their HIV/AIDS information from their teachers. This is commendable and should be maintained, in-service education about HIV/AIDS for teachers should be streamlined.
- Teachers should strive to ensure that every learner as from form 1 knows what the term HIV/AIDS implies, and to know at least the ABC of protecting themselves against HIV infections. The HIV/AIDS school programme should focus on the ABCD of prevention, where D indicates diagnosis, or VCT.
- Only a few of the learners acquired their HIV/AIDS information from parents or mass media. Avenues for information dissemination among the rural parents should be implemented and sustained.
- The current curriculum of Life Skills programme offered by Botswana schools could be made more learner- and age-specific in order to address identified gaps and misconceptions or myths realised in the study such as that tattooing cannot cause HIV infections.

- Information sessions should be held jointly for parents and learners so that the communication about sexual issues could be promoted between the different generations. Such sessions could also improve parents' HIV/AIDS knowledge.

5.5.2 Recommendations for improving the health care services

VCT services should be provided at sites accessible to learners. This should be done confidentially and the results must be trust-worthy. As 81.5% (n=75) of the respondents were willing to undergo VCT, this offers a unique window of opportunity for the local health care services to make VCT accessible. If more youths would undergo VCT, and the accompanying pre-test and post-test counseling, this could have major impacts on the HIV/AIDS protective knowledge and behaviours of this group of learners.

Training and employing youths as health educators and lay HIV/AIDS counselors might help to make these services more acceptable and accessible to youths.

5.5.3 Recommendations for future research

- * Comparative studies between the rural and urban schools can be carried out in Botswana, to ascertain whether differences in HIV/AIDS knowledge exist and to design programmes that will cater for the learners' specific needs.
- * Also, comparative studies can be carried out among in-school and out-of-school youths.
- * Follow-up nation-wide studies should be conducted to assess learners' HIV/AIDS knowledge, subsequent to being exposed to the HIV/AIDS school programme. In this way geographical areas where learners lack

HIV/AIDS knowledge could be identified and provided with more intensive programmes for teachers, parents and learners.

5.6 CONCLUDING REMARKS

It is necessary to target the secondary school learners in Botswana to reduce the possible spread of HIV infection among them and encourage healthy behaviours that will prevent them from becoming infected (or re-infected) with HIV.

Despite the HIV/AIDS programme being offered at Botswana schools, only 57.6% (n=55) of the learners mentioned the ABC of preventing HIV infections. Unless 100% of the secondary school learners know these three basic steps of preventing HIV/AIDS, this programme cannot claim success. Preventive behaviours do not necessarily follow from adequate knowledge, but such knowledge is a prerequisite for being able to implement and sustain meaningful lifelong behavioural changes.

The most important cost-effective and feasible step that could be implemented to impact on learners' sexual behaviours is to offer them VCT services. However, these services must produce accurate results and the learners' privacy and confidentiality must be respected. As most (81.5%; n=75) of the respondents indicated that they would be willing to undergo VCT, this could be a huge step towards enabling them to know their HIV status, provided their HIV status can get tested at regular intervals. Those learners who are HIV negative, should be assisted to remain negative. Those learners who are HIV positive should be assisted to live positively, act responsibly, prevent their sex partners from becoming infected and prevent themselves from becoming re-infected. This could be a huge step towards combating the spread of HIV among the youths of Botswana, of ensuring that fewer HIV positive babies are born in future and that more HIV positive women use PMTCT services effectively, and of enabling the future generation of parents to be well informed and conversant about issues

pertaining to sex generally and to HIV/AIDS specifically. Thus enhancing the HIV/AIDS knowledge of secondary school learners in Botswana is an essential prerequisite for addressing the spread of HIV/AIDS in this country.

LIST OF REFERENCES

ACHAP see African Comprehensive HIV/AIDS Partnership

African Comprehensive HIV/AIDS partnership. 2008. *ACHAP annual report: taking giant steps*. Gaborone: African Comprehensive HIV/AIDS Partnership.

African Comprehensive HIV/AIDS partnership. 2008. AIDS in Botswana. Available online: <http://www.achap.org> (Accessed on 02 March 2009).

Babbie, E & Mouton, J. 2001. *The practice of social research*. Cape Town: Oxford University Press.

Bailey, JV, Farquhar, C, Owen, C & Mangtani, P. 2004. Sexually transmitted infections in women who have sex with women. *Sexually Transmitted Infections*. 80:244-246. Available online: <http://sti.bmj.com/cgi/content/full/80/3/244> (Accessed on 15 October 2008).

Bankole A , Biddlecom A , Guiella G , Singh S , Zulu E . 2007. Sexual behaviour, knowledge and information sources of very young adolescents in four Sub-Saharan African countries. *African Journal of Reproductive Health*,2007:11(3):28-43.

Bennell, P, Chilisa, B, Hyde, K, Makgothi A, Molobe, E & Mpotokwane, L. 2001. *The impact of HIV/AIDS on primary and secondary education in Botswana: developing a comprehensive strategic response*. Botswana: Government Printers.

BIDPA see Botswana Institute of Development and Policy Analysis (Botswana).

Botswana Institute of Development and Policy Analysis. 2005. Study on knowledge, attitude, behaviour and practices towards HIV/AIDS in the vocational training sector. Gaborone: Botswana Training Authority.

Bowling, A. 2002. *Research methods in health: investigating health and health services*. 2nd edition. Buckingham: Open University Press.

Brink, HIL.1999. *Research methodology for health care professionals*. Cape Town: Juta.

Burns, N & Grove, SK. 2005. *The practice of nursing research: conduct, critique and utilization*; 5th edition. St Louis: Elsevier/Saunders.

Busch, MP, Kleinman, SH & Nemo, GJ. 2003. Current and emerging risks of blood transfusion. *Journal of the American Medical Association (JAMA)* 289(8):959-962.

Campbell, C, Foulis, CA, Maimane, S & Sibiyi, Z. 2005. The impact of social environments on the effectiveness of youth HIV prevention: a South African case study. *AIDS Care* 17(4):471-478.

Campbell, C & MacPhail, C. 2005. Peer education, gender and the development of social consciousness: participatory HIV prevention by South African youths. *Social Science and Medicine*. 55(2):331-345.

CDC see Center for Disease Control and Prevention (USA).

Center for Disease Control and Prevention. 2008. Basic information. Available online: <http://www.cdc.gov/hiv/topics/basic/index.htm> (Accessed on 16 October 2008).

Centro de Investigacion de Enfermedades Tropicales Trust. 2008. *Survey of HIV/AIDS related knowledge, attitudes & practice: Botswana 2007 – summary of key findings*. Gaborone: CIET.

Central Statistics Office (of Botswana). 2008. Distribution of population by sex by villages and their associated localities: 2001 population. Available online http://www.cso.gov.bw/index.php?id=156&option=com_content&task=view (Accessed on 14 October 2008).

CIETtrust see Centro de Investigacion de Enfermedades Tropicales Trust.

Cohen, AS. 2003. *Beyond slogans: lessons of Ugandan experience with ABC and HIV/ADS. The Guttmacher Report on Public Policy*. 6(5): 1-3. Available online: <http://www.guttmacher.org/pubs/tgr/06/5/gr060501.html> (Accessed on 14 October 2008).

CSO – see Central Statistics Office (of Botswana).

Dente, K & Hess, J. 2006. Pediatric AIDS in Romania: a country faces its epidemic and serves as a model of success. *Medscape General Medicine* 8(2):11.

Department of Health and Human Services. 2007. HIV infection and AIDS: an overview. Available online: <http://www.niaid.nih.gov/> (Accessed on 6 June 2008).

De Vos, AS. (Editor) 2002. *Research at grass roots level for the social science and human service professions*. 2nd edition. Pretoria: Van Schaik.

DFID – see Department for International Development (United Kingdom).

DHHS see Department of Health and Human Services (United States of America).

Dunne, M, Leach, F, Chilisa, B, Maundeni, T, Tabulawa, R, Kutor, N, Forde, LD & Asamoah, A. 2005. *Gendered school experiences: the impact on retention and achievement in Botswana and Ghana*. London: DFID.

Fogarty, L, Roter, D, Larson, S, Burke, J, Gillespie, J & Levy, R. 2002. Patient adherence to HIV medication regimen: a review of published and abstract reports. *Patient Education and Counseling* 46:93-108.

Gisselquist, DP & Potterat, JJ. 2003. Let it be sexual: how health care transmission of AIDS in Africa was ignored. *International Journal of STDs/ AIDS* 14:148–61.

Gisselquist, D, Rothenberg, R, Potterat, J & Drucker, E. 2002. HIV infections in sub-Saharan Africa are not explained by sexual or vertical transmission. *International Journal of STD/ AIDS* 13:657–66.

Global HIV Prevention Working Group. 2002. *Global mobilization for HIV prevention: a blueprint for action*. Available online:

<http://www.kff.org/hivaids/loader.cfm?url=/commonspot/security/getfile.cfm>

(Accessed on 10 October 2008).

Gupta, GR. 2000. "Gender, Sexuality, and HIV/AIDS: The what, the why, and the how." Plenary Address, XIIIth International AIDS Conference. Durban, South Africa.

Available online: http://www.icrw.org/docs/Durban_HIVAIDS_speech700.pdf

(Accessed on 25 February 2009).

Haacker, N. 2002. *The economic consequences of HIV/AIDS in Southern Africa*. An IMF (International Monetary Fund) Working Paper WP/02/38 Washington DC: Hugh Brendenkamp.

Hillman, SM. 2007. *What's in a game? Evaluation of the gimme 5 game: an entertaining educational tool for HIV/AIDS prevention and life skills study*. Port Elizabeth: Nelson Mandela Metropolitan University, Department of Education.

Available online: www.gimme5.org/%5Cpdfs%5CGameEvaluation.pdf

(Accessed on 09 February 2009).

Hunter, SS. 2000. *Reshaping societies: HIV/AIDS and social change – a resource book for planning, programs and policy making*. New York: Hudson Run.

IBE see International Bureau of Education

ICASO see International Council of AIDS Service Organizations

International Council of AIDS Service Organizations. 2007. Gender, sexuality, rights and HIV: an overview for community sector organizations.

Available online: www.icaso.org/publications/genderreport_web_080331.pdf

(Accessed on 05 April 2009).

Joint United Nations Programme on HIV/AIDS. 2001. *AIDS Epidemic Update*. Geneva.

Joint United Nations Programme on HIV/AIDS. 2005. *AIDS Epidemic Update*. Geneva.

Joint United Nations Programme on HIV/AIDS 2006a. *The road towards universal access: scaling up access to HIV prevention, treatment, care and support*. Available online:

http://data.unaids.org/pub/Periodical/2006/Universal_Access_bulletin_8_en.pdf

(Accessed on 10 October 2008).

Joint United Nations Programme on HIV/AIDS. 2006b. *Epidemiological fact sheet on HIV/AIDS and sexually transmitted infections. 2006 update*. United Nations Joint Programme on HIV/AIDS and World Health Organization. Geneva: UNAIDS & WHO. Available online: <http://www.who.int/globalatlas/predefinedReports/EFS2006/E...> (Accessed on 03 April 2008).

Joint United Nations Programme on HIV/AIDS. 2007. Sub-Saharan Africa AIDS epidemic update: Regional Summary. (Online). Available: Available online: http://data.unaids.org/pub/Report/2008/jc1526_epibriefs_ssafrica_en.pdf (Accessed on 08 July 2008).

Joint United Nations Programme on HIV/AIDS. 2008a. UNAIDS' terminology guideline. Available online: http://data.unaids.org/pub/Manual/2008/20080226_unaids_terminology_guide_en.pdf (Accessed on 20 May 2008).

Joint United Nations Programme on HIV/AIDS and World Health Organization. 2008b. Epidemiological fact sheets on HIV and AIDS – core data on epidemiology and response: Botswana 2008 update:9-19. Geneva. Available online: <http://www.who.int/hiv> (Accessed on 19 February 2009).

Kaiser Family Foundation. 2004. Briefing: HIV prevention among young people: measuring the impact. Available online: <http://www.kaisernetwork.org> (Accessed on 25 June 2008).

Katzenellenbogen, JM, Joubert, G & Abdool Karrim, SS. 1997. *Epidemiology: a manual for South Africa*. Cape Town: Oxford University Press.

Kelly, MJ. 2002. Current issues in comparative education. *Standing education on its head: aspects of schooling in a world with HIV/AIDS*. Columbia: Teachers' College, Columbia University: 3(1) 28–38.

Ki-Moon, B. 2007. *Children and the millennium development goals: progress towards a world fit for children*. New York: UNICEF.

Kinghorn, A, Coombe, C, McKay, E & Johnson, S. 2002. The impact of HIV/AIDS on education in Botswana. Pretoria. Available online: http://unbotswana.org.bw/undp/docs/bots_education_final.pdf (Accessed on 5 July 2008).

Kirkman, M, Rosenthal, DA & Feldman SS. 2005. Being open with your mouth shut: the meaning of “openness” in family communication about sexuality. *Sex Education*. 5(1):49-66.

Kun, K. 1998. Vaginal drying agents and HIV transmission. *International Family Planning Perspectives* 24(2):93–94. Available online: <http://www.agi-usa.org/pubs/journals/2409398.html> (Accessed on 20 April 2009).

- McGregor, L. 2002. Botswana battles against 'extinction' *The Guardian*. Available online: <http://www.guardian.co.uk/world/2002/jul/08/aids> (Accessed on 08 April 2008).
- Ministry of Education (Botswana). 1998. *Policy on HIV/AIDS education*. Gaborone: Government Printer.
- Ministry of Education (Botswana). 2007. *Secondary schools list*. Available online: <http://www.moe.gov.bw/dse/schools/entry.html> (Accessed on 15 October 2008)
- Ministry of Health (Botswana). 2005a. *Botswana guidelines on antiretroviral treatment*. Gaborone. Government Printer.
- Ministry of Health (Botswana). 2005b. *Guide – consent form*. Gaborone: Government Printer.
- Ministry of Health (Botswana). 2006a. *Botswana second generation HIV/AIDS surveillance technical report*. Gaborone: Government Printer.
- Ministry of Health (Botswana). 2006b. *MASA-The national antiretroviral therapy programme of Botswana*. Available online: <http://www.moh.gov.bw/index.php?id=192> (Accessed on 28 February 2008).
- Ministry of Health (Botswana). 2008. *HAART updates summary-December 2007*. Gaborone.
- Mlingo, ML. 2008. HIV knowledge and sexual behaviour among secondary school learners in Harare, Zimbabwe. Unpublished MPH dissertation. Pretoria: University of South Africa.
- MoE see Ministry of Education (Botswana).
- MoH see Ministry of Health (Botswana).
- Mouton, J. 2001. *How to succeed in your master's and doctoral studies. A South African guide and resource book*. Pretoria: Van Schaik.
- Murphy, EM, Greene, ME, Mihailovic, A & Olupot-Olupot, P. 2006. Was the "ABC" approach (abstinence, being faithful, using condoms) responsible for Uganda's decline in HIV? *The Plos Medicine Debate*. 3(9): 1443-1447
Available online: www.plosmedicine.org (Accessed on 09 August 2009).
- Mwanbete, KD & Mtaturu, Z. 2006. Knowledge of sexually transmitted diseases among secondary school students in Dar es Salaam, Tanzania. *African Health Sciences* 6(3):165-169.
- NACA see National AIDS Coordinating Agency (of Botswana).
- NACA/CSO – see National AIDS Coordinating Agency and Central Statistics Office (of Botswana).

National AIDS Coordinating Agency. 2003. National HIV/AIDS strategic framework 2003-2009. Gaborone.

National AIDS Coordinating Agency. 2005. Fact about HIV and AIDS. Available online: <http://www.naca.gov.bw/node/168>. (Accessed on 20 August, 2008)

National AIDS Coordinating Agency. 2006. *Botswana sentinel year book 2006*. Available online: <http://www.naca.gov.bw> (Accessed 03 February 2008).

National AIDS Coordinating Agency and Central Statistics Office (of Botswana). 2005. Botswana AIDS impacts survey II: popular report. Gaborone: Government Printer.

National AIDS Coordinating Agency and Central Statistics Office (of Botswana). 2006. Botswana AIDS impacts survey III: popular report. Gaborone: Government Printer.

Pelser, AJ. 2002. *The dynamics of HIV/AIDS in South Africa*. In: Van Rensburg D, Friedman, I, Ngwenya C, Pelser A, Steyn F, Booysen F, & Adendorff, E. *Strengthening local government and civic responses to the HIV/AIDS in South Africa*. Bloemfontein: Centre for Health Systems Research & Development.

Peltzer, K & Promtussananon, S. 2005. HIV/AIDS knowledge and sexual behaviour among junior secondary school students in South Africa. *Journal of Social Sciences* 1(1):1-8.

Phorano, OD, Nthomang, K & Ntseane, D. 2005. Alcohol abuse, gender based violence and HIV/AIDS in Botswana: establishing the link based on empirical evidence. *Journal of Social Aspects of HIV/AIDS* 2:188-202.

Polit, DF & Beck, CT. 2004. *Nursing research: principles and methods*. 7th edition. Philadelphia: Lippincott, Williams & Wilkins.

Polit, DF & Hungler, BP. 1999. *Nursing research: principles and methods*. Philadelphia: JB Lippincott.

Poppa, A, Davidson, O, Deutsch, J, Godfrey, D, Fisher, M, Head, S, Horne, R & Sherr, L. 2003. British HIV Association/British Association for Sexual Health and HIV guidelines on provision of adherence support to individuals receiving antiretroviral therapy. *HIV Medicine*. 5(suppl 2):46-60.

<http://www.blackwellsynergy.com/doi/pdf/10.1111/j.14681293.2004.00215.x?cookieSet=1> (Accessed on 28 January 2008).

Population Briefs. 2004. *Guide for improving adherence to drug therapies (HIV/AIDS)*. Available online:

<http://www.highbeam.com/librarydoc3.asp?DOCID=1G1:133013603&num=3&ctr1Info=> (Accessed on 10 June 2008).

Population Reference Bureau. 2000. *Youth in sub-Saharan Africa: a chartbook on sexual experience and reproductive health*. Washington DC: Population Research Bureau. Available online: www.prb.org/pdf/YouthSubSaharanAfrica_Eng.pdf (Accessed on 05 March 2009).

Population Reference Bureau. 2008. Data by geography: Botswana - summary. 2008. Available online: http://www.prb.org/Datafinder/Geography/Summary.aspx?region=64®ion_type=2 (Accessed on 04 March 2009).

Population Reference Bureau. 2009. Data Sheet: 2008 World Population. Available online: <http://www.prb.org/Publications/Datasheets/2008/2008wpds.aspx> (Accessed on 02 March 2009.).

Preece, J & Ntseane, G. 2004. Using adult education principles for HIV/AIDS awareness intervention strategies in Botswana. *International Journal of Lifelong Education* 23(1):5-22.

Rich, WM. 2009. *Cancer of the cervix – introduction to gynaecologic oncology*. Available online: <http://www.gyncancer.com/cervix.html> (Accessed on 09 July 2009).

Schmid, PS, Buvé, A, Mugenyi, P, Garnett, GP, Hayes, RJ, Williams, BG, Calleja, JG, De Cock, KM, Whitworth, JA, Kapiga, SH, Ghys, PD, Hankins, C, Zaba, B, Heimer, R & Boerma, JT. 2004. Transmission of HIV-1 infection in sub-Saharan Africa and the effect of elimination of unsafe injections. *Lancet* 363:482-488.

Smart, T. 2006. Botswana's adult mortality rate falls since the rollout of free antiretroviral therapy. *Aidsmap news* Available online: <http://www.aidsmap.com/en/news/FA96D> (Accessed on 01 April 2008).

Soskolne, V & Shtarkshall RA. 2002. Migration and HIV prevention programmes: linking structural factors, culture, and individual behaviour – an Israeli experience. *Social Science and Medicine*. 55:1297-1307.

Splete, H. 2005. Drug resistance factors into HIV treatment failures. (*Infectious Diseases*). *Family Practice News* 35(19):1-103. Available online: <http://www.highbeam.com/librarydoc3.asp?DOCID=1G1:137966936&num=11&ao=&Fr> (Accessed on 27 March 2008).

Stommel, M & Wills, CE. 2004. *Clinical research. Concepts and principles for advanced practice nurses*. Philadelphia: Lippincott, Williams & Wilkins.

Strydom, H, Fouche, CB & Delpont, CSL. 2002. *Research at grass roots level*, edited by AS de Vos. 2nd edition. Pretoria: Van Schaik.

Tuoane, M, Kimane, I & Molise, N. 2002. *Adolescent substance use survey – Lesotho*. Report submitted to Ministry of Health and Social Welfare, Maseru: Government Printer.

UCSF see University of California: San Francisco.

UNAIDS see Joint United Nations Programme on HIV/AIDS.

UNDP – see United Nations Development Programme.

UNESCO see United Nations Educational, Scientific and Cultural Organization.

UNESCO/IBE – see United Nations Educational, Scientific and Cultural Organization and Central Statistics Office (of Botswana).

UNHCR see United Nations High Commission for Refugees.

UNICEF see United Nations Children’s Emergency Fund.

United Nations Children’s Emergency Fund, Joint United Nations Programme on HIV/AIDS and World Health Organization. 2008. *Children and AIDS: Country fact sheets 2008*. Companion to the third stocktaking report. Available online: http://www.unicef.org/publications/index_46588.html Accessed on 4 April 2009.

United Nations Children’s Emergency Fund 2002. *HIV/AIDS Education: A Gender Perspective, Tips and Tools*. New York: UNICEF. Available online: http://www.unicef.org/lifeskills/files/UNICEF_Gender_HIV.Eng.pdf. (Accessed on 29 January 2009).

United Nations. 2001. *Declaration of commitment on HIV/AIDS*. United Nations General Assembly Special Session on HIV/AIDS, 2001. Available online: <http://www.un.org/ga/aids/coverage/FinalDeclarationHIVAIDS.html> (Accessed on 10 October 2008).

United Nations. 2008. *What are the millennium development goals?* Available online <http://www.un.org/millenniumgoals/> (Accessed on 10 October 2008).

United Nations Development Programme. 2000. Millennium development goals (MDGs). Available online: <http://www.undp.org/mdg/goal6.shtml> (Accessed on 09 November 2009).

United Nations Development Programme. 2005. *Human development report*. New York: UNDP.

United Nations Development Programme. 2009. Millennium development goals (MDGs). Available online: <http://www.undp.org/mdg/> (Accessed on 09 July 2009)

United Nations Educational, Scientific and Cultural Organization. 2002. *Reaching the millennium development goals (MDGs): an overview of the current process and its implication for UNESCO*. Paris: UNESCO.

United Nations Educational, Scientific and Cultural Organization. 2006. see p7
United Nations Educational, Scientific and Cultural Organization. 2004. *Quality education and HIV/AIDS*. Paris: UNESCO.

United Nations Educational, Scientific and Cultural Organization and International Bureau for Education

2006. Manual for integrating HIV and AIDS education in school curricula. *HIV/AIDS education programme*. Geneva: UNESCO/IBE.

United Nations High Commission for Refugees. 2004. Status of ratifications of the principal international human rights treaties as of 09 June 2004.

Available online: www.unhchr.ch/pdf/report.pdf (Accessed on 04 April 2009).

United States Agency for International Development. August 2000.

HIV/AIDS in Southern Africa: background, projections, impacts and interventions. The Policy Project for Bureau for Africa. Office of Sustainable Development. Washington DC: US Agency for International Development.

University of California: San Francisco. 2001. *Sub-Saharan Africa context of the epidemic. gateway to AIDS knowledge*. San Francisco: University of San Francisco Press.

USAID – see United States Agency for International Development.

Van der Geest, S. 2000. Funerals for the living: conversations with elderly people in Kwahu, Ghana. *African Studies Review* (43)3 103-129. Available online: <http://www.jstor.org/stable/525071> (Accessed on 04 April 2009).

Van Dyk, A. 2001. *HIV/AIDS care and counselling: a multidisciplinary approach*. 2001. Pretoria: Van Schaik.

Vehkalahnti, K, Puntanen, S & Tarkkonen, L. 2006. *Estimation of reliability: a better alternative for Cronbach's alpha*. Elsevier Science. Available online: <http://mathstat.helsinki.fi/reports/Preprint430.pdf> (Accessed on 27 June 2008).

Weiser, S, Wolfe, W, Bangsberg, D, Thior I, Gilbert, P, Makhema, J, Kebaabetswe, P, Dickenson, D, Mompati, K, Essex, M & Marlink, R. 2003. Barriers to anti-retroviral adherence for patients living with HIV infection and AIDS in Botswana. *Journal of Acquired Immune Deficiency Syndromes* 34(3):281-288. Available online: <http://www.ncbi.nlm.nih.gov/pubmed/14600572> (Accessed on 21 March 2008).

WHO see World Health Organization

Williams, BG & Dye, C. 2003. Antiretroviral drugs for TB in the era of HIV/AIDS. *Science* 301:1535-1537.

World Health Organization. 2002. *WHO country cooperation strategy, Botswana 2003-2007*. Geneva.

World Health Organization. 2003. *HIV/AIDS treatment: antiretroviral therapy. Fact sheet*. Copenhagen.

World Health Organization. 2004. WHO health report 2004. Geneva.

World Health Organization. 2005. *Botswana: summary of country profile for HIV/AIDS treatment scale-up*. Gaborone: Government Printers.

World Health Organization. 2006a. *Preventing HIV/AIDS in young people: a systematic review of the evidence from developing countries*. Geneva: UNAIDS Inter-agency Task team on young people.

World Health Organization. 2006b. World health statistics.
Available online: <http://www.who.int/whosis/en/> (Accessed on 5 November 2008).

World Health Organization. 2006c. *Demand for male circumcision rises in a bid to prevent HIV*. Available online:
<http://www.who.int/bulletin/volumes/84/7/news10706/en/print.html>
(Accessed on 02 April 2009).

World Health Organization. 2008. *HIV/AIDS: Some questions and answers*.
Available online: www.searo.who.int/en/Section10/Section18/Section2011.htm
(Accessed on 08 November 2008).

Yamauchi, F. 2007. *Marriage, schooling and excess mortality in prime-age adults: a South African experience*. Washington DC: International Food Research Institute.

Yang, H, Li, X, Stanton, B, Liu, H, Liu, H, Wang, N, Fang, X, Lin, D & Chen, C. 2005. Heterosexual transmission of HIV in China: a systematic review of behavioral studies in the past two decades. *Sexually Transmitted Diseases* 32(5): 270-280.

Zijenah, LS, Moulton, LH, Iliff, P, Nathoo, K, Munjoma, MW, Mutasa, K, Malaba, L, Zvandasara, P, Ward, B & Humphrey, J. 2004. AIDS: timing of mother-to-child transmission of HIV-1 and infant mortality in the first 6 months of life in Harare, Zimbabwe. 18:273–280.

Available online: <http://cat.inist.fr/?aModele=afficheN&cpsidt=15432245> (Accessed on 14 October 2008).

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ANNEXURE A

**Ethical Clearance Certificate: Department of Health Studies,
Unisa**

ANNEXURE B

Questionnaire: English

ANNEXURE H

Consent form (Setswana)

ANNEXURE J

Statistician's declaration

ANNEXURE F

**Letter from the principal of the Community Junior
Secondary School, Sefhare**

ANNEXURE K

Translator's declaration

QUESTIONNAIRE TITLE: HIV/AIDS KNOWLEDGE OF SECONDARY SCHOOL LEARNERS IN SEFHARE, BOTSWANA

QUESTIONNAIRE IDENTIFICATION NUMBER

DATE OF ADMINISTRATION

The questionnaire is eligible for both males and females attending public junior secondary school in Sefhare.

Introduction:

The questionnaire aims to ascertain the knowledge of HIV/AIDS among junior secondary school learners in Sefhare, Botswana.

I am soliciting your participation in this study, which requires you to respond to questions set in this questionnaire. I request you to respond to questions as truthfully as possible in order to get the insight to the epidemic and to try and assist government in implementing appropriate programmes that focus on the interests of the youth, and specifically secondary school learners. Your responses will also facilitate an effective policy formulation for the youth by all stakeholders and government that will include holistic approaches to address youth's needs or facilitate inclusion of your sentiments in the youth policy already in place. In addition, your truthful responses will assist in analysing the data effectively, efficiently and help to attain a Masters degree.

Confidentiality and consent: Your answers are completely confidential and yet very necessary for completion of this study. You do not need to write your name on this form. However, your honest answers to these questions will help to better understand how much you know about HIV/AIDS. Your help in responding to this survey will be highly appreciated.

QUESTIONNAIRE

A. Demographic and biographic data

1. How old are you?

2. What class are you?

3. Gender. Mark as appropriate Male Female

4. Religion – tick as appropriate

4.1 Roman Catholic

4.2 Seventh Day Adventist

4.3 Pentecostal

- 4.4 Anglican
- 4.5 Methodist
- 4.6 Traditional
- 4.7 Islam
- 4.8 Others specify

5. Where did you grow up? Tick as appropriate

- 5.1 urban area
- 5.2 rural area

B. Knowledge about HIV/AIDS

6. What is the meaning of HIV and AIDS?

.....
.....
.....

7. How is HIV transmitted?

.....
.....
.....

8. Have you been tested for HIV? Tick as appropriate

- 8.1 Yes
- 8.2 No

9. If you answered No to question 8, will you like to get tested for HIV? Tick as appropriate

- 9.1 Yes
- 9.2 No

10. Can HIV be transmitted through any of the following routes? Mark every correct response.

- Sex with an infected partner
- Mosquito bite
- eating from the same plate with an infected partner
- Mother to child
- kissing
- using the same toilet with an infected person
- Blood transfusion
- coughing

- tattooing

11. In your view, what are the most important things to know about HIV/AIDS?

C. Avenues for information

12. Where did you learn most of what you know about HIV/AIDS?

Mark appropriate options.

- Radio
- Magazine/newspapers/print media
- Peer Educator
- School library/Books
- Parents
- Teachers
- Friends
- Other (specify)

13. Which of the following do you think is the best source of teaching teenagers about sex and sexuality? (Mark only one)

- Doctor
- Nurse
- Family Planning Educator
- Parents
- Friends
- Teacher
- Radio/TV
- Pamphlets, Newspapers,
- Magazines/print media, posters
- Traditional Healer
- Other (specify).....

14. Do you think you are sufficiently informed about HIV/AIDS?

Mark appropriate options.

- Yes
- No
- Don't know

D. Known ways of protection against HIV infection

15. List the behaviours that can ensure a person remains HIV negative.

16. Do you feel you are at risk of contracting HIV?

16.1 Yes

16.2 No

17. Why do you think you are at risk of contracting HIV?

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18. Please indicate whether each of the following statements is TRUE, FALSE or UNCERTAIN

- a. Healthy people do not get HIV infection.
- b. HIV can be prevented by the contraceptive pill.
- c. The AIDS-virus can be transmitted through saliva.
- d. HIV can be prevented by using a condom during intercourse.
- e. The AIDS virus can be transmitted through sweat.
- f. AIDS can be cured.
- g. The AIDS virus can be transmitted through blood.
- h. A man cannot contract HIV from a woman.

19. To your knowledge, what is/are the best way(s) to protect yourself from contracting AIDS?

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20. What do you think is the main reason why many teenagers are sexually active? Tick as appropriate.

- Boredom
- Pressure from peers
- experimenting
- Pressure from girlfriend/boyfriend
- Example set by parents/guardians
- Poverty
- Drug abuse
- Alcohol abuse
- Cultural practices

21. What are the dangers to girls who have sex with older men?

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SETLHOGO: KITSO YA HIV/AIDS MO BAITHUTING BA DIKGOLWANE MO SEFHARE, BOTSWANA.

NOMORE YA POTSOLOTSO

KGWEDI YA POTSOLOTSO

Potsolotso e lebane basimane le basetsana mo sekoleng sa mophato wa magare mo Sefhare.

Matseno:

Maikaelelo a potsolotso ke go netefatsa gore a baithuti ba mophato wa magare mo Sefhare ba na le kitso ka HIV/AIDS.

Ke kopa thuso ya lona ya go araba dipotso tse di mo pampiring e. Ke kopa gore le bue nnete fa le araba, ka se se ka thusa puso go tswa ka mananeo a go lwantsha segajaja bogolo thata mo mfameng wa banana ba dikole tse dikgolwane. Dikarabo tsa lona di tla thusa gape mo tthamong ya ditshetla dingwe tse di tla amang setshaba ka kakaretso le puso, go thusa kana go nonotsha mananeo a a ntseng a le teng. Godimo ga moo, boammaaruri jwa gago bo tla thusa thata mo patlisisong e, go bo go nthuse go oketsa dithuto tsa me (Masters' degree).

Pabalesego ya mmotsolotswa: Dikarabo tsa gago di tla tshwarwa ka gore di botlhokwa thata mo tshekatshekong e. O se ka wa kwala leina la gago mo pampering e. Le fa go ntse jalo, boammaaruri jwa gago bo tla thusa go supa gore o tlhaloganya go le kae ka HIV/AIDS. Thuso ya gago mo patlisisong e tla atliwa ka maatlametlo a magolo.

DIPOTSO

A. Demographic and biographic data

1. O ngwaga di kae?

2. O tsena mo mophatong ofe?

3. Bong. Tshwaa fa go tshwanetseng. Monna Mosadi

4. Tumelo. Tshwaa fa go tshwanetseng.

- 4.1 Roma
- 4.2 Sabata
- 4.3 Pholoso
- 4.4 Anglican

- 4.5 Wesele
- 4.6 Setso
- 4.7 Islam
- 4.8 Tse dingwe tse di sa kwalwang fa (di bolele)

5. O goletse kae? Tshwaa fa go tshwanetseng

- 5.1 lefelo seteropo
- 5.2 kgaolo/legae

B. Kitso kaga HIV/AIDS

6. A o itse gore HIV le AIDS dirayang?

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7. HIV e tshelwana jang?

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8. A o kile wa itlhatlhobe mogare wa HIV? Tshwaa fa go tshwanetseng

- 8.1 Ee
- 8.2 Nnyaa

9. Fa ele karabo ya gago ya potso 8 ka nnyaa, a o ka eletsa go tlhatlhobelwa HIV?

Tshwaa fa go tshwanetseng

- 9.1. Ee
- 9.2 Nnyaa

10. A HIV e ka anamisiwa ka nngwe ya ditsela tse di latelang? Tshwaa fa go tshwanetseng

- Tlhakanelo dikobo le motho yo o nang le mogare
- Go longwa ke montsana
- Go jela ka ka sejana sele sengwe le motho yo o nang le mogare
- Mmangwana go ya kwa leseeng
- Go dirisa ntlwana ya boiteketo le motho yoo nang le mogare
- Go tshwela madi
- Go gotihola
- go ikwala ka dimao

11. Go ya ka wena, ke dintlha dife tsa botlhokwa tse motho a tshwanetseng go di itse ka HIV/AIDS?

C. Motlhale wa dikitsiso

12. O tsere kae thuto ya HIV/AIDS? Tshwaa fa go tshwanetseng

- Seromamowa
- Dipampiri tsa dikgang
- Balekane ba gago
- motlobo wa dibuka
- Batsadi
- Barutabana
- Ditsala

Ba bangwe, tlhalosa

13. Ke ofe mothale/tsela di talelang e e siameng ya go ruta banana ka tsa tlhakanelo dikobo? (Tshwaa ele nngwe)

- Ngaka
- Mooki
- Motlhatleledi wa tsa boiphemelo
- Batsadi
- Ditsala
- Morutabana
- Seromamowa/sesupa ditshwantso tsa motshekinyego
- Dipampiri tsa dikgang
- Ngaka ya setso

Ba bangwe (di bolele).....

14. A o akanya fa o na le kitso e e lekaneng ka HIV/AIDS? Tshwaa fa go tshwanetseng

- Ee
- Nnyaa
- Ga ke itse

D. Ditsela tsa go thibela mogare.

15. Bolela ditsela tse tharo tse di dirang gore motho a se ka a tsenwa ke mogare.

16. A o akanya gore o mo diphatseng tsa go tsenwa ke mogare?

16.1 Ee

16.2 Nnyaa

17. Ke eng o akanya gore o mo diphatseng tsa go tsenwa ke mogare wa HIV?

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18. Supa gore dielana tse di latelang di bolelela Nnete, Nnyaa, Kana ga o tihomamise sentle.

- a. Batho ba ba itekanetseng ga ba kake ba tsenwa ke mogare.
- b. HIV e ka thibelwa ka dipilisi tsa boiphemelo.
- c. Mogare wa HIV o ka tshelwana ka mathe.
- d. HIV e ka thibelwa ka go dirisa sekausu ka nako ya tlhakanelo dikobo.
- e. Mogare wa HIV o ka fetisiwa ke sethitho.
- f. AIDS e ka alafesega.
- g. Mogare wa HIV o ka fetisiwa ka go tshelwa madi.
- h. Monna ga a kake a tsaya mogare mo mosading.

19. Go ya ka kitso ya gago, ke tsela/ditsela efe/dife tse o ka di dirisang go thibela go tsenwa ke mogare?

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20. Ke lebaka lefe le le dirang gore banana ka bontsi ba bo ba le tlhaga mo go tsa tlhakanelo dikobo? Tshwaya karabo e e siameng.

- Bodutu
- Thotloetso ya ditsala
- Go lekeletsa
- Thotloetso ya mokapelo
- Sekao sa batsadi
- Lehuma
- Tiriso ya dritibatsi mo go feleletseng
- Tiriso ya bojalwa mo go feleletseng
- Ngwao

21. Bodiphatsa jo bo lebaganeng basetsanyana ba ba tlhakanelang dikobo le banna ba batona ke eng?

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