STUDENTS' KNOWLEDGE, ATTITUDES AND BEHAVIOURS REGARDING HIV AND AIDS AT A UNIVERSITY IN ZIMBABWE

By

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Dedication

This study is dedicated to
the Glory of the Almighty,
and my late parents:
Isaac Pedzai Ngundu and
Marian Ngundu (nee Nyandoro)

Student number: 47271132

DECLARATION

I declare that **STUDENTS'KNOWLEDGE, ATTITUDES AND BEHAVIOURS REGARDING HIV AND AIDS AT A UNIVERSITY IN ZIMBABWE** 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 this work has not been submitted before for any other degree at any other institution.

_____ _____

Ngundu Grace Date

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ABSTRACT

The purpose of this study was to explore the knowledge, attitudes and behaviours regarding HIV and AIDS of university in Zimbabwe using the Health Belief Model (HBM) as the theoretical framework. The ultimate aim was to find out how at risk university students were of contracting HIV and AIDS.

A quantitative, non-experimental descriptive, explorative and correlational research design was used, using self-designed questionnaires for data collection. Respondents were sampled through systemic stratified random sampling resulting in 403 undergraduate university students. Descriptive and inferential statistics were calculated using SPSS version 21 software program.

Most students were knowledgeable about HIV transmission; the prevention of HIV and AIDS and sexual risk behaviours pertaining to HIV transmission. Students also did show positive attitudes towards PLHIV. Most students did not perceive themselves to be at high of contracting HIV and AIDS. Up to 52% who were sexually active had more than one sexual partner.

The respondents knew that HIV and AIDS were not treatable but continued to indulge in risky sexual behaviours. Most respondents received information about HIV and AIDS from the media and peers.

The findings would assist policy makers, programme planners and educators in developing in developing and implementing programmes to improve the health of university students.

Key Words: University students, attitudes, sexual behaviours, HIV, HIV Knowledge, Health Belief Model (HBM), sources of information.

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AIDS	Acquired Immune Deficiency Syndrome
ART	Anti Retroviral Therapy
CDC	Centre for Disease Control
DNA	Deoxyribonucleic Acid
GDP	Gross Domestic Product
GNI	Gross National Income
HAART	Highly Active Antiretroviral Therapy
HBM	Health Belief Model
HEAIDS	Higher Education HIV and AIDS Programme
HIV	Human Immunodeficiency Virus
IOM	International Organisation for Migration
MDG	Millennium Development Goal
MOHCW	Ministry of Health and Child Welfare
MTP	Medium Term Plan
NAC	National AIDS Council
NACP	National AIDS Coordination Program
NUST	National University of Science and Technology
OVC	Orphans and Vulnerable Children
PCP	Pneumocystic Carinii Pneumonia
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to child Transmission of HIV and AIDS
RNA	Ribonucleic Acid
SADC	Southern African Development Community
SPSS	Statistical Package for Social Sciences
SSA	sub-Saharan Africa
STI	Sexually Transmissible Infection
TB	Tuberculosis
UNAIDS	Joint United Nations Program on HIV and AIDS

UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation
ZAHEC	Zimbabwe AIDS Health Experts Committee

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CHAPTER 1

INTRODUCTION AND OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Ever since its onset, the Human Immunodeficiency Virus (HIV) pandemic has been a global threat to human kind. HIV and AIDS have spread at an alarming rate since the first cases were reported in the early 1980s. It causes significant morbidity and mortality in human societies throughout the world (WHO 2012), reduces life expectancy of infected persons and increases the number of orphaned children. HIV and AIDS have created turbulence in the health care systems, has contributed to economic insecurity potentially leading to political instability (Rahnama, Rampal, Sann Lye and Rahman 2011:128). The Human Immune Deficiency Virus (HIV) and the resultant Acquired Immune Deficiency Syndrome (AIDS) is a life-threatening disease for which there is as yet no cure; hence an urgent need for preventive measures to curb this pandemic. Various strategies have been put in place to curb the prevalence of HIV and AIDS the world over. Education stands as an important tool in reaching out to the vulnerable groups especially the sexually active and those inexperienced in the realm of sexual activity - university students.

The Joint United Nations Programme on HIV and AIDS (UNAIDS 2012a:93) states that today's youth is the largest in history with nearly half of the global population being younger than 25 years of age. Today's youth have also inherited a lethal legacy that is killing them and their friends, their brothers and sisters, parents, teachers and role models according to the Joint United Nations Programme on HIV/AIDS/United Nations Children Emergency Fund/World Health Organization (UNICEF/UNAIDS/ WHO 2011:6). Young people are both the most threatened globally (accounting for half of the new cases of HIV) and the greatest hope for turning the tide against HIV and AIDS (UNAIDS 2012a: 93). Therefore, their behaviours, be it sexual or otherwise, will determine the future of the HIV and AIDS epidemic. These behaviours will depend largely on their accurate knowledge, attitudes and behaviours regarding HIV and AIDS.

More than two decades into the HIV and AIDS epidemic, the vast majority of young people remain uninformed about sex and sexually transmitted infections (WHO 2013). Although the majority have heard about AIDS, many do not know how HIV is spread and do not believe they are at risk (UNICEF/UNAIDS/WHO (2011:13). Many approaches of HIV prevention, treatment and care require that people have true knowledge and understanding of the epidemic and know their HIV status. The current study is aimed at exploring the knowledge, attitudes and behaviours regarding HIV and AIDS among university students in Zimbabwe.

1.2 BACKGROUND

1.2.1 Geography and Economy

Zimbabwe lies just north of the Tropic of Capricorn between the Limpopo and Zambezi rivers. The country is landlocked, bordered by Mozambique to the east, South Africa on the south, Botswana on the west and Zambia on the north and northwest. It is part of a great plateau which constitutes the major feature of geology of Southern Africa. About 70% of the surface rock in Zimbabwe is granite, schist or igneous and it is rich in mineral wealth. The climate in Zimbabwe is a blend of cool, dry, sunny winters and warm wet summers. Mining and agriculture are the backbone of the country's economy, even though the country is endowed with some of the world's most impressive natural tourist attractions such as the Great Zimbabwe Ruins and the Victoria falls. The economy is diversified but biased towards agriculture and mining.

Zimbabwe is divided into ten provinces and according to the National AIDS Council (2013), Bulawayo, the province where this study was done has the highest prevalence rate of HIV (21%) and it is even higher than the national prevalence (14.7%). Bulawayo is the second largest city in Zimbabwe after the capital Harare, with any estimated metropolitan population of 655 575 (Census 2012). Bulawayo has two central (tertiary) hospitals both of which are used as university teaching hospitals, one national mental health referral institute, twenty primary care clinics and one private hospital. It also is the hometown of the second largest state

university; the National University of Science and Technology (NUST) were this study took place.

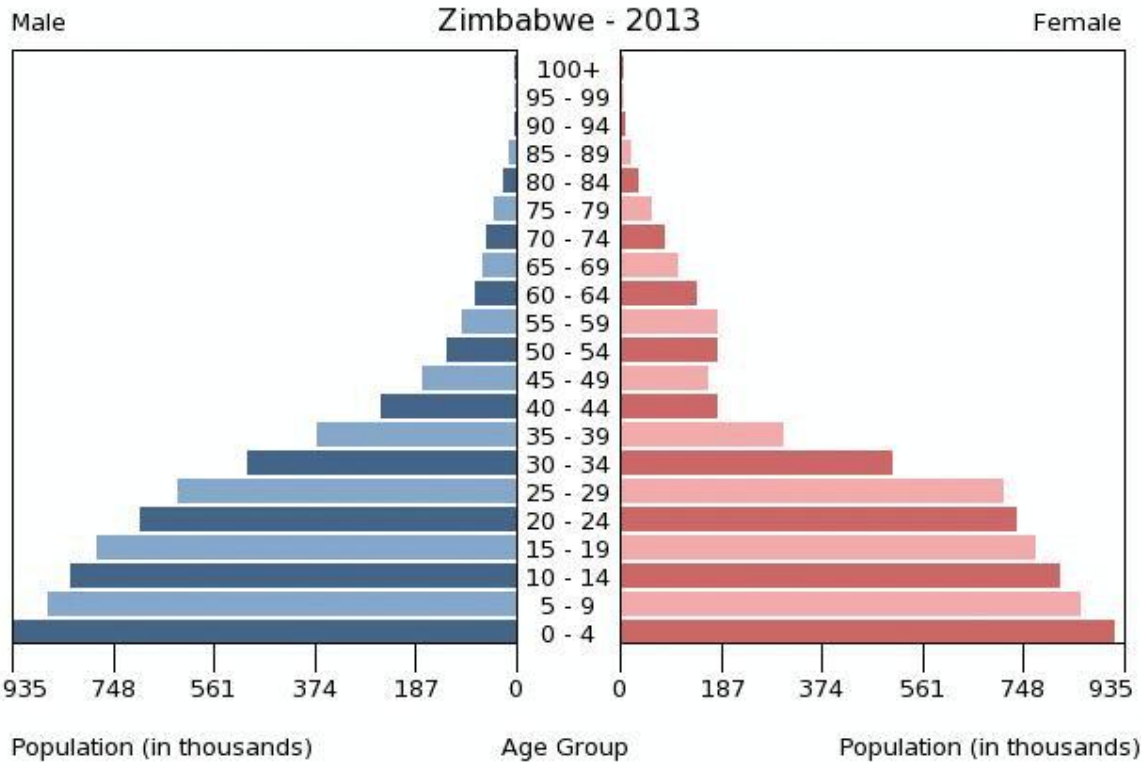
Source: www. nationsonline. org/oneworld/map/zimbabwe_map. htm

Figure1.1: Map of Zimbabwe

1.2.2 Demographic and Health Profile of Zimbabwe

Zimbabwe has a young population with 39.4% under the age of 15 years and 22.5% of the population between the ages of 15 to 25 years (the group in which the study population falls). Life expectancy in Zimbabwe is 53.4 and 55.2 years for males and females respectively. The main cause of death in Zimbabwe is HIV and AIDS related

causes (54.4%) and was the highest in the world (WHO 2011). Zimbabwe's HIV prevalence rate currently stands at 14.7%, which is the fifth highest in the world.



Source: CIA World Fact book (August 6, 2014)

Figure 1.2: Population Pyramid of Zimbabwe

1.2.3 Young People and HIV and AIDS

Young people make up a segment of the population that is particularly vulnerable to contracting the Human Immunodeficiency Virus. Altogether, 50% of HIV transmission takes place among those aged between 15 to 24 years, and 5 000 to 6 000 young people become infected everyday globally (WHO 2011). Young adults face difficult and often confusing emotional and social pressures as they grow from children to adults (WHO 2013).

The second decade of life is a period of sexual experimentation and risk taking behaviours and many other factors which increase the vulnerability of young people towards getting HIV and AIDS during these years of rapid physical and psychosocial

development (Ross, Bruce and Ferguson 2009:11). These factors include a lack of knowledge about HIV and AIDS, lack of education and life skills, poor access to health services and commodities, early sexual debut, early marriages and sexual coercion (Ross, Bruce and Ferguson 2009 :11). University students represent a high-risk potential population in Africa (Terry, Masvaure and Gavin 2008). University students constitute an important community in the interventions against HIV and AIDS. According to Mulwo, Tomaselli and Dalyrmple (2010) the majority of university students are within the ages reported in recent studies as being at highest risk of infection. Residential universities are considered serious sources of HIV infection owing to the nature of sexual networking that takes place among students (Mulwo et al 2010:73; Kelly 2000). Campuses constitute a potentially fertile breeding ground for HIV and AIDS. They bring together physical proximity devoid of systemic supervision of a large number of young adults at their peak years of sexual activity and experimentation (Mulwo et al 2010). Risky behaviours such as multiple concurrent sexual partnership and intergenerational sex for both female and male students with partners who are usually 10 years their seniors are a common occurrence at universities (Mulwo et al 2010). Multiple concurrent partnerships result in the formation of sexual networks, which then become avenues through which HIV is easily spread especially in the context of inconsistent condom usage (Mulwo et al 2010:38).

According to the WHO (2013), many young people do not know their HIV status. It is estimated that only 10% of young men and 15% of young women (15-24 years) in sub-Saharan Africa know their HIV status. According to research findings by Terry et al (2005) “there was a pervasive sense of despondency and powerlessness among students many of whom felt that unless basic issues of food and university stipends were addressed, students will continue and even increase their risk-taking behaviours”. Previous studies showed that the risk factors for the spread of HIV and AIDS among university students are peer pressure, alcohol and drug abuse, unprotected sex and frequent change of sexual partners (Seloiwe 2005). University stipends, which used to be given to students inform of study loans, were scraped off in Zimbabwe during the depreciation of the country’s currency and since then they have not been reintroduced. However, as a way of cushioning the disadvantaged

students, the Zimbabwean Government has introduced what is called the cadetship program. This program only caters for tuition fees, so the students have to look for alternative sources of funding for accommodation and food. Despite all the overwhelming factors about the vulnerability of university students to HIV, university students in Zimbabwe have been invisible in HIV dialogue and programming. Other tertiary institutions in Zimbabwe, such as teacher colleges and Polytechnics have national guidelines on the prevention of HIV at the respective institutions. This may be attributed to the mistaken belief that university students are well informed about the pandemic and have the knowhow on how to protect themselves from getting infected (Terry, Masvaure and Gavin :2011).

From an individual assessment, this group is not considered to be “at high risk” of infection when compared to other young people such as out of school youth and rural youth. Universities produce products with high-level skills for the labour market and they play a role in developing leaders who will shape Zimbabwe’s future economy, communities, government and the global stage. It is considered prudent therefore, that instead of training these young people for the grave; let them be trained for the market. This can only be achieved if the necessary life skills are imparted to the students especially how they can protect themselves from contracting HIV. The large numbers of young people entering their sexual and reproductive lives are a potential reservoir that should form a priority group for AIDS research and prevention activities because their behaviours determine the future course of the HIV and AIDS epidemic (Kelly 2001). Therefore, this current study explored the knowledge, attitudes and behaviours of students at a university in Zimbabwe hoping that the findings will help policy makers and other stakeholders on how to deal with the scourge in these particular age groups.

1.3 STATEMENT OF THE PROBLEM

The term “research problem” refers to an area of concern in which there is a gap or situation in need of solution, improvement or alteration or in which there is a discrepancy between the ways are and the way they are supposed to be. Burns and Grove (2011:146) define a research problem as an area of concern where there is a

gap in knowledge. A research problem can also be defined as an enigmatic or troubling situation that can be investigated through disciplined inquiry. The problem statement therefore articulates the concerns to be addressed.

Youths are at the centre of the global HIV pandemic. They are the greatest hope in the struggle against this fatal disease. Although several researches have reported a high level of knowledge of HIV and AIDS amongst university students, information from Zimbabwe remains sketchy. Knowledge, attitudes and behaviours of HIV and AIDS among university students in Zimbabwe is poorly documented. There is information in the SADC region as a whole about university students' knowledge levels, however, the observed behaviour of university students does not depict a population with the necessary knowledge of the disease. Universities therefore have the potential to become the focus of spread due to their large populations of young adults with high levels of social contacts. Knowledge, attitudes and behaviours studies are useful tools prior to any intervention to assess the extent to which individuals or communities are in a position to adopt risk free behaviours. Therefore, this study aims at investigating the knowledge, attitudes and behaviours regarding HIV and AIDS of students at a university in Zimbabwe.

1.4 RESEARCH PURPOSE

According to the online dictionary, a purpose is motivation or reason to do something. Sim & Wright (2006:14) and Burns & Groove (2011:146) define the research purpose is a concise, clear statement of the specific goal or aim of the study that is generalized from the research problem. Polit and Beck (2010:42) define a research purpose as a broad declarative statement of a researcher's overall goal for the study. It indicates what a research intends to do, where and with whom in order to answer the research question. The research purpose captures the essence or motive of the study in a single sentence including the research variables, the population and often also the research setting. The purpose of the current study was to identify and describe specific factors influencing the knowledge, attitudes and behaviours of university students regarding HIV and AIDS.

1.5 RESEARCH QUESTIONS

A research question is a clear, concise interrogative statement that is worded in the present tense, includes one or more variables and is expressed to guide the implementation of quantitative studies (Burns and Grove 2011:163). According to Polit and Beck (2012:100), a research question is a statement of the specific queries a researcher wants to answer in addressing the research problem and the research question also guides on what type of data to be collected during a study. The study sought to answer the following questions:

- What knowledge do university students have about HIV and AIDS?
- Where do university students get information about HIV and AIDS?
- What are university students' attitudes towards HIV and AIDS?
- What are the sexual risk behaviours of university students?

1.6 RESEARCH OBJECTIVES

An objective is a specific result that a person or system intends to achieve (online dictionary). Burns and Grove (2011:145-146), define research objectives as clear concise declarative statements that are expressed in the present tense. The objective usually focuses on one or more variables and indicates whether the variables are to be identified or described. Objectives can also focus on identifying relationships or associations among variables. Objectives are developed from the research problem and purpose and they clarify the variables and population to be studied in quantitative research (Burns and Grove 2011:146). The following were the objectives guided the current study:

- Explore the knowledge regarding HIV and AIDS of university students in Zimbabwe.
- Explore their sources of information regarding HIV and AIDS.
- Describe the students' way of thinking and their behaviours towards HIV and AIDS.
- Determine the statistical relationship if any between knowledge, attitudes and behaviours regarding HIV and AIDS among university students in Zimbabwe.

1.7 SIGNIFICANCE OF THE STUDY

From the available literature, universities have not come up as a focused group that has been studied systematically despite the overwhelming evidence of risky sexual behaviours among the students at these institutions. It is therefore hoped that knowledge gained from the current study will be used to make recommendations regarding HIV and AIDS that could enable Zimbabwe's institutions to implement policies, strategies and programmes though university curriculums that could help reduce the prevalence of risky sexual behaviours among university students in Zimbabwe (see chapter 5).

1.8 DEFINITIONS OF TERMS

Defining concepts allows consistency in the way the term is used. A concept is a term that abstractly describes and names an object, idea or phenomenon thus providing it with a separate identity or meaning (Burns and Grove 2011:230). A conceptual definition is more comprehensive than a denotative (or dictionary) definition and includes associated meanings the word may have.

- ***Knowledge***

The Penguin Reference Dictionary (2004:821) refers to knowledge as the information, understanding and skills that one gains through education or experience. Knowledge refers to facts, feelings or experiences known by a person or group of people. Knowledge is awareness or, familiarity gained by experience or learning. It is the specific knowledge about a subject. In this study, knowledge refers to the extent to which university students know about HIV and AIDS and how this knowledge influences their behaviours and attitudes.

- ***Attitude***

An attitude is a feeling, an emotion or mental position with regard to a situation, topic or person (Penguin Reference Dictionary 2004:84). According to Gbevwi (2004:37) attitude is described as a hypothetical construct that represents an individual's likes or dislikes of an item. Attitudes are generally positive or negative views of a person,

place, thing or events. People can also be in conflict or ambivalent towards an object, meaning that they simultaneously possess both positive and negative attitudes towards the item in question (Ayopo 2009). Attitude is someone's opinion about something especially as shown by his or her behaviour.

- ***Behaviour***

Behaviours are the ways in which people conducts themselves (Allen 2004:119). Behaviour is the performance, actions, activities and the conduct of an individual person that are observable by others.

1.9 THEORETICAL FRAMEWORK

A theory is an idea or set of ideas that is intended to explain facts or events (Sim & Wright 2006:55). The same authors further explain a theory as a set of interrelated constructs, definitions and propositions that present a systematic view of phenomena by specifying relations among variables with the purpose of explaining and predicting phenomena.

According to Sim and Wright (2006 56) a model provides a schematic representation of some relationships among phenomena and uses symbols as diagrams to represent the idea. If the research is undertaken in a context of a theoretical framework, it helps to organise the study, examine the problem, gather and analyse data. Burns and Grove (2011:240) define a conceptual model as a set of highly abstract, related constructs that broadly explains phenomena of interest, expresses assumptions and reflects a philosophical stance. The Health Belief Model (HBM) provided the framework for this study. The HBM suggests that health –related behaviours depends on four individual attitudes or disease perceptions (Rosenstock, Strecher & Becker 1988). It is also useful in organising information about client's views on the state of health and what factors may influence them to change their behaviours. According to Rosenstock, Strecher &Becker when used appropriately, the HBM provides organised assessment data about clients' abilities and motivation

to change their health status. Health education programmes can be developed to fit the needs of clients. The motivation for people to take action to promote or prevent disease is based on:

- How strongly they believe that they are susceptible to the disease in question.
- Whether the disease will have serious effects on their lives should they contract it.
- The suggested health intervention is of value.
- Whether the effectiveness of the treatment is worth the cost.
- Which barriers people must overcome to institute and maintain specific behaviours.

The model is divided into three major components namely:

- The individual's perceptions about health.
- The modifying factors which include demographic, socio-psychological and structural variables.
- The benefits of taking preventive measures.

The components of the HBM and their possible influences on the university students' decision to prevent HIV are discussed in more detail in chapter 2.

1.10 RESEARCH DESIGN AND METHODOLOGY

This section gives a summative overview of the research design and the methodology used during the current study with a detailed account contained in chapter 3.

1.10 1 Research Design

During this research, a research design was developed (see section 3.2) that was followed in order to attain the objectives for the research. A quantitative study design (see section 3.2.1) was adopted in which data on variables of interest were collected using a self-designed questionnaire. Data were added and then analysed statistically. The study was descriptive in nature (see section 3.2.2); variables of interest in the population were explored and described using descriptive statistics so as to provide useful information about the population. A cross sectional design (see

section 3.2.2.1) was adopted and data collected once from the sampled group at the same moment in time.

1.10.2 Research Methods

Data was collected, processed and analysed; this constituted the research methodology (see section 3.3 of this dissertation).

1.10.2.1 Sampling

The study was conducted at the National University of Science and Technology the second largest public university in Zimbabwe. The university has 4130 enrolled students. The population of this study were all students registered for the 2013-2014 academic year. Probability sampling was conducted in which all eligible students from the accessible population an equal chance of being had selected to participate in the study. A sample size of 403 was selected for this research (see section 3.3.4).

1.10.2.2 Data Collection

As indicated earlier, data were collected using a questionnaire that was specifically designed for this study. .The main sections of the questionnaire that was developed include demographic information, parent/guardian communication, perceived susceptibility, knowledge of HIV and AIDS and attitudes towards HIV and AIDS. The questionnaire is discussed in detail in section 3.5.1.

1.10.2.3 Data Analysis

The collected raw data were processed using descriptive statistics to generate useful and comprehensive information about the population of interest. The descriptive statistics included frequency distribution and chi square calculations. The data generated was managed and analysed using the Statistical Package for the Social Sciences (SPSS) version 21 and the results are presented in chapter 4.

1.11 ETHICAL CONSIDERATIONS

During data collection, a number of factors relating to ethics were considered. Details regarding ethical considerations of this study are discussed in section 3.7. The

ethical endeavours of the researcher were guided by the following definitions and principles.

1.11.1 Ethics

Ethics is defined as a system of moral principles or rules of behaviour (Wehmeier 2000:395) while Regan (2011) defines it as anything that is about what is right, fair and obligatory. The researcher throughout this study acted in this manner doing what is right and fair taking into cognizance her obligations towards the respondents and the scientific community at large.

1.11.2 Research Ethics

During the current study, ethical principles were considered and followed. The guiding ethical principles were autonomy, beneficence, justice and non-maleficence. These were considered in relation to the respondents, the researcher and the institution were the research was conducted. This is discussed in detail in section 3.7.

1.12 OUTLINE OF THE DISSERTATION

The dissertation comprises five chapters:

Chapter 1: Introduction and overview of the study

Chapter 2: Literature review (structured according to the HBM)

Chapter 3: Research design (based on quantitative research)

Chapter 4: Presentation and discussion of data (structured according to the questionnaire and the HBM

Chapter 5: Conclusion, limitations and recommendations

1.13 SUMMARY

The current chapter outlined the background to the study, the study objectives and significance of the study. The researcher defined key terms, discussed the theoretical framework and briefly discussed the research design, methodology, the

data collection instrument and ethical considerations. The next chapter discusses the literature review undertaken for the current study structure according to the HBM.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter focuses and explores findings from previous done studies with regard to the current study' variables namely HIV & AIDS, knowledge, attitudes and behaviours. The literature review will be guided by the chosen theoretical model : the Health Belief Model (HBM). Mouton (2001:87) and Burns and Grove (2011:192) state that quantitative researchers cannot conduct their studies in an intellectual vacuum, but the study is undertaken within the context of an existing literature base. Sim and Wright (2006:14) concurs that a literature review is based on the assumption that knowledge accumulates and that one learns from, and builds on, what others have done.

2.2 PURPOSE OF THE LITERATURE REVIEW

The purpose of the literature review in this study was to identify the knowledge, attitudes and behaviours relating to HIV and AIDS of university students in Zimbabwe. Fouche and Delport (2005:127) and Polit and Beck (2008:96) cite the purpose of a literature review as:

- Providing a source of research ideas and helping the researcher to focus on the research topic
- Placing the research project in context and allowing the researcher to shape the research questions and / or hypothesis
- Determining gaps and inconsistencies and whether there is a need to replicate studies in a different setting or with a different population
- Identifying relevant conceptual frameworks for the research problem
- Identifying suitable study designs and data collection methods for the study
- Assisting in interpreting the study findings and in developing recommendations for improved services and for future research

A review of relevant literature provides a road map for the development and implementation of the research study (Burns and Grove 2011:192). The literature review in this study attempted to answer the following research questions guided by the components of the HBM:

- What knowledge do university students have about HIV and AIDS?
- Where do university students get information about HIV and AIDS?
- What are the attitudes of the university students towards HIV and AIDS?
- What are the sexual risky behaviours of university students?

2.3HUMANIMMUNODEFICIENCY VIRUS AND ACQUIRED IMMONODEFICIENCY SYNDROME

2.3.1 Definitions

The concepts that formed the backbone of the study will be defined. These concepts are HIV and the syndrome it courses - AIDS.

2.3.1.1 Human Immunodeficiency Virus (HIV)

HIV belongs to the lentivirus group of the retrovirus family (Timbury, McCartney, Thakker and Ward 2005:427). Retroviruses are characterized by the possession of the enzyme reverse transcriptase, which allows the viral RNA to be transcribed into DNA and hence incorporated into the host cell genome (Timbury et al 2005:427). HIV is transmitted through infected body fluids such as semen, vaginal secretions (which is the main route of transmission in the group under study), blood and breast milk. “The human immune system is a complex group of defines cells that help repel disease-causing microorganisms. These immune mechanisms also help eliminate abnormal cells through the T and B-lymphocytes. HIV infects a variety of cells of the immune system, the most important being CD4T-helper lymphocytes. These cells are important in coordinating the immune system. Once infected by the Human

Immunodeficiency Virus, the body fights a constant battle to try to overcome an HIV infection. This the immune system does by attempting to control the infection by targeting and killing HIV-infected CD4 cells. This temporarily reduces the amount of viruses produced. The HIV binds to receptors then fuses to the cell membrane and releases their contents into the cells. Inside the cells, the RNA of HIV is converted to DNA by reverse transcriptase. This DNA becomes integrated into the cell's genome by the enzyme integrase, where it becomes a permanent part of the cell's genome. The killing of HIV-infected CD4 cells and the interference of HIV with CD4 cell function impairs the functioning of the immune system. The weakened immune system manifests as a susceptibility to unusual (opportunistic) infections and rare cancerous growths (malignancies). The progress of HIV is measured through the CD4 cell count" (Timbury 2005:427-428).

2.3.1.2 Acquired Immune Deficiency Syndrome (AIDS)

According to the Penguin Reference Dictionary (2004:1426) a syndrome is a group of signs and symptoms that occur together and characterize a particular medical disorder or a set of concurrent emotions and actions that usually form an identifiable pattern. HIV causes failure of the immune system with subsequent opportunistic infections and tumours. As a result, the person is said to have AIDS, a syndrome.

"The CD4 cell count is used as a benchmark of the damage caused to the immune system as well as immune system restoration in patients on antiretroviral therapy. The CD4 cell count has been shown to be an independent risk factor for progression to AIDS and death). The normal CD4 cell count in an adult ranges from 600 to 1700 cells per cubic millilitre of blood" (Timbury 2005:428). According to the WHO (2009), patients with a CD4 cell count of below 350 per cubic millilitre of blood are classified is having AIDS and need to be commenced on antiretroviral therapy (ART).

The condition is caused by the inevitable destruction of the body's defence system by the Human Immunodeficiency Virus eventually culminating in death. The devastation brought by the disease is exacerbated by its non-discriminatory and incurable nature . Its principal mode of transmission in sub-Saharan Africa, heterosexual transmission, threatens the basis by which society regenerates themselves (Mulwo et al 2010).

2.3.2 Historical background

AIDS was first clinically observed late 1980 and early 1981 (CDC). A group of five men showed symptoms of Pneumocystic Carinii Pneumonia (PCP), a rare opportunistic infection that was known to present itself in people with much compromised immune systems (CDC). Soon thereafter, another set of men developed a rare skin cancer called Kaposi sarcoma. A CDC task force was formed to monitor the outbreak. After recognizing a pattern of anomalous symptoms presenting themselves in patients, the task force named the condition acquired immune deficiency syndrome (AIDS).

The UNAIDS and the WHO since the discovery of HIV and AIDS have reported huge increases in the prevalence rates of the virus and syndrome, particularly among young adults.

2.3.3 Global perspectives of HIV & AIDS

AIDS is the leading cause of death in the world and is a threat to life in this century. The virus has been spreading like a veld fire. Unlike other conditions, the concern is not only about the infected persons, but also about the chain of people who will be infected and affected by the individual (Karim and Karim 2005:31). The AIDS syndrome started with only five cases reported in 1981 but by June 1982 365 people were reported infected with the HI virus (Alcamo 2003:26). By 1988, as many as 138 countries had reported the disease and by November 1991, an estimated 6 to 8 million people had already been infected (Alcamo 2003:26). In 1997 alone, 2.3 million people died of AIDS (UNAIDS 1997a:1). According to the 1997 report on the global HIV/AIDS epidemic of the UNAIDS, among the 5.8 million people infected with the virus in 1997, were 600,000 children under 15 years of age (UNAIDS 1997a:1). The global summary of the HIV/AIDS epidemic by 1998 estimated that deaths from the disease stood at 13.9 million since the beginning of the pandemic, and of this figure 2.5 million people had died during that year alone. The overall number of people living with the virus was estimated at 33.4 million; with 5.8 million people

infected that year alone (UNAIDS 1998:2). The report also highlighted that about half of the new infections occurred in people aged 15-24 (UNAIDS 1998:9).

By the end of the year 2000, there were a total of 5.3 million people newly infected in that year with HIV of whom 4.7 million were adults and 500 000 comprised children younger than 15 years of age. There were 36.1 million people living with HIV and AIDS of whom 34.7 million were adults and 1.4 million were children under 15 years of age. Three million people had died due to AIDS and 21.8 million deaths had occurred since the beginning of the epidemic (UNAIDS 2012:3). At the end of 2001, an estimated 40 million people globally were living with HIV and AIDS. In many parts of the developing world, the majority of new infections occur in young adults, with young women being especially vulnerable. About one-third of those living with HIV and AIDS in 2001 were aged 15-24 years (UNAIDS 2012a:2).

UNAIDS (2005a:3) reports that as of December 2003 an estimated 37.5 million people were living with HIV and AIDS in the world. The 2004 AIDS report reveals that 39.4 million people were living with the virus, with 4.9 million having acquired the virus in that year (UNAIDS 2004b:5). The total number of people living with HIV touched on 40.3 million (36.7-45.3 million) in 2005. Globally there were 4.9 million people newly infected with HIV. Of these, 4.2 million people were adults, of which 1.8 million were women. The child infected figure under the age of 15 years stood at almost 800 000 (UNAIDS 2005a:1, 2).

At the end of 2011, 34 million people were living with HIV (UNAIDS 2012). An estimated 0.8% of adults aged 15-49 years worldwide are living with HIV though the burden of the epidemic continues to vary considerably between countries and regions (UNAIDS 2012). Sub-Saharan Africa remains the most affected with nearly one in every 20 adults living with HIV and accounting for 69% of the people living with HIV worldwide (UNAIDS 2012). To further illustrate the spread of HIV, table 3.1 gives the global HIV prevalence and incidence by region in 2001 and 2011.

Table 2.1: Regional HIV and AIDS statistics 2001 & 2011

Region	Year	Adults & children Living with HIV & AIDS	Adults & Children newly infected	Adult prevalence date %	Adults & children deaths due to HIV & AIDS	Young adults (15-24) prevalence rate %
Sub Saharan Africa	2011 2001	22.9 million 20.5 million	1.9 million 2.2 million	5% 5.9%	1.2 million 1.4 million	(m) 1.4 (F) 3.3) (m) 2.0 (f) 5.2
Middle East & North Africa	2011 2001	470 000 320 000	59 000 43 000	0.2% 0.2%	35 000 22 000	(m) 0.2 (f) 0.2 (m) 0.1 (f) 0.2
South and East Asia	2011 2001	4 million 3.8 million	270 000 380 000	0.3% 0.3%	250 000 230 000	(m)0.1 (f) 0.1 (m) 0.2 (f) 0.2
East Asia	2011 2001	790 000 380 000	88 000 74 000	0.1% ≤ 0.1%	56 000 24 000	(m) ≤ 0.1 (f) ≤0.1 (m) ≤0.1 (f)≤0.1
Oceania	2011 2001	54 000 4 000	3 300 4 000	0.3% 0.3%	1 600 1 800	(m) 0.1 (f) 0.2 (m) 0.1 (f) 0.2
Latin America	2011 2001	1.5 million 1.3 million	100 000 99 000	0.4% 0.4%	67 000 83 000	(m) 0.2 (f) 0.2 (m) 0.2 (f) 0.1

Source UNAIDS December 2012

2.3.4 HIV/AIDS and the youths in sub-Saharan Africa

Globally, in 2010, 3.2 million young women and 1.7 million young men aged 15 to 24 years were estimated to be living with HIV (UNAIDS 2012). Regional estimates indicate that HIV prevalence among young people in sub-Saharan Africa remains much higher than the rest of the world though the prevalence rate as of 2011 had fallen by 35% (UNAIDS 2012). The main mode of transmission of the virus in this region is through heterosexual intercourse. It is estimated that 2.8 million young women and 1.1 million young men in sub-Saharan Africa are living with HIV (UNAIDS 2011-18). A trend analysis in HIV prevalence among young people in 2009

revealed that HIV prevalence declined in 15 of the 21 countries most affected by the epidemic and Zimbabwe is among these countries. This same analysis also looked at trends in behaviours among young people and found a decline in HIV risk behaviours in the majority of countries that showed a decline in the prevalence of HIV infections. This scenario might be applicable to youths in general, however, students in Zimbabwe, are an under-researched group and very little is known about their sexual risk-taking behaviour. This could partly be explained by the fact that university students are seen as well educated and therefore well informed about how to protect themselves from HIV compared to other youths (Masvaure, Terry, Adlis and Mhloyi 2009).

2.3.5 HIV and AIDS in Southern African Universities

The education sector is regarded as “the best hope for survival” against HIV and AIDS because of its leadership position in research and knowledge development (Kelly 2001). Educational institutions possess both human capacities and resources that place them in a better position to contribute to the management of the epidemic (Kelly: 2000). Education also equips individuals with a better understanding of the epidemic therefore placing them in a better position to protect themselves against infection.

University students represent a high-risk to HIV and AIDS infection as well as a high-potential population in Africa for development (Mutinta 2013). In most of the world the autonomy and sexual liberation that life on campus holds for young adults is readily outweighed by the promise that matriculation holds for a successful future (Terry, Masvaure and Gavin 2005:288). There are data that indicate a high prevalence of risky sexual behaviours among university students. These behaviours include multiple sex partnerships, unprotected sex, transactional sex, cross-generational sex and sex for favours such as marks in examinations (Mayega et al 2010:3, Masvaure et al 2009 and Kelly 2002). According to survey results for South African Universities (HEAIDS 2010) students residing away from home for the first time, the first months at a university required them to manage freedoms they had not previously had. It was widely reported that during the first year, students lack the

experience to make good risk-aware decisions especially regarding sexual liaisons and use of alcohol. A research done at the University of Botswana (Brown et al 2008) revealed that the students see campus life as being liberating from a life tightly regulated by home and village morals to an atmosphere of almost total freedom. They termed this “freedom at last”. In general, studies of university students indicate that they have a relatively high knowledge level, including general knowledge, knowledge about HIV and AIDS transmission and prevention (Svenson & Varnhagen 1990, Masvaure 2009, Brown et al 2008). Despite their knowledge about HIV and AIDS, university students still make wrong choices and take risks when it comes to sexual activities. Most of the studies however report some caveats in knowledge, which lead to misconceptions and risky behaviours (Mutinta 2013). In one study done at a university in South Africa, students indicated that they chose their sexual partners “carefully” which is a worrying factor since most of the people infected with HIV do not necessarily look sick. Some sexual networks are also quite expansive and take a variety of forms. Some female students at the University of Botswana engage in “partner exchanges” (Seloiwe 2005). This practice involves small groups of friends exchanging partners for short periods for no reason other than for sheer fun. In Ghana, Analfi (2005) refers to the phenomena of “partner mixing” which entails alternating between different sets of partners during term time and during vacations.

One area of which students appear not to be clear on is the ABC mantra of abstinence, being faithful and condomizing (Brown, Sebego, Mogobe, Ntsayagae, Sebone and Seboni 2008). University of Botswana students indicated that these concepts lacked clarity and were over simplified. Students indicated that they did not know what was meant by ‘abstinence’ and as they asked for explanations from the researchers, they (researchers) did realize that they did not know either (Brown et al 2008). In addition, the concept of being faithful was said to be too complex; is it being faithful to one partner at a time (even though they might have sex with several partners over time). This and other issues described earlier on, indicate that there is still a lot to be done on the knowledge, attitudes and sexual behaviours of university students with regard to HIV and AIDS.

2.3.6 HIV and AIDS in Zimbabwe

The first reported case of AIDS in Zimbabwe occurred in 1985. By the end of the 1980s, around 10% of the adult population were thought to be infected with the HIV (UNAIDS, 2010). This figure rose dramatically in the first half of the 1990s, peaking at more than 36% between 1995 and 1997 (USAID 2010). Since the late 1990s, prevalence has been consistently declining. With a national adult prevalence of 15.3% at the end of 2007, Zimbabwe was one of the 10 highest-prevalence countries in sub-Saharan Africa (UNAIDS 2010). According to national estimates, prevalence decreased to 13.6% in 2010. However, the prevalence rate has once again gone up to 14.7% as of December 2012 (NAC, 2013). The epidemic has reduced life expectancy, deepened pervasive poverty among vulnerable households and communities, skewed the size of populations, undermined national systems and weakened institutional structures (UNAIDS 2010). Surveillance data from several studies suggest a trend of declining prevalence that has been observed among men and women in rural and urban areas and in pregnant women (UNAIDS, 2010). Among the latter, HIV prevalence declined from 17.7% in 2006 to 16.1% in 2009. A similar decline occurred in the 15 to 24 year age where the prevalence dropped from 12.5% in 2006 to 11.6% in 2009. This is the age group into which most university students fall. The epidemic is believed to be declining because of prevention programs, changes in sexual behaviours and increases in the availability of Prevention of Mother to Child Transmission (PMTCT) HIV services. However, the decline is no reason for leaving university students out of the prevention programs.

2.3.7 Zimbabwe's response to the epidemic

After the diagnosis of the first case of HIV in 1985, the Government of Zimbabwe responded the following year by setting the Zimbabwe AIDS Health Experts Committee (ZAHEC) as an initial response strategy. With the support of the United Nations country team, the government then created the National AIDS Coordination Programme (NACP) in 1987 under the Ministry of Health and Child Welfare (MOHCW) to mobilize human, technical and financial resources to spearhead the mitigation and prevention activities against the HIV and AIDS pandemic. The year

1988 saw the announcement of a five year Medium term Plan (MTP1) which then paved the way for MTP2 from 1994 to 1998 (UNDP 2006:13). The NACP made significant progress in awareness building on HIV and AIDS and it is under the its umbrella that the national HIV and AIDS Policy and Strategic Framework for national response to HIV and AIDS for the years 2000-2004 were compiled. The focus of the Strategic Framework was on the employment of broad–based participatory consultative processes drawing attention to the epidemiological and socio-cultural drivers of the pandemic. Upon the realization, however, that HIV and AIDS was increasingly becoming more of a developmental concern other than just a health problem, the NACP was transformed into the National AIDS Council (NAC) through the Act of Parliament in 1999 (National AIDS Act : Chapter 14 &15 of 1999) as was noted by the UNDP (2006:14). It became operational during the year 2007 after the establishment of the national secretariat and provincial co-ordination offices as well as decentralized District AIDS Action Committees (DAACs), Ward AIDS Action Committees (WAACs) and Village AIDS Action Committees (VAACs). Principally its role was to act as the coordination vehicle for the HIV and AIDS response nationally, within various legislative, policy and strategic mechanisms established by the Government of Zimbabwe. NAC was legislatively mandated to raise funds through the National AIDS levy, using three percent (3%) payroll income tax which contributed to the national AIDS Trust Funds, the money which NAC manages and disburses for implementation of various strategic responses in the fight against HIV and AIDS (ZHDR 2003:130-131). The establishment of NAC together with the willingness of the Government to engage other stakeholders from the civil society and private sector in the fight against HIV and AIDS saw the beginning of the multi-sectoral response to the pandemic in Zimbabwe. In May 2002, HIV and AIDS was declared a national disaster by the Government and this laid the foundation for resource mobilization for the fight against the pandemic (ZHDR 2003:141). A Care and Treatment Forum under the coordination of the MOHCW was set up specifically for the scaling up of Anti-retroviral Treatment (ART). The Ministry of Public Service, Labour and Social Welfare was tasked to coordinate the forum for Orphans and Vulnerable Children (OVC). A partnership forum for HIV and AIDS was also established in 2003 under NAC with the main purpose of bringing together various actors for strategy formulation as well as for co-ordination of the responses of the

pandemic (UNDP 2006:15). The Government of Zimbabwe has also demonstrated some commitment through the acceptance of the Declaration of Commitment of the United Nations General Assembly Special Session on HIV and AIDS,UNIGASS of June 2001 as well as in adoption of the Maseru/SADC Declaration on HIV & AIDS of July 2003(the Maseru/SADC declaration on HIV and AIDS endorsed and adopted the implementation of the SADC Strategic Framework on HIV and AIDS). The Government also prioritized MDG 6 (combating HIV and AIDS), MDG 1(eradication of extreme poverty and hunger) and MDG 3 (promote gender equality and empower women) respectively, thereby openly acknowledging the need for gender-equitable poverty alleviation and combating HIV and AIDS.

2.4 Theoretical and conceptual grounding: The Health Belief Model

2.4.1 Introduction

Health behaviour changes are considered a complex process which does not rely on the individual's motivation alone. Ecologists believe that an ecological perspective better understands health problems that affect both the individual and the community. Health promotion and behaviour change theories are useful in dealing with any level of the individual: be it at individual, community or environmental. In this regard the theoretical model or framework that relates to health prevention strategies and behaviour change will be discussed. This theory is the Health Belief Model. This theory is by far the most commonly used in health education and health promotion (Glanz, Rimer and Lewis 2002). Research articles which are HIV related have mostly focused on social cognitive models which differ significantly from Bandura's specific social learning/cognitive theory. Quinn and Hughes (2013:6), explains the term cognitive as referring to "the internal mental processes of human beings, and encompasses the domains of memory, perceptions and thinking" They further define perception as "an organised process in which the individual selects cues from the environment and draws inferences from these in order to make sense of his experiences. "

2.4.2 The Health Belief Model

A model is described as a symbolic depiction of reality (Penguin Reference Dictionary 2004: 670). It provides a schematic representation of some relationship among phenomena and uses symbols and diagrams to represent an idea (Brink 1999:29, Burns and Grove 2011:228). A model helps to organize the study, examine a problem, gather and analyse data. The HBM is a psychological model formulated to explain and predict why individuals engage in health related behaviours that may or may not compromise their health. The HBM is among value expectancy theories, which are a family of theories stating that an individual's behaviours can be predicted. The HBM relates theories of decision making to an individual's perceived ability to choose from alternative health behaviours (Rosenstock 1974). The theory underlying the HBM has been attributed to the Lewinian theory of goal setting in the level of aspiration. (Maiman and Becker 1974) hypothesized that behaviours depend primarily upon two variables namely:

- The value placed by an individual on a particular outcome.
- The individual's estimation of the likelihood that a given action will result in that outcome (abstinence)

In the HBM, an individual's motivation to act is analysed as a function of whether or not one expects to attain a health –related goal. The HBM provides a theoretical basis from which health-related behaviours might be predicted and altered. Rosenstock (1974) said that the HBM is based on the idea that it is the world, as it is perceived, that will determine an individual's actions and not the actual physical environment.

A conceptual framework explains aspects to be studied and organizes the key factors and the interrelatedness of the variables or constructs. Burns and Groove (2011:228) define a conceptual framework as "conceptual models are similar to theories and sometimes referred to as theories. However, conceptual models broadly are even more abstract than theories. A conceptual model broadly explains phenomena of interest, expresses assumptions and reflects a philosophical stance" Burns and Grove (2011:228-229) further explains conceptual frameworks as

mapping the concepts and statements to ascertain their interrelatedness. The HBM is therefore a conceptual model and not a formal theory. Health motivation is the central focus of the HBM, therefore it is a good fit for addressing problems of behaviour such as the likelihood of getting infected with HIV . Developed in the early 1950s, the HBM is one of the most widely used conceptual frameworks for understanding, explaining and predicting health behaviours (Campus 2005:1).

2.4.3 History and orientation

The HBM is a psychological model that attempts to explain and predict health behaviours. This is done by focusing on the attitudes and beliefs of individuals. The HBM was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels working in the US Public Health Services (Glanz, Rimer and Lewis 2008: 52). The model was developed in response to the failure of a free Tuberculosis (TB) health-screening programme. The TB screening programme provided adults with free TB screening x-rays from which mobile units conveniently located in various neighbourhoods. Few adults used the service and programme organizers began investigating why more adults did not do so. Hochbaum began to study what motivated the few who did come out. He learnt that their perceived risk of disease and perceived benefits of the action were crucial factors in their motivation (Rimer, Glanz and Lewis 2002:54).

2.4.3.1 *Assumptions of the HBM*

The developers of the HBM stated that the following assumptions related to implementing health related actions:

- The HBM assumes that a person will take a health related action if that person feels a negative condition can be avoided (Rimer, Glanz and Lewis 2002:55). It is necessary to help individuals realize that they have potential to avoid a condition and this can only happen when one has true knowledge of the problem. When one realizes this that is when they would be able to take a preventive action.

- The HBM assumes that a person will take preventative action if that person has a positive expectation that by taking a recommended action, the negative

health condition will be avoided (Rimer, Glanz and Lewis 2008:55). The person needs to see the benefits that one will get from practicing the behaviour. If the person fails to see any benefit, it would be difficult for one to take the necessary action or maintain it. Students in this study must perceive the benefits of non-risky sexual behaviours before they can initiate and maintain the behaviours in order to prevent HIV and AIDS

- The HBM assumes that a person takes a health related action if the person believes that one can successfully take the recommended action (Rimer, Glanz and Lewis 2005:56). It requires a person to feel confident that one has the capacity to take the recommended action, and this would require that the person has the necessary knowledge and skills in a supportive environment to carry out the required action(s).

2.4.3.2 Components of the HBM

As indicated in figure 2.1 of this dissertation, the HBM has three major components namely:

- The individual's perceptions about health
- The modifying factors which include demographic, socio-psychological and structural variables
- The benefits of taking preventive measures

2.4.3.2.1 Individual perceptions

Individual perceptions are a person's beliefs about one's own susceptibility to a disease plus the seriousness with which one views the perceived threat of illness. Personal perceptions are influenced by a range of intrapersonal factors. In the current study, individual perceptions concern the university students' beliefs about their susceptibility to HIV and AIDS.

2.4.3.2.2 Modifying factors

Modifying factors such as demographic, socio-psychological and structural variables may affect an individual's perceptions and thus indirectly influence health-related behaviours. Socio-demographic factors such as educational status could affect a

person's perceptions of susceptibility to and severity of suffering ill effects resulting from HIV infection and AIDS and one's perceived benefits from avoiding risky sexual behaviours as well as barriers to such behaviours. In this study, the relationships between demographic factors such as age, marital status and level of education and related knowledge, attitudes and behaviours will be investigated.

2.4.3.2.3 Variables affecting the likelihood of initiating and maintaining action

In this study these variables refer to a student's perceived benefits of practicing safer sexual behaviours minus the perceived barriers to taking action (peer pressure); this equals the likelihood of taking actions to change behaviours (Winfield & Whaley 2002).

2.4.3.3 Concepts of the HBM

The following are the concepts of the HBM

- The desire to avoid illness or get well
- The belief that specific health actions available to an individual would prevent undesirable consequences

2.4.3.3.1 Perceived susceptibility

Perceived susceptibility defines the individual's chances of contracting a health condition such as HIV (Hausmann,Ribera and Nyamongo 2003)). A person's perception that a health problem is personally relevant will contribute to them taking the required action to prevent the health problem. For this to take place there must be activities that increase the individual's perception of one's vulnerability to the health condition. This study investigated the university students' susceptibility to HIV and AIDS in Zimbabwe and whether those who perceived themselves to be susceptible to HIV will adopt preventive action.

2.4.3.3.2 Perceived severity

Perceived severity refers to one's own beliefs of how serious a condition is and what its consequences entail (Hausmann,Ribera & Nyamongo 2003)). When one recognizes one's susceptibility to a certain problem or condition, it does not necessarily motivate one to take the necessary preventive actions unless one

realizes that getting the condition would have serious physical and social implications. Regarding this study, students must perceive HIV and AIDS as a serious infection that has severe consequences and implications on their physical and social lives before they would adopt preventive actions against HIV infection.

2.4.3.3.3 Perceived benefits

Perceived benefits refer to one's beliefs in the efficacy of the advised action to reduce the risk or seriousness of impact (Hausmann,Ribera and Nyamongo 2003). The person needs to believe that by taking a certain action, it will help one to avoid or prevent a problem from occurring (Hanson & Benedict 2002:25; Ross 2001:21). It is this belief that gives a person confidence to take the action because of the expected outcomes (Haussmann, Ribera & Nyamongo 2003)). In this study, perceived benefits are beliefs about the effectiveness of recommended preventive health actions, such as consistent and correct condom use during sexual intercourse to prevent HIV and AIDS. Condom use by students was investigated in the current study.

2.4.3.3.4 Perceived barriers

Perceived barriers refer to one's belief in the tangible and psychological costs of the advised behaviours (Hausmann,Ribera & Nyamongo 2003). There could be several barriers that affect people's decision to take particular actions. Rosenstock, Stretcher and Becker (1988:179) observed that perceived barriers to health actions include phobic reactions, physical as well as psychological barriers, accessibility factors and even personal characteristics. Rodlach, Dlodlo and Hwalima (2012) concur that perceived barriers are "possible blocks or hindrances to engage in preventive behaviours, including such factors as cost, inconveniences and unpleasantness."

Polit and Hungler (2010:128) also concur that perceived barriers include costs, duration, complexity of the deserved behaviours and accessibility to services that would support taking and maintaining the required actions. It is only when persons realise that they have the capacity to deal with these barriers, that they would be able to take the necessary actions. These barriers, with respect to safe sexual behaviours were investigated in this study.

2.4.3.3.5 Cues to action

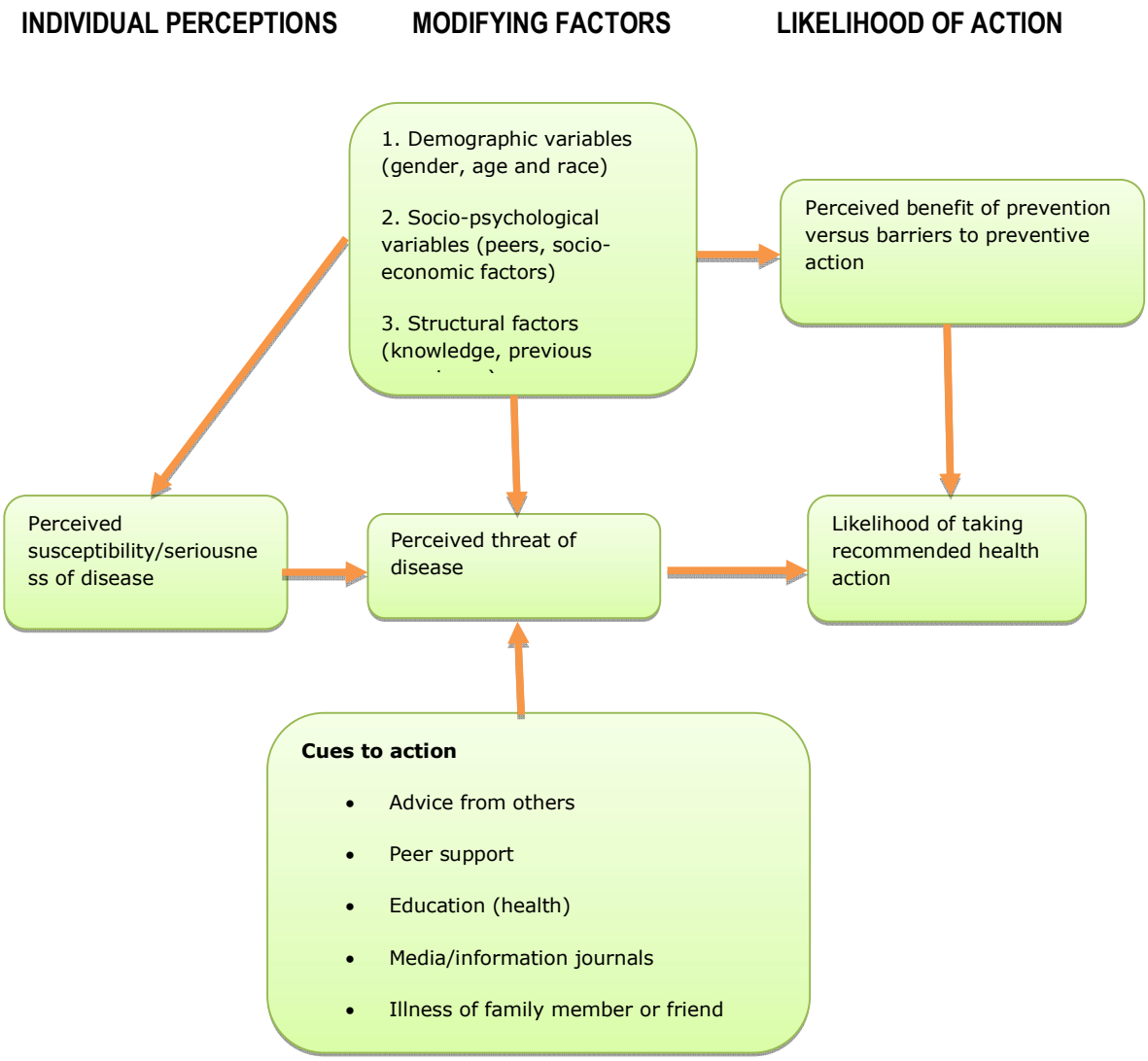
Cues to action refer to a stimulus that triggers the process of a health action. This could be as a result of mass-media campaigns that motivate a person to take action (Gurmesa at al 2012). Cues to action indicate an individual's desire to take the necessary action based on his or her perception of their capacity to do so. The required action will benefit one by knowing how to deal with the expected barriers.

With regard to this study, personal and environmental events motivating a person to engage in safe sexual behaviours to prevent HIV infection were investigated.

2.4.3.3.6 Self-efficacy

Self-efficacy is the strength of an individual's belief in one's own ability to respond to novel or difficult situations and to deal with any associated obstacles or setbacks (Gurmesa et al 2012). Self-efficacy is one's ability to successfully take action. The individual should feel that one is capable of taking the necessary action correctly because it is that confidence that would motivate one to initiate and sustain the action (Gurmesa et al 2012). In the current study, self-efficacy was defined as the confidence in one's own ability to use protection when indulging in sexual activities.

These six concepts (***2.4.3.3.1 through 6)*** of the HBM can be summarised as follows:



The first two concepts, perceived susceptibility and perceived severity together represent the perceived threat of a situation, characterised by contracting a particular disease. In the current study, it refers to the perceived threat of HIV infection. The perceived threat or risk perception may set the stage for contemplating about risk reduction strategies and for enhancing the urgency or motivation to avert the threat (Floyd, Prentice-Dunn & Rogers 2000).

The perceived benefits and barriers combine into the perceived net benefit of implementing a specific health-oriented strategy and affect a person's attitude towards the action. In the current study, this refers to the perceived net benefit of condom use to prevent HIV and AIDS. Together the perceived benefits and perceived net benefits are thought to account for people's 'readiness to act'.

The concept of cues to action refers to the events or experiences that fuel a person's direct need to take action. The most recent addition to the HBM is the concept of self-efficacy, which was directly transferred from the work of Bandura on this topic (Groenewold et al 2006:4). Perceived self-efficacy is one of the several key determinants of HIV sexual risk reduction and reproductive health. Perceived self-efficacy refers to people's judgment of their ability to plan and do specific behaviours that are required to deal with various future situations. These "self-beliefs" about people's capacity, influence how they behave. "Expectations of personal efficacy determine whether coping behaviours will be initiated, how much effort will be spent and how long they will be sustained in the face of obstacles and adverse experiences" (Bandura 1977:191). Regarding the current study, perceived self-efficacy refers to confidence in one's ability to use protection successfully.

Table 2.2: Summary of the six concepts, their definition and application with regard to the current study

Concept	Definition	Application	Application and implications regarding the current study
Perceived susceptibility	A person's beliefs about the chances of contracting a health problem	-Define population at risk and their risk levels -Personalize risk based on a person's trait or behaviours	Perceived chances of becoming infected with HIV
Perceived severity	One's beliefs of how serious a condition and its consequences	Specify and describe consequences of the risk and the condition	Perceived seriousness of HIV infection
Perceived benefits	One's beliefs in the efficacy of the advised action to reduce impact or seriousness of impact	Define action to take; how ,where and when	Perceived benefits of using protection during sexual activities.
Perceived barriers	One's beliefs in the tangible and psychological costs of the advised behaviour	Identify and reduce barriers through reassurance, incentives and assistance	Perceived barriers to use of protection
Cues to action	Evidence or experience either personal ,interpersonal or environmental that motivates a person to act	-Provide information -Promote awareness -Promote reminders	Personal an environmental conditions that motivates a person to use protection
Self-efficacy	Confidence in one's ability to successfully take action	Provide training, guidance and positive reinforcement	Confidence in one' ability to successfully use protection

Source: Glanz, Rimer and Viswanath 2008:48, Groenewold et al 2006:3-4

2.5 LITERATURE REVIEW AS IT RELATES TO THE HEALTH BELIEF MODEL'S

2.5.1 Individual perceptions regarding HIV and AIDS

As indicated in section 2.4.1.2.1, individual perceptions regarding HIV and AIDS involve:

- Perceived susceptibility which refers to an individual's estimated probability of encountering a specific health problem, regarding this study, HIV and AIDS
- Perceived seriousness of the specific health problem, implying the degree of concern one experiences created by the thought of disease or problems associated with the given health condition in this case, HIV and AIDS
- Perceived threat, implying the combined impact of perceived susceptibility and perceived seriousness. The impact of HIV and AIDS on the health of individuals should be perceived as serious threats to individuals and their respective families

The global HIV and AIDS situation for young adults is extremely serious and the need for a strong focused response is urgent. Young people are particularly vulnerable to HIV infection because of risky sexual behaviours and substance abuse. These are convoluted by lack of access to accurate, personalised HIV information and prevention services and a host of other economic factors (UNAIDS 2013:23). It is estimated that the end of 2011, 34 million people were living with HIV and young people (15-24 years) accounted for 40% of these infections (UNAIDS 2012).

University students represent a high-risk to HIV and AIDS infection as well as a high-potential population in Africa for development. In most of the world the autonomy and sexual liberation that life on campus holds for young adults is readily outweighed by the promise that matriculation holds for a successful future (Terry, Masvaure and Gavin 2005:288). In Africa, sexual decision-making and economic stress among university aged young adults paints a gleam picture over the ideal of ascending academically.

According to Kelly (2001), despite the acknowledgement by the students that AIDS was a reality, they did not perceive themselves to be at risk of HIV infection. Denial, fatalism and an air of invulnerability (Kelly 2001) dominate attitudes towards HIV and AIDS. There are data that indicate a high prevalence of risky sexual behaviours among university students. These behaviours include multiple sex partnerships, unprotected sex, transactional sex, cross-generational sex and sex for favours such as marks in examinations (Mayega et al 2010:3, Masvaure et al 2009 & Kelly 2002). According to survey results for South African Universities (HEAIDS 2010 students residing away from home for the first time, the first months at a university required them to manage freedoms they had not previously had. It was widely reported that during the first year, students lack the experience to make good risk-aware decisions especially regarding sexual liaisons and use of alcohol. A research done at the University of Botswana (Brown et al 2008) revealed that the students see campus life as being liberating from a life tightly regulated by home and village morals to an atmosphere of almost total freedom. They termed this “freedom at last”. In general, studies of university students indicate that they have a relatively high knowledge level, including general knowledge, knowledge about HIV and AIDS transmission and prevention (Svenson and Varnhagen 1990, Masvaure 2009, Brown et al 2008). Despite their knowledge about HIV and AIDS, university students still make wrong choices and take risks when it comes to sexual activities. Most of the studies report some caveats in knowledge that lead to misconceptions and risky behaviours. In one study done at a university in South Africa, students indicated that they chose their sexual partners “carefully” which is a worrying factor since most of the people infected with HIV do not necessarily look sick. This clearly shows a low perception towards being infected. Some sexual networks are also quite expansive and take a variety of forms. Some female students at the University of Botswana engage in “partner exchanges” (Seloiwe 2005).

Adoption of preventive behaviours would be the only protection against HIV transmission if a medical breakthrough is not found. Despite an almost universal awareness of AIDS and the lethality of HIV sexual transmission, there is no correspondence with a widespread adoption of preventive measures. In literature focusing on the context with high HIV and AIDS prevalence, it is a common finding that the wife’s ability to ask her husband to use a condom is significantly enhanced

by the extent she feels at risk of contracting HIV though the issue of power also comes into play (Martin 2011:142).

2.5.2 Modifying factors that could influence knowledge, attitudes and behaviours towards HIV and AIDS

Modifying factors include a variety of demographic, socio-psychological and structural variables that predispose one to take preventive actions. Cues to action represent factors that trigger preventive actions depending on one's level of readiness to engage in such activities.

2.5.2.1 Demographic variables

Demographic variables, which influence modifying factors and cues to action, include age, sex, race, religion cultural and traditional practices, marital status and sexuality education.

- ***Age***

Young people especially youths between the ages of 15 to 24 years are most vulnerable to HIV and AIDS infection. Young adults aged 15-24 years account for an estimated 39% of new adult infections worldwide (WHO 2012). In southern Africa, approximately 2.6 million young adults are infected with HIV (WHO 2012). Behavioural, physiological and socio-cultural factors make young people more vulnerable to HIV infections (The Alan Guttmacher Institute 2004:4). This period of life is a time when young people naturally explore and take risks in many aspects of their lives including sexual relationships. University students are mostly between the ages of 18 to 24 years. This is a period of transition from adolescents to adulthood. This is the time marked by sexual experimentation and many other risks. This makes them vulnerable to HIV. Most university students are at a time of their lives were they experiment sexually and are sexually mobile. To add to this, most students live away from home in university residence halls or in rented apartments independent of any form of control from parents (Adefuye et al 2012:20). There is peer pressure that forces students to conform to the expensive lifestyles associated with the university environments (Masvaure 2011:167).

- ***Gender***

Gender is a state of being male or female (online dictionary). Gender can also refer to the economic, social and cultural attributes and opportunities associated with being female or male. As such, it includes a set of qualities and behaviours expected by society from females and males. Girls and women are particularly vulnerable to HIV infection due to a combination of biological factors and gender-based inequalities particularly in cultures that limit women's knowledge about HIV and their ability to protect themselves and negotiate safer sex (WHO 2009:11).

UNAIDS (2010:10) states that the epidemic in SSA affects more women than men. In 2010, slightly more than half of all people living with HIV in the region were women and girls. Young women aged 15 to 24 years are as much as 8 times more likely to be HIV positive (UNAIDS 2010:7). These differences in infection rates are due to a combination of factors of which some have been explained above. Because of the biological make-up of the reproductive system of women, they are more prone to infection. Apart from possible biological factors, there are other reasons for the disproportionate risk of young women acquiring HIV infection such as early sexual debut. Because of the gender norms related to masculinity, women are placed at a greater risk of being infected by HIV and female students at universities are no exceptions. In SSA, women are brought up to be subservient to men especially in sexual relationships. Vulnerability of women and girls include social norms that deny them safe reproductive health as well as cultural practices that prevent women and girls from controlling their own bodies. HIV flourishes in conditions of poverty, conflict and inequality and in states with weak resources and capacities (WHO 2010). Gender inequalities are major driving forces behind the spread of HIV (WHO 2010:13). In Southern Africa in particular, women face a greater risk of HIV infection than men because of their low socio-economic status compromises their ability to choose safer sex and healthier life styles.

- ***Religion***

As the HIV and AIDS crisis has spread throughout the world, the HIV rates among Christian populations have remained significantly higher than among Muslim populations. This can be attributed to the conservativeness. This can be seen in Nigeria were the HIV prevalence rates are higher in Christian areas of the country. Zimbabwe is mainly a Christian dominated country and as such, the prevalence rate is fairly distributed across the country though it is a bit high in the Southern regions of the country because of the cross-border activities that take place in these areas (IOM-Zimbabwe).

Religion could sometimes hamper the effective use of contraception especially condoms (Ehlers 1999:54). The Roman Catholic Church opposes the use of condoms and encourages direct contact (Bradshaw 2003). This could have serious implications in the spread of HIV. This also could be problematic in the African situation characterized by low socio-economic status for women and men's dominant culture. High religiosity made adolescents less likely to engage in premarital sexual relations (Makhetha 1996:29). In addition, adolescents who are highly religious are less likely to use condoms during sexual intercourse (Zaleski and Schiaffino 2000:223).

The HBM states that people must perceive themselves to be susceptible to HIV before they can implement safer sexual practices to prevent infection.

- ***Sexual Education***

Some studies show that there is a relationship between educational levels and HIV and AIDS prevalence. In addressing the possible arrest of HIV infections among young people, education is amongst the most powerful tools in reducing high-risk behaviours and in conjunction with that, the social and economic vulnerability that exposes people to the risk of infection with HIV (Suominen et al 2011). A high level of academic engagement has an influence on the age of sexual initiation and makes health education messages more meaningful (Suominen et al 2011). Statistics released by the United Nations Educational Scientific and Cultural Organisation (UNESCO) claim that HIV prevalence among young people is high and rapidly rising. Accordingly, 30% of people currently living with HIV are under the age of 24 years. In most developing countries, young people between the ages of 12 to 24 years

constitute the majority of new HIV infections (UNESCO 2011:23). The World Bank (2002:30) says that 'schools may often be the only place where young people can obtain accurate information on reproductive health'. Research shows that school-based programmes in countries such as Zimbabwe, Uganda and Zambia have contributed to the decrease in HIV infection rates. Though there is a lot of literature on young people and reproductive health education, it does not target university students specifically. The assumption maybe is that they will have gone through secondary education hence should be knowledgeable.

In Zimbabwe, there are policy guidelines for other tertiary institutions such as teachers' training colleges and polytechnic colleges but not for university colleges. Therefore, this study aimed at establishing the knowledge university students have regarding HIV and AIDS have that will influence their risk perception. The results of this study will be used to make recommendations to policy makers to include guidelines of university colleges. In addition, recommendations will be made to universities to include HIV and AIDS education in the curricula with the aim of educating university students with correct knowledge. Sexuality education is a process that should be continuous throughout life.

- ***Cultural***

Culture is defined as a complex whole, which includes knowledge, beliefs, arts, morals, customs and habits, acquired by human societies. Culture represents the way of perceiving, behaving and evaluating one's world (Penguin reference dictionary 2002). It is regarded as a blue print that is used to determine one's values, beliefs and practices (Barthelme 2009). Norms are said to be roles by which human behaviour is governed, they provide direction for living according to values (Andrews and Boyle 1995:10). Values are personal perceptions of what is good or useful. Values are the universal features of culture (Andrews and Boyle 1995:10).

The United Nations Economic Commission for Africa on HIV and AIDS and Governance (CHGA) (2005:12) says that health care providers should be aware of the effect of culture on HIV and AIDS related knowledge, perceptions, attitudes, and sexual behaviours of university students. While some cultural values may be positive, a number of cultural and traditional practices also contribute to the

subordination of women and to the spread of HIV. These include female genital mutilation, wife inheritance and forced early marriages.

Cultural systems in most parts of Zimbabwe and elsewhere in SSA such as inheritance of a wife of a deceased brother, breast feeding the baby of a deceased sister or daughter which promoted and sustained togetherness and love within the family will soon die away because of AIDS (Mulwo 2010).

Cultural beliefs have had negative effects on HIV and AIDS programmes in Zimbabwe. One of the beliefs is that having sex with a virgin or a young child can cure AIDS. This has led to young girls and infants being vulnerable and faced with assault even from their own biological fathers. Traditional healers in Zimbabwe have joined the fray by encouraging their clients to sleep with virgins. Such advice would increase HIV transmission to infants and young girls (Girl Child network –www. kubatana. org). Social structures in Zimbabwe and most African countries have changed and the traditional values face extinction. The values of Ubuntu such as being kind, generous and living in harmony will be directly linked to basic belief for the ideal ubuntu person. In this study, values were correlated with the variables of the research that is HIV and AIDS related knowledge, attitudes and behaviours of university students in Zimbabwe.

Looking at the tradition of basic respect and compassion for others, one will expect positive attitudes towards people living with HIV and AIDS (PLHIV). This study therefore also investigated the attitudes of university students towards PLHIV. According to the Ubuntu tradition that prescribes a rule of conduct and social ethics, one would expect the attitudes regarding PLHIV of university students in Zimbabwe to be good.

- ***Marital status***

The common belief is that those who are single are predisposed to sexual temptations. This would in turn increase their vulnerability to STIs including HIV. Therefore, the assumption is that unmarried young people are more at risk of infection than their married counterparts are. A study done in South Africa (Shisana et al 2004:542) revealed that married people were less likely to be infected with HIV than unmarried people were.

In a study carried out in Sudan (Mohamed et al 2011), it was reported that married couples are more likely to have positive attitudes toward those infected with HIV and

AIDS than their unmarried counterparts are. In another study conducted in China, it was also reported that married people exhibited more positive attitudes towards PLHIV than their single counterparts did.

In Zimbabwe, in the Bulawayo urban area, NAC (2011) reported that unmarried people in the city reported using male condoms more than their married counterparts did. This could be attributed to the low risk perception to contracting HIV exhibited by married people because they believe their sexual behaviours does not put them at risk of contracting HIV. In this current study, relationship between marital status and HIV and AIDS related knowledge, attitudes and behaviours of university students were investigated.

2.5.2.2 Socio-psychological variables

University students' knowledge, attitudes and behaviours regarding HIV and AIDS could be influenced by various socio psychological variables.

- ***Peer influence***

A "peer" refers to one that is of equal standing with another, one belonging to the same societal group especially based on age, grade or status (Oxford Thesaurus). Peer education involves using members of a given group to effect change among other members of the same group. Research indicates that people are more likely to hear and personalize messages and thus to change their attitudes and behaviours if the messenger is a peer and faces the same concerns and pressures as they do (Gurmesa et al 2012). Peer education draws on the credibility that young people have with their peers, they show the power of role modelling and provide flexibility in meeting the diverse needs of today's youth.

- ***Parent-youth communication***

Issues of sex and sexuality have not been a comfortable topic between parents and their children. Many parents are uncomfortable talking about sex or are not knowledgeable themselves. Many barriers prevent open communication about sexual issues between parents and their children. Some barriers include the age difference and the parents' belief that teaching children about sexual issues will

make them sexually active. Parents play a passive role in providing information to their children, yet they are expected to be key players in this role.

Stigma and discrimination

Originally, the meaning of the word stigma did not refer to an illness but to certain behaviour, causing a lower status in society. UNAIDS (2012:8) defines stigma as a social process '*in which an individual is being discredited significantly in the eyes of others. Within a particular culture or setting certain attributes are seized upon and defined by others as discreditable or unworthy'.* The Penguin Reference Dictionary (2004:1380) defines stigma as a connotation of disgrace associated with certain things.

Historically, the word stigma derives from ancient Greeks who used this word to refer to visual marks branded on the bodies of slaves, traitors and criminals to indicate their status within the society. The mark was clearly visible and decreased the status of the individual enormously. The stigmata showed that the person was blemished, ritually polluted and was to be avoided (Futures group SA). Stigmatisation is also reflected in the way women are predominantly blamed for the spread of HIV. They are blamed as carriers, prostitutes infecting men and mothers infecting their infants. According to Perloff (2001:128), AIDS is referred to as a social symbol. In this case, people make a connection between HIV and AIDS and groups they dislike. People may have an aversion to prostitutes or gays because they believe these persons spread HIV and AIDS and must be shunned. A study done in health care institutions in South Africa revealed that health care workers tested clients for HIV without their knowledge and there was also some gossiping about patients' HIV status (Famoroti, Fernades and Chima: 2013).In this study it was concluded that more psychological support and counselling should be provided for health care workers so that they do not discriminate their patients who are HIV positive. In another study done in Nigeria (Odimegwu, Adedini and Ononokpono: 2013) the results showed that misconceptions such as those related to the mode of transmission increased HIV and AIDS related stigma.

During this study, the manifestation of stigma among the respondents regarding HIV and AIDS and towards PLHIV was also investigated. There is a belief that people living with HIV and AIDS must be separated from the public.

- ***Economic factors/poverty***

Sub-Saharan Africa (SSA) is home of 62% of the world's HIV cases. In addition, SSA is home to 70% of the poorest people in the world (Mbirimtengerenji 2007:605). This region has the lowest gross domestic product (GDP) in the world, with more than 60% of the population spending less than US$1 per day (Mbirimtengerenji 2007:605). Poverty includes deprivation, constrained choices and unfulfilled capabilities and refers to interrelated features of well-being that impact upon the standard of living and the quality of life. Poverty is not necessarily confined to financial capital, quantified and minimized in monetary indices. While financial capital is important, a solely reductionist approach eschews non-monetary resources, the lack of which contributes to and sustains poverty (Mbirimtengerenji 2007). Many people in SSA are in such poverty, they lack not only money but also assets and skills (Mbirimtengerenji 2007:606). HIV and AIDS go beyond the epidemiological aspects of the disease; it has social and economic dimensions of the pandemic. HIV and AIDS are not simply biomedical or a demographic problem, it is a development issue and so incorporate economic well-being and human growth. The pandemic is the obstacle to the millennium development goals (Mbirimtengerenji 2007). HIV works against the objectives of equity, gender equality and poverty eradication.

Zimbabwe MOHCW has been operating a primary health care system since 1985 in all the districts of the Republic including Bulawayo Health District. A cost recovery system was introduced into the primary care system that involved the consultation fees and sales of essential drugs and subsidized rates. The system was functioning well until the devaluation of the Zimbabwean dollar in the early 2000s. This dramatically increased the cost of medical commodities and the cost of living. Everything was beyond the reach of about 80% of the Zimbabwean population including students. Eventually, in 2008, Zimbabwe adopted the use of the US dollar. According to the World Bank (2012) Zimbabwe, with a Gross National Income (GNI) of US$460 is ranked number 178 in the world and is considered a poor country.

Many university students come from poverty-stricken homes and poverty is a major setback putting university students' health at stake. Although many university students are on the cadetship scheme for their fees, their parents cannot afford the high costs of boarding fees and their day-to-day needs. Poor university students find

it difficult to initiate and maintain safer sexual practices such as consistent condom use and being faithful to one partner even if their HIV and AIDS risk perception is high. As a result, poverty is an important factor working in favour of increased prevalence of HIV and AIDS among university students.

2.5.2.3 Structural variables

A structural variable refers to knowledge about the disease condition through previous experience gained from either a relative or friend who suffered from the condition.

- ***Knowledge of HIV and AIDS***

Knowledge was identified as the major structural variable that could influence the university students' whether to adopt safer sexual behaviours or not in this study. Knowledge in this study refers specifically to issues relating to HIV and AIDS, such as modes of transmission, preventative measures, risk behaviours and implications. Burns and Groove (2011:55) describe knowledge as an awareness or perception of reality acquired through insight, learning or investigation expressed in a form that can be shared. In this study, knowledge of the mode of transmission of HIV and the knowledge of protection against HIV were articulated through the practice of safer sex and the accurate knowledge on the issues of transmission and prevention. Terry, Maswaure and Gavin (2005) state that knowledge of HIV and AIDS is about more than just regurgitation of facts. Garrick and Rhodes concur; they say knowledge is the "authentic" demonstration of knowledge in relevant situations.

Those who accept the germ theory of disease causation, their attitudes to the search for a cure to a disease will be different from the attitudes of those who attribute the disease to supernatural causes (Awusako-Asare and Anarti 1997:250). To assess the prospects of effective behaviour change, it is crucial to ascertain the depth of the effects, whether it prevails to be hazardous to one's health or presents itself positively to one's own mind, attitudes and behaviours. Being aware therefore provokes one's realization of risks that pose a danger to one's life. People may learn from campaigns on HIV and AIDS about its causes and may even change their sexual behaviours, while their basic and deep-rooted attitudes may change. Despite the knowledge of protective measures, studies in SSA have shown that university students rarely subscribe to them (Brown et al 2008, Berhan, Hailu & Alano 2011;

Shefer, Strobel & Jacobs 2012). Many university students do not consider their behaviours or that of their sexual partners as being risky. This lack of risk perception is more challenging than the negative outcomes thereof as the consequences of the lack of risk perception are not immediately obvious. Moreover, risk perception may be based on insufficient knowledge and information. Kiragu and Zabin (2008) report that young people's sexual activities are based on insufficient knowledge and misconceptions rather than on rational consideration of the consequences. Young people may not have enough understanding as to how to protect themselves and if they do, they may not have the capacity to act on the knowledge of prevention in view of several cultural and economic constraints.

Studies around the globe have established that the vast majority of young people have no idea how HIV is transmitted or how to protect themselves from the disease. In countries with generalized epidemics such as Zimbabwe, Cameroon, Central Africa Republic, Lesotho, Sierra Leone and Equatorial Guinea, more than 80% of young women age 15 to 24 do not have sufficient knowledge about HIV (WHO 2011:13).

Varnhagen and Green et al in (Svenson, Carmel and Varnhagen 1997:62) found that more than 70% of their respondents who had high knowledge of HIV and AIDS were engaging in risky sexual behaviours. This emphasises the notion that a moderate or high knowledge about HIV and AIDS may not be a predictor of safe sexual practice. Knowledge of HIV and AIDS has implications for this study as it is assumed that university students who have true knowledge on the mode of transmission of HIV and AIDS will have correct perceptions and attitudes regarding the disease and will engage in safer sexual practices. During this study, the attitudes of university students regarding HIV and AIDS were investigated. The relationships between knowledge, attitudes and sexual behaviours were also investigated.

- ***Abstinence***

Young adults need to have a full knowledge of options available for the prevention of HIV and AIDS infection, from abstinence to safer sex, is important in empowering young people, influencing the choices they make about sex and preventing new HIV infections. Abstinence programmes focus exclusively on abstaining from sexual activity until marriage (Setswe & Zuma 2011).

Abstinence is one of the elements promoted by major preventive programmes that emphasise the ABC mantra (abstain, be faithful and use condoms) approach. Evidence that sexual abstinence may have played an important role in reducing HIV infection in Zimbabwe (UNAIDS 2009, 2010, 2011) has renewed interest in promoting this method of protection against unplanned pregnancy, HIV and other STIs. In practice however, abstaining from sex tends to be less effective than condom use and being faithful to one partner because complete abstinence requires strong motivation, self-control and commitment. Controversy surrounds programmes that promote abstinence as the only means of protection against HIV and AIDS and the effectiveness of such programmes is still unknown (Mulwo 2009).

In this study, abstinence will be investigated through establishing whether the responded has had sexual intercourse or not. It is assumed that those respondents who perceive HIV and AIDS as a serious infection are more likely to practice abstinence, and that university students who come from a low socio-economic background are less likely to practice abstinence. In addition, it was also assumed that those university students who discuss sexual issues freely with their parents have a higher tendency to practice abstinence than their peers do. University students who have the accurate knowledge of how HIV is transmitted might find it easier to practice abstinence. This study investigated all these possible associations.

- ***Delaying early sexual debut***

USAID and FHI (2003:2) say that throughout the world, puberty is occurring at earlier ages while the age of marriage is generally rising. This combination of factors results in a longer period sexual activity and number of sexual partners. The millennium society is characterized by children who mature physically and sexually much earlier than the previous years.

An analysis of research data among the 15-19 year olds found out that more than 25% of boys reported having had sex before they were 15 years of age in countries such as Brazil, Haiti, Gabon, Hungary, Kenya, Latvia, Malawi, Mozambique and Nicaragua. In a study done in Zimbabwe by Grassroots Soccer, it was discovered that more than 60% of girls and boys aged between 12 and 15 years had already indulged in sexual activities (Mantula et al 2013. A major six-country study indicates that programmes including abstinence messages resulted in a delay in sexual

initiation of about a year in some countries where HIV prevalence declined. The study found that Uganda as well as Zambia showed an increase in the median age of sexual debut along with reports of fewer sexual partners and higher condom use. Meanwhile the age of sexual initiation did not rise in Zimbabwe, Cameroon or Kenya. In Zambia over a five-year span, the age at first sex for young men went from 16.2 to 18.1 years but for girls, the age of sexual debut stayed about the same at 17.1 years.

- ***Being faithful to one sexual partner***

Currently the call is to emphasise the need for greater awareness and practice of a three-pronged strategy to prevent HIV infection. The strategy is the ABC mantra signifying abstinence, being faithful to a single partner and condomizing. In Zimbabwe the Ministry of Health and Child Welfare (MOHCW) estimates that HIV prevalence has dropped markedly to the current 13.7%. Data points to the increased behaviour change among men (MOHCW 2011).

The ABC mantra provides hard data so that people can decide how to protect themselves: the only 100% effective way to avoid HIV infection is to abstain or to be faithful to a single HIV negative partner, while correct and consistent use of condoms reduces the risk by about 90%.

Notions of masculinity encourage men to have a myriad of sexual partners before and even during marriage. In the African culture, it is accepted for men to have more than one intimate partner at a time. For example in South Africa, it is natural for a man to have more than one sexual partner (Onelove 2009). Because of these notions of masculinity and because of economic dependence of women on men, women find it difficult to demand condom use from their partners or ask them to be faithful.

- **Attitudes towards HIV and AIDS**

Attitude is described as a hypothetical construct that represents an individual's likes or dislikes, an emotion, feeling or mental position(Penguin Reference Dictionary 2004:84). It is a mentally neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related. Attitudes are learned when observing how people behave in environments with different social and economic pressures. Attitudes once established are difficult to change. In a study done at the University of Botswana (Majelantle, Kutile, Bainane and Nkawana: 2014) the results indicated

mixed feelings among the students: some students had negative attitudes towards PLHIV while others indicated that they would care for the infected. Similarly, in a study done in Finland, the feelings of students were those of fear and apprehension towards HIV and AIDS.

This has implications for this study because once university students have negative attitudes regarding HIV and AIDS and towards PLHIV, it might be difficult to change hence fuel discrimination. So this study explored university students' attitudes regarding HIV and AIDS and towards PLHIV to make recommendations for engendering more positive attitudes in future. It is difficult to change people's attitudes. University students should be taught appropriate attitudes towards the less fortunate including PLHIV and should be given the opportunity to practice what they have learned. This helps in the reduction of misconceptions regarding HIV and AIDS and reduces discrimination and stigma towards PLHIV. The hope is that once the university students practice these positive attitudes, it will go a long way in improving the HIV and AIDS situation among university students and the community at large.

- **Voluntary counselling and testing (VCT)**

Many approaches to HIV prevention, treatment and care require that people know their HIV status. The importance of VCT for HIV has brought about a wider promotion and development of VCT services in many countries of the world. However, since the majority of places where HIV has major impact are also the poorest such as Zimbabwe, the lack of resources has meant that VCT is still not widely available . People need to know their HIV status so that they can change their behaviours. UNAIDS (2004a:85), states that despite the importance of knowing one's status, the uptake is low largely because of fears of stigma and discrimination. As stated earlier in this section, people have to know their HIV status before they can adopt healthy sexual practices. In this study, university students were asked if they know their HIV status and that of their partners.

2.6 CONCLUSION

This chapter discussed the literature review, which indicates that the subject of knowledge, attitudes and behaviours of university students towards HIV and AIDS

has been widely researched. Knowledge about HIV and AIDS is high among university students but they continue to be involved in risky sexual behaviours. Among the reasons, why they continue, is that they do not perceive themselves to be at risk of becoming infected and that some of the concepts with regard to prevention are not clear. Most HIV researchers are not clear either about some of the concepts. A description of the HBM as the theoretical foundation of the study was given.

CHAPTER THREE

RESEARCH DESIGN AND METHOD

3.1 INTRODUCTION

This chapter presents the procedures that were implemented during data collection from the respondents, its processing and finally its analysis. The research was conducted within the quantitative research paradigm using a non-experimental research design.

3.2 THEORETICAL FOUNDATIONS

3.2.1 Research methodology

Burns and Grove (2011) describe research methodology as the entire strategy from the identification of the research problem to the final plans for data collection and analysis. Research methodology refers to the science of dealing with principles of procedures in a research or study (Sim and Wright 2006: 56). It describes the techniques to be used by a researcher, the design, the population to be studied and the research instruments or tools to structure a study, gather and analyse information relevant to the research (Polit and Beck 2010:20). A research design is the overall plan for obtaining answers to the questions being studied and for handling difficulties encountered during the research process (Polit and Beck :2004)(2010:23). Burns and Grove (2011:49) describe the research design as a blueprint for the conduct of a study that maximizes control over factors that could interfere with the study's desired outcome. Burns and Grove (2008:211) state that designing a study helps researchers to plan and implement the study in a way that will help them obtain the intended results thus increasing the chances of obtaining information that could be associated with the real situation. This study used a quantitative descriptive design to identify, analyse and describe the knowledge, attitudes and sexual behaviours of university students towards HIV and AIDS. The design is closely associated with the framework chosen for the study, the HBM.

3.2.2 Positivism

"Positivism is the application of natural sciences research principles to the humanities such as measuring reasons why people do things or how strong they feel, and so on. Therefore, the emphasis of positivism is on observation and reason as a means of understanding human behaviour. The basic philosophical assumption underpinning this approach is that nature is ordered and regular, and that objective reality exists independent of human observations. Positivism contends that phenomena are not haphazard or random events, but rather have antecedent causes and outcomes (Polit and Beck, 2010:14-15; Sim and Wright 2006; 78; Barbie, 2010:43)."

According to Polit and Beck (2010:14-15); Barbie 2010:41-43); positivistic approaches have the following characteristics;

- The researcher is independent of those being researched and the findings are not influenced by the researcher. Hence, there is tight control on the context being measured and the researcher's beliefs and biases to avoid interference with the phenomena under study.
- The inquiry tends to follow a deductive process and there is critical focus on the objectives and quantification of phenomena.
- Emphasis is placed on developing discrete and specific concepts to aide in verification of the researcher's predictions in the inquiry.
- Positivistic approaches tend to have fixed and pre-specified designs.
- Quantitative or numeric information is often collected and statistical analysis methods are used in this type of approaches.
- Positivistic approaches often seek to generalise the study findings to the bigger population.

3.2.3 Research paradigm: Quantitative research

Quantitative research deals with quantities (numbers) and relationships that exist within and among variables. Quantitative research is a formal, objective, systematic process in which numerical data are used to obtain information about the world (Burns and Grove 2011:20).This research method is used to describe the variables numerically, explain relationships among variables and to determine cause and effect interactions between variables(Burns and Grove 2011:20).Quantitative research approaches have their roots in logical positivism and tend to focus on measurable aspects of human behaviour (Burns and Grove 2011:20;Sim and Wright 2006:44). Quantitative researchers study phenomena by attempting to measure them by attaching numeric values to them that express quantity (Burns and Grove 2011:21). The current study was quantitative because the study aimed at measuring and quantifying factors relating to HIV and AIDS knowledge, attitudes and behaviours of university students at a university in Zimbabwe. Quantitative analysis involves the "manipulation of numerical data through statistical procedures for the purposes of describing phenomena or assessing the magnitudes and reliability relationships among them" (Burns and Grove 2011:24)

3.2.3.1 Characteristics of quantitative research

According to Polit and Beck (2010:565), quantitative research has the following characteristics:

- Quantitative research typically focuses on relatively few selected concepts and moves in an orderly systematic fashion from the definition of the problem to the solution of the problem. In this study, HIV knowledge, attitudes and behaviours were the concepts on focus
- Evidence in quantitative research is rooted in objective reality hence objectivity in data collection is emphasised and evidence is gathered directly or indirectly through the senses (touch, smell, hearing, taste and sight)
- In quantitative research, evidence is gathered according to an established plan, using a structured data collection instrument. In this study objectivity was achieved by using a questionnaire (refer to annexure A)

- Information collected in quantitative research is numeric and it comes from some type of formal measurement in the research that is analysed with statistical procedures.
- In quantitative research, mechanisms are used to control the study and control here involves imposing conditions on the research situation so that biases are minimized and precision and validity are maximized (see section 3.3)

3.2.3.2 Limitations of quantitative research

In spite of the considerable stature quantitative research has enjoyed as a method of inquiry, it does have some limitations according to Polit and beck (2010:568-69) and Burns and Grove (2011:21-22)

- Qualitative approaches have an accurate measure for physiologic phenomena like body temperature but no comparable accurate measures of psychological phenomena such as self-esteem or hope
- Neither quantitative nor qualitative approaches can be used to answer ethical or moral questions
- In quantitative research, complexities tend to be controlled or if possible eliminated rather than studied directly and this leads to narrowness of focus that may obscure sights
- Quantitative research approaches carry limitations of potential loss in richness of meaning of phenomena. This is because of its reliance on numbers to measure phenomena rather than assertions or descriptive statements about phenomena

3.2.4 Theoretical Foundation: The Health Belief Model

As indicated in section 3.2.1.1.3 of this dissertation, positivist research and by implication quantitative research deductive in nature, moving from general (theory) to

the specific (observation or responses). The framework of this research is the Health Belief model (HBM) and knowledge, attitudes and behaviours categorised according to the major components of the HBM as explained in chapter 2.

A model is often described as a symbolic depiction of reality that provides a schematic representation of some relationships among phenomena and uses symbols or diagrams to represent the idea (Penguin reference dictionary 2002). If research is undertaken within a context of a theoretical framework, the model will help organise the study, examine the problem, gather and analyse data (Burns and Grove 2011:16). The HBM provided such a framework for this study.

3.3 Research design

A research (or study) design is a blue print or overall plan for fulfilling objectives and answering research questions and for handling some of the difficulties encountered during the research process (Burns and Grove 2011:253). In quantitative studies, the research design tend to be highly structured and controlled and the design also includes aspects such as frequency of data collection, types of comparisons to be made and where the study will take place (Polit and beck 2010 :78). According to Brink (2006:92), researchers generally choose the design that best fits their purpose and which is compatible with resources available to them such as time, money, information, ethical considerations and their personal preferences.

In this study, a non-experimental quantitative approach involving a descriptive, exploratory co-relational design was used to determine the HIV knowledge, attitudes and behaviours among university students. This design helped to provide an explicit description of the variables that were being explored so that the problem could be addressed (Burns and Grove 2011:256).

3.3.1 Non-experimental research approach

According to Burns and Grove (2011:286), a non-experimental design is one where there is neither intervention; nor is the setting controlled. The study is conducted in a natural (non-experimental) setting and phenomena are observed / investigated as they occur. No attempt is made to change the subject of the research process (University of Dublin, 2009).

Several characteristics associated with humans are inherent and therefore not subject to experimental control, such as attitudes, knowledge and behaviours. The variables investigated in this study relate to human perception and behaviour, which are inherently difficult to collect information using experimental designs (Polit and Beck 2010:286).It is for this reason that a non-experimental design was the most appropriate to collect information.

The major purpose of non-experimental designs is to describe phenomena, and to explore and explain the relationship between variables (Sim and Wright 2006:18).Although they are less able to determine the cause and effect, they are highly useful in generating knowledge in a variety of situations in which it is difficult, unethical or even impossible to employ an experimental approach. Sound non-experimental designs generate information that form the basis for development of strong experimental interventions and these (non-experimental designs) do so by helping to document the scope of the problem and describe critical relationships between relevant variables (Polit and Beck 2010:580, Sim and Wright 2006).

3.3.2 Descriptive research

Descriptive studies are those in which phenomena are described or the relationship between variables is examined and no attempt is made to determine the cause-effect relationships (Sim and Wright 2006:25). These designs are concerned with gathering information from representative sample of the population and emphasise the use of structured observations, questionnaires and interviews or surveys. Descriptive studies attempt to relate or define a subject often by creating a profile of a group of problems, people or events through the collection of data and the tabulation of the frequencies on research variables or their interactions. These deigns do also provide a picture of the phenomenon as it occurs naturally (Burns and Grove 2011:283). According to Burns and Grove (2011:285), the primary purpose of a descriptive design is to describe the situation, preferences, practices, opinions, concerns or interests of the phenomenon under study. Similarly, Polit and Beck (2008:274) argue that the purpose of descriptive studies is to observe, describe and document aspects of a situation as it naturally occurs and sometimes serves as a starting point for hypothesis generation and theory development. In other words the main objective of descriptive studies is to portray the characteristics of research

subjects, institutions, groups or the frequency of occurrence of a phenomenon particularly when little is known about the phenomenon (Polit and Beck 2008:752). Based on the descriptive statistics generated, the study described the knowledge, attitudes and behaviours with regards to HIV and AIDS of university students in Zimbabwe.

Descriptive studies also measure incidence rates, prevalence rates and relative risks (Sim and Wright 2006:26). According to Brink et al (2006:151), explorative studies are done to discover or learn the truth about something, break new ground, establish facts and gather data to identify patterns of interest. The explorative, tries to uncover relationships and dimensions of a phenomenon by investigating the manner in which the phenomenon manifests itself to other related areas. The exploratory design explores the research question about which little is currently known in order to uncover generalisations, which means that the researcher departs from a point of reference of not knowing (Brink et al 2006:102). An exploratory design allows for the use of questionnaires distributed to a large sample of the population and is therefore intent on finding facts that relate to the field of study.

3.3.3 Correlational research

The Penguin Reference Dictionary (2004:309) defines a correlation as a mutual or reciprocal relationship between two things. In a correlational study, a researcher examines the relationship between two or more variables. The researcher is not testing whether one variable causes another variable or how different one variable is from another. Burns and Grove (2011:264) concur that correlational research involves the systematic investigation of relationships between or among two or more variables that have been identified in theories or observed in practice or both. If the relationship exists, the researcher determines the type (positive or negative) and the degree or strength of the relationship. Correlational research designs examine relationships among variables. The examination can occur at several levels. In any correlational study, a representative sample must be selected for the study, a sample reflecting the full range of scores possible on the variables being measured.

3.3.3.1 Basic assumptions underlying correlational design

According to Brink and Wood (2001:112-113) the following assumptions are specific in the use of correlational designs:

- The study variables have not been shown to co-vary in previous studies of similar populations
- A conceptual framework can be proposed to support the possibility of relationships between the variables
- The variables exist in the population and are amenable to study
- The sample is representative of the population
- There is no manipulation of variables; they are studied as they exist naturally

.

This study was correlational as it adhered to all the tested assumptions.

3.4 RESPONDENT SAMPLING

3.4.1 Elements and populations

Elements are the most basic units (people, events, behaviour) of a population about which information is collected (Polit and Beck 2010:300). A target population is the entire set of individuals or subjects having some common characteristics that of interest to the researcher (Burns and Grove 2011:51,Sim & Wright 2006). In this study, the elements were all registered university undergraduate students.

3.4.2 Accessible population

An accessible or source population is the group of people or objects that is accessible/available to the researcher as subjects to a particular study (Burns and Grove 2011:51).The accessible population in this study comprised of registered undergraduate students in their first, second and fourth years (third year students were on their industrial attachment).

3.4.3 Samples

A sample is a part, fraction or a subset of a whole population selected by the researchers to participate in a study. The reasons for selecting a sample in this current study were:

- Selecting a sample is logistically less demanding, less costly and more time saving than collecting information from a large group of all respondents. This made the study more feasible (Burns and Grove 2011:18).
- Sampling in quantitative research allows researchers to achieve validity in statistical conclusions and helps to enable generalisations of the results or findings to the whole research population (Burns and Grove 2011:19).In this study, a sample was used to ensure generalisation of the findings to the entire university student population.
- The use of a sample may also result in collecting more accurate information than might have been obtained if the entire population was studied. This is because time, money and effort can be concentrated with a sample to produce better quality research (Polit and Beck 2010:76).

3.4.4 Sampling

Sampling is a researcher's process of selecting a number or portion of individuals, events or behaviour from a delineated target population in order to obtain information regarding phenomena in a manner that the individuals/elements in the sample represent as nearly as possible the characteristics of the whole study population (Sim and Wright 2006:45). The intent of sampling is so that inferences about the entire population can be made from selected individuals or elements (Burns and Grove 2011:19).

3.4.5 Sampling criteria

Sampling criteria lists the characteristics essential for participation in the research. These criteria are developed from the research problem, purpose, the conceptual and operational definitions of the study variables and the study design.

3.4.5.1 Inclusion criteria

An inclusion criterion refers to a characteristic that prospective participants must meet or a designation of specific attribute of the target population to be eligible for participation in a study (Burns and Grove 2011:19) The inclusion criteria for this study were:

- Registered undergraduate students for the 2013-14 academic year

- Students in their first, second, third, fourth and fifth year of study depending on the field of study
- Respondent willing to participate in the study

3.4.5.2 Exclusion criteria

Exclusion criteria specify the characteristics that respondents or population lack in order not to be included in the study as outlined in the study protocol (Burns and Grove 2011:19).The exclusion criteria in this study were:

- Student not registered for the 20113-14 academic year.
- Postgraduate registered students
- Respondents not willing to participate in the study
- Third year students on their industrial attachment)

3.4.6 Sampling frame

A sampling frame is a list of all elements in the population from which the sample can be drawn (Polit and Beck 2010:588).The frame is developed by listing all members of the accessible population, the frame ensures that each person identified in the target or accessible population has an opportunity to be selected (Polit and Beck 2010:588). In this study, departmental registers were used as the sampling frame to obtain the registration numbers of all registered undergraduate students and the National University of Science and Technology (NUST).

3.4.7 Sampling plans

A sampling plan is a formal plan that specifies a sampling method, a sample size and procedures for recruiting subjects (Polit and Beck 2010:590).According to Burns and Grove (2011:299) the sampling plan may use probability (random) sampling methods or non-probability (non-random) methods.

3.4.7.1 Probability sampling

Probability sampling involves random selection of elements and in this sampling design, the researcher can specify the probability that an element of the population will be included in the sample (Burns and Grove 2011:299). Probability sampling

designs include simple random sampling, stratified random sampling, cluster sampling and systematic sampling. Probability sampling was employed in this research in respondent selection and recruitment. Probability sampling enabled the selection of a representative sample from which the findings could be generalised to the population, hence permitting correct use of statistical procedures.

3.4.7.2 Systematic random sampling

Polit and Beck (2010:567) describes systematic random sampling as a probabilistic technique in which each element within the study population has a specified chance of being selected. The technique involves the selection of sample elements such that every k^{th} person or element in a sampling frame is chosen. According to Burns and Grove (2011:300), systematic random sampling involves selecting elements at equal intervals. This technique is based on the supposition that cases, for example say every 7^{th} person (interval being 7) on the list, should not be found to have similar characteristics Addition to the sample list ought to occur naturally. In this study, a systematic random sampling technique was employed to obtain the required sample. According to Burns and Grove (2011: 305), a systematic random sampling involves:

- Obtaining a list of the total population. In the current study, class registration lists was obtained from each department
- Determining the sample size (see section 3.3.1.6) of this chapter)
- Determining the sampling interval. Systemic sampling is a method in which sample members from a larger population are selected (Smith: www.qualtrics.com). This interval called the sampling interval is calculated by dividing the population size by the desired sample size. In this study they are about 4139 registered undergraduate students, 31 departments from different faculties and an average of 30 students per department .the interval was 4139 divided by 930 (31*30) which is approximately 5.

The advantages of systematic random sampling are:

- It is relatively less time consuming than other techniques
- It requires less effort and is relatively easy to apply
- It can be applied to lists that are stratified

- It allows for correct use of inferential statistics in generalising the findings to the target population

However, there are also disadvantages aligned to this method, which are:

- There is a danger of bias if the list of elements were arranged in such a way that certain types of elements are listed at intervals coinciding with the sampling interval. In this study, every registration number is generated as the student applies irrespective of gender or other characteristics and so this disadvantage is minimised

3.4.7.3 Sample size estimation

Burns and Grove (2011: 300) contend that there are no hard and fast rules regarding the determination of sample size. However, the researcher must consider both scientific and pragmatic factors influencing the sample when they decide on the number of subjects to be included in the study (Brink 2006:135).These factors include amongst other the research purpose, design and type of sampling used. The sample size was calculated using the following formula proposed by Aday and Cornelius (2006:36).

$$n = \frac{Z^2 PQ}{d^2}$$

Where
n = sample size
d = Precision of the study was ±5%
z = Standard normal deviation corresponding to the 95% confidence Interval; which was 1.96
p= estimated knowledge levels of HIV & AIDS of university students 50%
q=1-p
Given that z=1.96, p=0.5, q=0.5 and d=0.05
Therefore
$n= (1.96)^2 x\ 0.5x0.5\ (0.05)^2$
n = 397

403 questionnaires were distributed and collected.

3.5.SITE SAMPLING

3.5.1 Study setting

Study setting refers to the physical location and conditions in which data collection takes place during the study (Polit and Beck 2010:588). The study setting can either be a natural or controlled setting. A natural environment is one where changes have been made specifically for the purposes of the study. In this study, no changes or alterations were made to the university situation nor was preferential treatment given to the respondents. The study was conducted at the National University of Science and Technology located in Bulawayo, Zimbabwe.

3.5.2 Rationale for choice of study site

The researcher conducted the study at the National University of Science and Technology in Bulawayo because:

- That is where most of the students stay and receive their lectures
- The researcher is conveniently based at this facility as her place of work and this helped in reducing costs and time related to data collection.

3.6 METHODS OF DATA COLLECTION

Burns and Grove (2011:86) define data collection as a systematic process in which the researcher collects relevant information to achieve the research purpose and objectives. The data collection involves application of a measuring instrument to gather data from respondents and the process ranges from a simple observation at one location to a grandiose survey of multinational corporations at different sites using instruments such as questionnaires, standardised tests, observation schedules, laboratory notes and instrument calibration logs (Brink 2006:54).

3.6.1 Data collection instrument

The choice of the instrument to be used depends on the research design (Burns and Grove 2011: 351).A questionnaire is a structured data collection instrument comprising a fixed set of items used to collect and record information from respondents in a specified sequence and with pre-designated response options. Following the literature review as a frame of reference, a structured self-designed questionnaire (see annexure A) composed of mainly closed and a few open-ended

questions was administered to undergraduate university students to determine their knowledge, attitudes and behaviours regarding HIV and AIDS. The questionnaire was completed by the respondents.

The questionnaire (refer to annexure A) contained five sections with items and questions relating to:

- Section A : Demographic data of respondents
- Section B : Parent /guardian communication
- Section C : Knowledge of HIV and AIDS
- Section D : Perceived susceptibility to HIV and AIDS
- Section E : Perceived severity of HIV and AIDS
- Section F : Factors contributing to university students having sex

The researcher found this data collection instrument appropriate for this research as supported by the following advantages of the instrument as discussed by Sim and Wright (2006:87) and Burns and Grove (2011:234):

- The use of a questionnaire not only minimises diversion from the subject of study, but also helps to maintain consistency in obtaining and recording responses, and allows for objective data collection from respondents
- The use of a questionnaire is a quick way of obtaining data from a sample selected at relatively less cost with regard to time and money
- Respondents experience a greater sense of anonymity since their names or identities are not recorded on the questionnaire in a way that would link them to the responses. This may also lead to the respondents providing honest answers
- Questionnaires yield data that are relatively easy to analyse compared to other less structured data collection instruments
- The questionnaire is relatively easy to administer and score
- The use of a questionnaire allows for researcher control in the process of data collection, a characteristic of quantitative research designs aimed at minimising biases and maximising precision and validity

Despite the said advantages, the questionnaire has its disadvantages, which are:

- The use of the questionnaire offers a limited opportunity to respondents to qualify or explain the underlying meaning of their responses. In the current study, and considering the involvement of emotions and values in the current research topic, this disadvantage calls for qualitative research into aspects of the current research topic
- Respondents may give the researcher information they think they want to hear especially when predetermined responses are used
- Questionnaires are not appropriate for surveying certain populations, namely the elderly, the illiterate and children. However, in the research reported on, this problem was not encountered since the respondents were university students
- Considerable effort is required to develop and refine questionnaire. This was eased by the researcher having conducted an extensive literature review on both the research topic and on instrument development for similar studies
- Questionnaires generally have low response rates compared to other structured data collection instruments. The use of field workers during the current research improved the response rate
- Questionnaires are seldom appropriate for in-depth examination of phenomena. The aim of this study was to describe the knowledge, attitudes and behaviours regarding HIV and AIDS among university students. The idea therefore was not to do an in-depth examination but rather portray the extent of the frequency of aspects of the research topic in the natural environment (Sim and Wright 2006:88)

3.6.2 Administration of data collection instrument

The revised questionnaire was administered after pretesting to collect data for the selected sample. The questionnaire was personally administered by the researcher and research assistant. The questionnaire was written in English and the language of communication is English.

3.6.3 Pretesting the instrument

Pretesting refers to an assessment of a newly developed instrument by performing a trial administration before the start of the study. The overall intent of this process is to identify flaws and thus refine the instrument before employing the study (Polit and Beck 2010:600). Pretesting of an instrument before conducting the study according to Polit and Beck (2010) serves the following purposes:

- To determine the time required to administer the entire instrument and assess how burdensome the instrument might be to respondents
- To identify parts of the instrument that may be difficult for the respondents to read or understand or that may be misinterpreted by the respondents
- To identify specific questions or parts of the instrument that needed to be emphasized during training of fieldworkers
- To identify ways to increase respondent interest so that they may remain engaged in the study to its completion
- To determine the question content, wording sequence problems or the sensibility of the instrument
- To identify potential objectionable or offensive questions or parts of questions in the instrument
- To determine whether measures yield data with sufficient variability, that is whether the variables adequately cover the topic of study

Taking into consideration the purposes of pre-testing an instrument, the instrument was pretested at Lupane State University in Bulawayo; this university was chosen because it shares similar student characteristics. There were no significant changes made on the research tool except a few typographical errors, which were corrected.

3.6.4 Measures to Ensure Validity and Reliability

3.6.4.1 Validity

Validity refers to the degree to which an instrument measures what it is supposed to measure. A valid instrument actually measures the concept and construct it claims to measure (Burns & Grove 2011:334, Sim & Wright 2006:123). Polit and Beck (2010:599) contend that the more evidence that an instrument is measuring what it is intended to measure that it is valid, the higher the level of trust the researchers

would put into inferences based on findings. There are four main major classifications or types of validity (Polit and Beck 2010:599) namely:

- Content validity
- Face validity
- Criterion validity and
- Construct validity.

3.6.4.1.1 Content validity

Content validity is concerned with the degree of representativeness or sampling adequacy of the content or elements of the phenomenon or constructs being measured. Accordingly, content validity is concerned with the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Polit and Beck 2010:601). Therefore, content validity is an assessment of how well the instrument represents all the components of the variable to be measured and this type of validity is mainly used in the development of questionnaires or interview guides. To ensure that content validity was met in this study:

- A review of relevant literature was done before the development of the instrument. This review helped to ensure that all the necessary variables were included in the instrument
- Content validity was met by ensuring a “jury opinion”. Jury opinion is whereby researchers or other experts make judgement on the extent to which the measure covers the universe of facets that make up the concepts. The questionnaire was evaluated by two senior researchers, the research supervisor, a statistician and pre-testing the instrument to ensure consistency and that the tool contains all attributes of the phenomena to be measured

3.6.4.1.2 Face validity

Face validity verifies basically whether the instrument looks like it is valid or gives the appearance of measuring variables applicable to the research problem, objectives and topic (Burns and Grove 2011:335).It means that the instrument appears to measure what it is supposed to measure. However according to De Vos et al (2005:161), this aspect of validity is an important and desirable exercise without which resistance to full participation in the study may be encountered on the part of respondents and this may affect the results of the study.

In the current study face validity was ensured by conducting appropriate literature review to construct questions relevant to the study. The face validity of the questionnaire was evaluated by two senior researchers who are involved in HIV and AIDS research, the research supervisor, the statistician and a pre-test to ensure that it appears at face value to be a relevant measure of the attributes under investigation. Necessary changes were made to the instrument following all the above evaluations.

3.6.4.1.3 Construct validity

A construct is an abstraction or concept that is deliberately invented or constructed by researchers for scientific purposes (Burns and Grove 2011:335). Vogt (1999:53 cited in Sim and Wright 2006:129) states that "*in practice, construct validity is used to describe a scale, index or other measure of a variable that correlates with measures of other variables in ways that are predicted by or make sense according to a theory of how variables are related".* Construct validity is used to explore the relationship between the results obtained by the instrument to the measures underlying the theoretical concepts of the instrument and in this study the HBM concepts of perceived susceptibility, perceived severity and perceived benefits. According to Polit and Beck (2010:613), construct validity concerns inferences from the measures used to operationalize the variables. In the current study, the questionnaire was based on the literature reviewed guided by the relevance to the key constructs of the study. The questionnaire was divided into five sections with

three of the five sections covering the main constructs measured namely knowledge, attitudes and behaviours with regards to HIV and AIDS. The expert opinion of the two senior researchers, the research supervisor and the statistician also helped in construct validity.

3.6.4.1.4 Internal and external validity

3.6.4.4.1 Internal validity

Internal validity is the extent to which the study findings reflect reality rather than the influence of extraneous variables (Burns and Grove 2011: 337). Internal validity concerns the validity of inferences that given an empirical relationship, the observed outcomes can be attributed to the manipulated independent variables rather than the uncontrolled extraneous factors (Polit and Beck 2010:615). However, according to Burns and Grove (2011), descriptive research is weak with regard to internal validity. To enhance internal validity the following points as suggested by Burns and Grove (2011:337) were kept in mind:

- A structured data collection instrument (questionnaire) was used to minimise the effects of extraneous variables (such as a change in emphasis by the research on questions) on the responses of the respondents
- The study was conducted in the natural environment that is the National University of Science and Technology

3.6.4.1.4.2 External validity

External validity is the extent to which inferences about observed relationships in a study will hold over variations in persons, setting, time or measures of the outcome. External validity is the degree to which study findings can be generalized to settings or samples other than the one studied (Polit and Beck 2010:623). External validity is an important aspect of descriptive research. To enhance external validity in this study the following suggestions by Burns and Grove (2011) were done:

- Random sampling was used to ensure a representative sample of the target population. Random sampling ensured that all registered undergraduate students had an equal chance of participating in the study

- Low response rates were avoided by the researcher personally distributing the research tool

- The Hawthorne effect and social desirability were avoided by ensuring respondents anonymity, privacy and confidentiality of information collected so that they truthfully completed the questionnaire without fearing that they might be identified and victimised on the basis of their responses. Hawthorne effect is a situation whereby the respondents behave or respond in a particular manner because they are aware of that they are being observed, a social desirability refers to a situation whereby respondents give answers that they perceive are acceptable or consistent with prevailing social norms (Polit and Beck 2010:620)

3.6.4.2 Reliability

Reliability refers to the extent to which independent administration of the same instrument (or highly similar instruments) consistently yields the same (or similar) results under comparable conditions if used repeatedly over time on the same person or sample or if used by two different researchers (Burns and Grove 2011:332). Reliability also refers to the accuracy and consistency of information obtained in a study (Polit and Beck 2010:625).Although it is difficult to always have perfect reliability, the following steps were taken to increase reliability of measures as argued by Polit and Beck (2008:457):

- Use of multiple indicators (items) of a variable (concept) such as using two or more questions (indicators) in a questionnaire to measure each aspect of a variable. This was done during the current research

- Pre-testing the instrument and replications: this refers to developing a draft or drafts of a measure and testing these before applying the final version. The

questionnaire was pre-tested at Lupane State University and undergraduate students were used. This helped to clarify some questions and correct some typographical errors and checked on the consistency of the responses

- Clearly operationalising all constructs, meaning developing an unambiguous clear theoretical definition for each construct and then making sure that each measure indicates only one specific concept
- The use of a valid and reliable data collection instrument was ensured by calculating the Cronbach's alpha coefficient (see section 3.5.2.1)
- To avoid intra or inter-observer variations:
    - The research assistants were trained in the use of the data collection tool so that they applied and collected data using the instrument uniformly
    - Clearly defined and non-overlapping categories were ensured in the questionnaire (see annexure A)
    - A set criterion was used to select the research assistants

3.6.4.2.1 Reliability coefficient

Reliability coefficients are important because they give indication of the quality of data collection instruments (Burns and Grove 2011:332).If measures are unreliable, then the researcher's assumptions may not be adequately tested. Therefore, information about an instrument's reliability becomes of paramount importance in interpretation of the research findings. The Cronbach's alpha coefficient is a statistical estimate of reliability of a psychometric instrument. This is a measure of the internal consistency or homogeneity; that is how closely related a set of items or subparts in a data collection instrument(Polit and beck 2008: 749) ,Burns and Grove 2011:333).The Statistical package for Social Sciences (SPSS) version 21 was used to compute the alpha coefficient for the scheduled data collection instrument.

According to Burns and Grove (2011:334), a reliability coefficient of 0.70 is considered sufficient for a newly developed psychometric data collection instrument.

The Cronbach alphas calculated for the questionnaire are depicted in table 3.1.

TABLE 3.1 CRONBACH ALPHAS FOR SECTIONS OF THE QUESTIONNAIRE

VARIABLE	NUMBER OF ITEMS	CRONBACH APLHA
Discussion of sexual issues with parents/guardians	7	0.642
Discrimination against HIV positive persons	10	0.206
Awareness of HIV/AIDS	4	0.439
Transmission HIV	10	0.717
Sexual risk behaviour	4	0.797
Susceptibility to HIV	24	0.634

3.6.5 Training of research assistants (data collectors)

3.6.5.1 Need for research assistants

The researcher sought to use research assistants in data collection for the following reasons:

- The researcher was working (on duty) at place of employment and was not able to collect data every day herself from the respondents
- The relatively big sample size was overwhelming for one person to do the data collection
- The researcher targeted to finish the data collection process by end of July 2014, the relatively short time available necessitated the help of research assistants (fieldworkers)

3.6.5.2 Selection of research assistants

Two research assistants (one male and one female) were recruited from within the university. The criterion for the selection of assistants was:

- Be between 20 to 40 years to enhance respect for both the researcher and the respondents. Some respondents may not be comfortable talking to researchers they perceive younger or older than themselves. The age groups of undergraduate university students fall within the stated ages
- Had a minimum educational level of an undergraduate degree for better comprehension of terminology used in the data collection instrument
- Fluent in English since the research tools were written in English
- Were knowledgeable about HIV and AIDS so that they were in a position to clarify any issues which arose during the administration of the research tool

3.6.5.3 Training of research assistants

Half day training for the data collectors was conducted by the researcher at the National University of Science and Technology, the scope of the training covered general and specific aspects related to research. The training outline suggested by Polit and Beck (2008:382-383) was used to guide the development of the training course content.

Table 3.1: Training outline for research assistants

i) Introduction
a) Background and purpose of the study.
b) Study schedule
ii) Initial study procedures
a) Identification of respondents.
b) Ethical principles to be upheld in the study.
c) Organisation of the study.
iii) The role of research assistants (data collectors)
a) Creation of an appropriate environment.
b) Recording information.
c) Avoiding researcher interruption in data collection.
iv) Instructions of actual data collection
a) Introduction to respondents before data collection.
b) Introducing the study to the respondents.
c) Obtaining informed consent from the respondents.
d) Administering the data collection tool.
v) Concluding the data collection (administrative study procedures)
a) Returning filled-in questionnaires to the researcher.
b) Editing of completed questionnaires by researcher.
c) Payment for work done by research assistants.

Source: Polit and Beck 2008

3.7 METHODS OF DATA ANALYSIS

Data analysis in quantitative study approaches refers to the categorisation, ordering, manipulation and summarising of numeric data through the application of statistical procedures for the purpose of describing phenomena in meaningful terms (Polit and Beck 2010: 628,Sim & Wright 2006 : 156). It also entails “categorising, manipulating and summarising the data and describing them in meaningful terms" (Brink et al 2006:170).The researcher first conducted descriptive and summative statistics to order the data. Data were collected at the nominal and ordinal levels of measurement. Nominal-scale measurements are the lowest of the four measurement

levels (Carr, Unwin &Pless-Mulloli 2008:37). It is used when data can be organised into categories of a defined property but the categories cannot be ordered. Data such as gender, ethnicity and marital status are examples of nominal data. When data are coded for entry into the computer for analysis, the categories are assigned numbers. For example, gender may be classified as: a=male, b=female. The numbers assigned to categories in nominal measurement are used only as labels and are not intended to convey any quantitative information (Grove, Burns and Gray 2013:346; Polit and Beck 2012 :398).

The next level of measurement hierarchy is ordinal measurement. Data that can be measured at the ordinal-scale level can be assigned to categories of an attribute that can be ranked. This level of measurement goes beyond a mere categorisation. The attributes are ordered according to some criterion (Grove, Burns and Gray 2013:352; Polit Beck 2012:400). Examples of ordinal data include: academic level, monthly income, age and number of people in household.

In the current study statistical analysis was done based on nominal and ordinal data. Data were analysed using the Statistical Package for Social Sciences (SPSS) version 21 software computer program. Descriptive statistics such as frequency tables, graphs, measures of central tendency, standard deviations, percentages, and Cronbach's alpha and more advanced statistics such as the Chi square test were used.

3.7.1 Chi square test (x^2)

Chi-square test (X^2) examines the relationships between two variables at nominal and ordinal level in quantitative research. The test compares the actual frequencies with the expected outcomes - how closely they match or differ from the expected distribution - and whether two variables are independent or not. In the current study some questions we' yes' or 'no' (nominal) and discrete, hence the use of this test and frequency tables for interpretation of data (Grove, Burns and Gray 2013:351).

Grove, Burns and Gray (2013:351) state that the Chi-square test of independence (X^2) tests whether two variables are independent from one another or whether they are related. Chi-square is designed to test for differences in frequencies of observed data and compare them with the frequencies that could be expected to occur if the data

categories were actually independent of each other. Chi square tests (X^2) were therefore performed using SPSS version 21.

Whenever variables under consideration are on a nominal or ordinal level of measurement, a cross-tabulation conveniently called “crosstab” or contingency table is created in order to determine their degree of association. Cross-tabulation allows visual comparison of summary data output related to two variables within a sample (Grove, Burns and Gray 2013:352). According to Burns and Grove (2013:353), the most familiar analysis of cross-tabulated data is the use of Chi-square statistics as used in the current study.

3.8 ETHICAL CONSIDERATION

Conducting research requires not only expertise and diligence, but also honesty and integrity (Burns and Grove 2011:107). When human subjects are used in research study, they have to know the activities they will be involved in, that their rights need to be protected and their person should be safeguarded: hence, the researcher needs to ensure adequate protection of the respondents. Working with human subjects emphasizes informed consent, avoidance of harm, non-violation of privacy, anonymity and confidentiality, not deceiving human dignity and objective presentation and interpretation of data (Polit and Beck 2008:144,Burns and Grove 2011:252). According to Polit and Beck (2008:753), ethics refers to a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social obligations to the study participants. De Vos et al (2005:57) in their exploration of terminology state that ethics refer to a set of moral principles which is suggested by an individual or a group, is subsequently widely accepted and which offers rules and behavioural expectations about the most correct conduct towards people and institutions involved in the research process.

3.8.1 Ethical principles regarding participants

3.8.1.1 Beneficence

According to Burns and Grove (2011:107), the principle of beneficence encourages researchers to do good and "above all, do no harm". The dimensions of this principle include:

- ***Right to freedom from harm and discomfort***

Freedom from harm and discomfort means that it is the researcher's obligation to avoid, prevent or minimise harm (non-malificence).The discomfort and harm could be physical, emotional, spiritual, economical, social or legal (Burns and Grove 2011:108). In this study, no invasive methods were used to collect data nor were coercion employed. Since most of lectures are conducted in the morning and students prefer to use the library late in the afternoon, data collection was restricted to afternoons only to allow respondents to attend to their lectures and use the library thereafter. This helped in minimising the disruption in the respondents' lives.

- ***Right to protection from exploitation.***

According to Polit and Beck (2008:171), the principle of right to protection from exploitation ensures that participants are assured that their participation or the information they provide will not be used against them in any way or expose them to situations for which they will not have been prepared. The fact that respondents were not compensated for their participation in the study and yet this researcher is aiming at attaining a master's degree based on the information provided could be seen as a form of exploitation. To maintain this ethical principle the researcher assured respondents that the findings of the study were only going to be shared with the concerned Ministry of Higher and Tertiary Education to whom such study findings may be helpful in developing strategies to help the respondents in the areas of knowledge, attitudes and behaviours regarding HIV and AIDS.

3.8.1.2 Respect of human dignity

- ***Right to self-determination***

Self-determination means that the prospective respondents have the right to decide voluntarily whether to participate in the study without fear or risk of prejudicial treatment. This also includes the right to ask questions, to refuse to give information or to withdraw from the study. In this study, the respondents had a right to independent decision without any form of coercion whether or not to participate. The respondents were assured that none of them would be victimised or disadvantaged from attending lectures or any other services provided by the university. They were informed that they a right to withdraw from the study at any time and have a right to ask any questions if they so wish.

- **Right to full disclosure**

Right to disclosure means that the researcher has fully explained the nature of the study, the person's rights to refuse participation, the researcher's responsibilities and likely risks and benefits. Every respondent in this study was given a summary of the potential benefits and risks; these were printed on each consent form (see appendix A).

- **Informed consent**

Informed consent implies that the respondents are given adequate information on the goal of the investigation, the procedures to be followed in the study, possible advantages, disadvantages and dangers to which they may be exposed as well as the credibility of the researcher (De Vos et al (2005:59). A signed informed consent was obtained from the respondents before the data collection as proof of their willingness to participate in the study (Appendix B).Information regarding the respondents' right of refusal to participate or to participate in the study were given to them before they signed the consent form.

3.8.1.3 Justice

The Penguin Reference Dictionary (2004:760) defines justice as the quality or principle of being impartial or fair. Justice connotes fairness and equity (Burns and Grove 2011:107, Polit and Beck 2008:173).

- ***Right to fair treatment***

Fair treatment means that the researcher must treat people who decline to participate in the study or withdraw from the study after agreeing to participate in a non-prejudicial manner. This involves honouring all the agreements with participants say to make payments as promised. In this study, no respondent was given preferential treatment or was prejudiced based on their age, gender, cultural beliefs, social background or other characteristics. Respondents were informed that no monetary benefits would be given for participating in the study.

- ***Right to privacy***

Privacy is defined as freedom from undesirable intrusion (Penguin Reference Dictionary 2002:1108).This basically means that the respondent has the right to determine the extent to which, and the general circumstance under which, their private information might be shared with or withheld from others. In a study the research tool did not have sections where an individual can be identified using the information they provided. Respondents completed the questionnaires in privacy they themselves arranged.

- ***Confidentiality***

Confidentiality refers to the management of data in research in such a way that it will not be divulged or made available to any person not entitled thereto (Burns and Grove 2011:535). In this study, confidentiality was ensured by keeping all information collected at the researcher's home in a lockable cabinet and the electronic data was secured by the use of a password that was only known by the statistician and the researcher.

- ***Anonymity***

Anonymity refers to having no outstanding or distinguishing feature (Penguin Reference Dictionary 2004:52).This refers to the researcher's act of keeping the respondents identities not known with regard to their participation in the research

study and the researcher cannot also link the respondents to their data. In this study, anonymity was ensured by using numbers on the data collection instrument instead of respondents' names.

3.8.2 Ethical Principles regarding the institution

Most institutions were research is conducted have established formal committees and protocols for reviewing research proposals before research can be undertaken. This intended research was conducted in accordance with the established scientific and ethical guidelines.

3.8.2.1 Permission to conduct the study

Permission was sought to from the registrar of the National University of Science and Technology. Permission was also sought from and granted by the Higher Degrees Committee (Ethics Committee) of the Department of Health Studies at UNISA (refer to annexure D, F and G for copies of the letters).

3.8.2.2 Avoidance of disruption or interference

To avoid interference with the daily university activities or programmes non-teaching university staff were used for data collection. Administration of the research tool was done after the respondents had had their daily lectures.

3.8.3 Ethical principle regarding integrity of the researcher

Besides protecting the rights of the respondents, the researcher should demonstrate respect for the scientific community by protecting the integrity of the scientific knowledge. With regard to the scientific integrity of the researcher, Van der Wal (2005:157) states, "the scientific integrity of a researcher must be indisputable and incontrovertible". This involves ethical responsibilities of the researcher with regard to competence, conduct and communication of the research findings.

3.8.3.1 Competence of the researcher

Competence and scientific integrity of the researcher are relevant to the entire research process. For academic purposes, the research should be assessed in the same way as other academic projects and the researcher competence in academic

research is often supplemented by the input of the research supervisors and promoters. For academic research a formal contract a formal contract between student researcher and supervisor of promoter is very important (Van der Wal 2005:158).

3.8.3.2 Conduct and reporting of research findings

- ***Veracity***

Veracity concerns telling the truth and incorporates the concept that individuals should always tell the truth and this principle compels that the whole truth be told. In the current study, all procedures and data collected were made available and open for scrutiny to all the appropriate persons and institutions involved in the study. No data was fabricated by the researcher or anyone else.

- ***Fidelity***

Fidelity means that one has to keep their promises or commitments. In this study, all agreements made with the respondents and institutions were upheld For instance, should any need for modification of the approved research proposal have been encountered during the research, a refined or adapted research proposal would have been submitted to all authoritative bodies for re-approval.

- ***Avoidance of plagiarism***

Burns and Grove (2011:137) define plagiarism as the appropriation ("stealing") of another person's ideas, processes results or words without giving appropriate credit including information obtained through the confidential review of research reports. To ensure scientific honesty in this study, all sources of information used were duly referenced.

- ***Avoidance of fabrication/falsification***

According to Burns and Grove 2011:137) fabrication is the making up of results and recording or reporting them. Falsification is manipulation of research materials, equipment or processes or changing or omitting data or results such that the research is not accurately represented in the research record (Burns and Grove 2011:137). All data and findings, which were generated in this study, were reported as is without any intentional misinterpretation. The data will also be availed to the authorities should they want to verify the findings.

- ***Maintaining attribution and citation***

Attribution refers to crediting an author, artist or scientist with a particular work or idea while citation is the precise rewriting or quoting or acknowledgement of "intellectual credit" to a person's scholarly or artistic creations (Van der Wal cites University of Alberta; Ashcroft, 2011). To ensure scientific integrity with regard to attribution and citation, all sources of information, authors and content were duly acknowledge within the text and in the list of references.

- ***Maintaining copyright and intellectual property***

Copyright refers to the legal entitlement an author, artists or scientist and publisher or distributer has to exclusive financial benefits from a work (Van der Wal 2005:160). Intellectual property refers to the original creative outcome of the artistic and scientific ventures of individuals that can be protected through copyright, trademark, patent, industrial design or integrated circuit topography (Van der Wal cites University of Alberta; MRC par 10.4.1). All copyright, intellectual property, authors and publishers were acknowledged in the list of references so that scientific integrity is maintained.

- ***Ensuring equality***

Equality refers to equal opportunity and equal treatment for the respondents to be included in the study: this ethical principle is crucial during the respondent sampling and recruitment stage especially when the respondents know the researcher. Random sampling in quantitative research to some extent resolves the dilemma (Van der Wal 2005:160).Since this study employed the quantitative research approaches, the principle of equality was ensured by performing a systematic random sampling during respondent recruitment. All respondents were treated equally regardless of age, gender or other characteristics (see section 3.3.1.5.2 and 3.4.4.2.1).

- ***Cooperation with contributors***

Research projects are often so expensive and comprehensive that researchers may not be able to handle it on their own terms of finances and time (De Vos et al 2005:64-65). Because of this, the researcher involve colleagues in the research project either formally and informally to assist with different aspects in the course of study. It is therefore of paramount importance that the extent to which

acknowledgement is given to each participant is given careful consideration. All contributors to this study were acknowledged.

- ***Debriefing and referrals***

The penguin Reference Dictionary (2004: 354) defines “debriefing” as interrogating a person about a mission or task after its completion. According to Polit and Beck (2008:182) debriefing sessions after data collection is completed, gives an opportunity to the respondents to ask questions or air out complaints regarding the data collection processes or the research. Debriefing also permits the researcher to rectify any misconceptions that may arise in the minds of the participants (De Vos et al 2005:66). Every respondent was given any opportunity to ask questions regarding the research or data collection process or express any complains they might have. Clarifications were made.

- ***Dissemination or publication of findings***

Dissemination and publication of research findings entail the publication aspect of research. All information about the research, including the research findings, must be formulated and conveyed clearly and unambiguously to avoid misinterpretation and misappropriation of the information. Well-defined and scientific approved terminology is essential to ensure uniform interpretation of study findings by readers.

The findings of this study were represented as accurately and objectively as possible in a clear written form. The research findings were summarised and a copy of the research report will handed over to the registrar of the National University of Science and Technology in Bulawayo and the University of South Africa in Pretoria where the report might be published in the University’s website or repository. An article of the report findings will be published in a renowned journal as part of the researcher’s ethical obligation to the scientific community,

3.9 CONCLUSION

In this chapter, the quantitative research paradigm underlying the current study was discussed. With respect to quantitative approach, a descriptive, non-experimental survey design was undertaken. The chapter discussed the research design, sampling design and procedure, , the instrument and data collection techniques, including pre-testing of the instrument and reliability and validity of the instrument,

and data analyses. The ethical aspects pertaining to the study were also discussed. In the next chapter, chapter 4 the analysed data are presented.

CHAPTER FOUR

ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

This chapter discusses the analysis of the data, and the interpretation of the findings. The purpose of the study was to identify and describe quantitatively the context specific factors influencing the knowledge, attitudes and behaviours of university students at the National University of Science and Technology in Zimbabwe regarding HIV and AIDS. The data analysis and discussion were guided by the research questions and objectives, which were developed from the three main components of the Health Belief Model (HBM) namely:

- Individual perceptions (perception of health and illness)
- The modifying factors which include demographic, socio-psychological and structural variables
- The likelihood of taking preventive action

The following research questions guided this study:

- What knowledge do university students have about HIV and AIDS?
- Where do university students get information about HIV and AIDS?
- What are the university students' attitudes towards HIV and AIDS?
- What are the sexual risk behaviours of university students?

From the above research questions, the following research objectives were developed for this current study, namely to:

- Explore the knowledge of university students regarding HIV and AIDS

- Explore university students' sources of information regarding HIV and AIDS
- Describe the students' behaviours in relation to HIV and AIDS.
- Determine statistically significant associations among knowledge, attitudes and behaviours among university students at a university in Zimbabwe

4.2 DATA ANALYSIS

According to Polit and Beck (2012:463) data analysis in quantitative studies refers to the manipulation of numeric data through the application of statistical procedures for the purpose of describing phenomena or assessing the magnitude of relationships among phenomena. Data analysis also involves categorizing, ordering, manipulating and summarising data and describing it in meaningful terms (Brink, 2006:170). The primary purpose of data analysis according to De Vos et al (2005: 218) is to reduce the data to an intelligible and interpretable form so that the research problems can be studied or tested and conclusions drawn. In this study, the data collected was analysed using the Statistical Package for Social Sciences (SPSS) computer program, version 21.0. The obtained data were analysed using descriptive statistics and the results organised, summarised and presented in the form of frequency tables, percentages, graphs, charts, diagrams. Correlation analysis and degree of variation (standard deviation) were also determined (Burns & Grove: 2011:171). The Chi-square (X^2) was used to explore the significance and relationships between the variables in this study. All of this assisted in answering the research questions and attaining the research objectives.

The **conventions** for the presentation data are as follows:

- N=refers to the total sample. In the case f the current study, N=403
- n=refers to sub sections of the sample (N), for instance males
- *f*=refers to frequencies within the sample set under discussion and can refer to either N or n which serve as divisor to arrive at a percentage of the sample set (Polit & Beck 2012:Loc24267)
- Missing values were not included in the n=values as divisors (denominators)
- The labels for the Likert scale of Strongly Agree through Strongly Disagree

have been abbreviated in all tables as **SA, A, DA, SDA**

4.3 PRESENTATION OF DATA

4.3.1 Modifying factors

Graham (2002) state that modifying factors as implied by the Health Belief Model (HBM) include demographic, socio-psychological and structural variables that may affect an individual's perceptions and thus indirectly influence health-related behaviours. Socio-demographic factors such as educational status could affect one's perceptions of susceptibility to contracting, and the severity of, HIV. Perceived benefits expected from abstaining or practicing safer sex is indicative of willingness to take action.

4.3.1.1 Demographic variables

Demographic details of the respondents in the study include gender, age, and marital status, level of study, and income and highest qualification of parents/guardians. In this study, these demographic variables are among the modifying factors that could predispose one to take preventive actions such as use of male or female condoms during sexual intercourse to prevent HIV infection. The importance of these demographic variables was determined by correlating them with the different items constituting university students' knowledge, attitudes and behaviours towards HIV and AIDS as contained in the questionnaire.

4.3.1.1.1 Respondents' ages

The respondents were asked to indicate their ages. Table 4.1 represents their responses. The following were the frequencies and percentages of the different age groups: 20 year and below (*f*=118; 29.3%); 21 to 25 years (*f=238;* 59.1%); 26 to 30 years (*f=15;* 3.7%); and 31 years and above (*f*=32;7.9%). The majority of the

respondents (59.1%) were aged between 21-25 years, which is the age group of young adults hardest hit by HIV and AIDS. According to the UNAIDS (2012), global report on the epidemic, young people aged 15 to 24 years account for about 40% in the general population and many young people still lack accurate and complete information on how to prevent HIV infection. The respondents' ages were also important to ascertain the knowledge, attitudes and behaviours of different age groups regarding HIV and AIDS to determine whether there is an association between age of respondents and their knowledge, attitude and behaviour towards HIV and AIDS. All 403 respondents answered the question.

Table 4.1: Respondents' ages (N=403)

Age Groups	Frequency *(f)*	Percentage (%)
20 and Less	118	29.3
21-25	238	59.1
26 – 30	15	3.7
31 and Above	32	7.9
TOTAL	403	100

4.3.1.1.2 Gender of respondents

Figure 4.1 represents the respondents' gender. All 403 respondents answered the question. There were *f*=236 (58.5%) males and *f*=167 (41.5%) females. This is in line with the admission gender ratio at the university where male students constitute 60% of total admissions while female students constitute 40% .However in Zimbabwe, the male and female population ratios stand at 48% and 52% respectively. Gender distribution of the respondents had been anticipated to be an important demographic factor because gender could affect the sexual behaviours and decision making powers of respondents such as condom use during sexual intercourse to prevent HIV and AIDS or pregnancy. Gender and choice relating to sexual behaviours can be affected by cultural practices which encourages men in different ways including motivating men to have more sexual partners (WHO 2008).Gender ratios in Zimbabwe are 0.95 males per every female (Zimstat:2013).

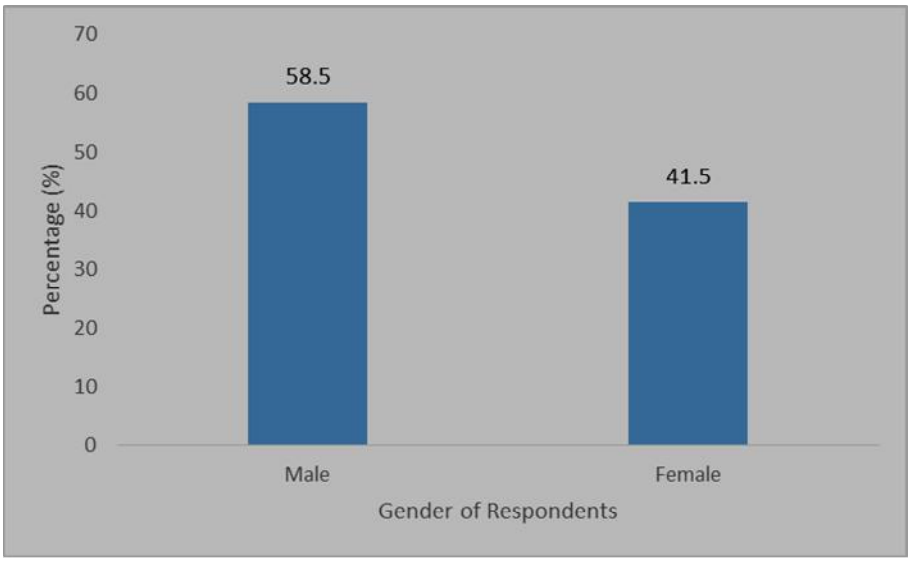


Figure 4.1: Gender of respondents (N=403)

4.3.1.1.3 Marital status of respondents

The respondents were asked to indicate their marital status. Table 4.2 shows their responses. The majority of the respondents (*f*=374; 94%) indicated that they were single. Of the 403 respondents, five omitted to answer this item possibly because the exact options that applied to them were not given or because they found the item too personal or sensitive. The high percentage of single respondents was expected, as all respondents were still students. Marital status is one of the demographic variables that encourage one to take preventive action against HIV transmission because of the repeated exposure to unprotected sexual intercourse (Mwamwenda: 2014). The marital status of respondents was thus an important demographic variable in the current study against which to match respondents' sexual behaviours.

Table 4.2: Marital status of respondents (n=398)

Marital Status	Frequency *(f)*	Percentage (%)
Single	374	94
Co-habiting	2	0.5
Married	21	5.2
Widowed	1	0.2
Did not answer	5	1.2

4.3.1.1.4 Level of study of respondents

The respondents were asked to indicate their level of study. Figure 4.2 shows their responses. All 403 respondents answered the question. The majority of respondents were either in the first year or in the second year. Educational status is thought to be a factor influencing knowledge, attitudes and sexual behaviours (Mwamwenda: 2014). Level of study of the respondents was important as education could influence the individual's decision regarding reproductive issues such as abstinence or condom use to prevent sexually transmitted infections including HIV. In some similar studies done in South Africa, first year students are pressured to "fit in" as a result they are at risk of contracting HIV (Tura,Alemseged and Dejene : 2012).

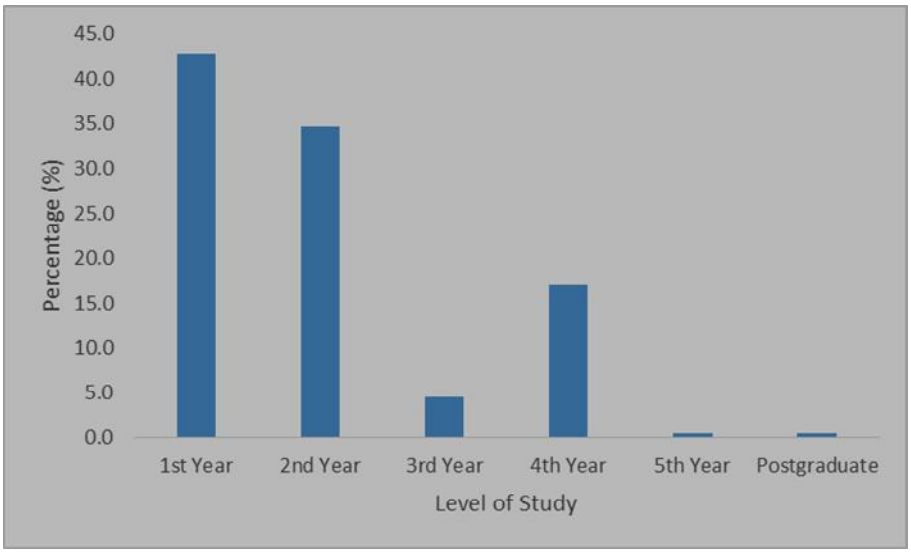


Figure 4.2 Level of Study of Respondents (N=403)

Figure 4.2 shows the level of education of the respondents and the following are the frequencies: first year *f*=180 (44.7%), second year *f*=139 (34.5%), third year *f*=15 (3.7) fourth year *f*= 64(16.1%) and others 1%.

4.3.1.1.5 Highest level of qualification of parents/guardian

The researcher wanted to establish the educational level of parents/guardians of the respondents because it is believed that the parents'/guardians' educational level is of significance in terms of receptiveness to information and imparting knowledge especially sexual knowledge to their children/dependents (Godfrey 1996:22). The following are the educational levels of the respondents' parents/guardians: no education *f*=14 (3.4%), primary school level *f*=15 (3.7%), secondary school level 95 (23.6%), College level *f*=124 (30.8%) and university level *f*=155 (38.5%). (Table 4.3). The learners whose parents fell into the no or primary school education category might find it difficult to get accurate knowledge regarding reproductive health issues, especially on HIV and AIDS. The school system in Zimbabwe comprises seven years of primary school education, six years of secondary school education and three or four years of university education leading to a first degree. There are also some diploma programmes that obtainable after four or six years of secondary school education including a diploma in general nursing or education.

Table 4.3: Highest level of education of parents/guardians (N=403)

Parents Highest Level of Education	Frequency *(f)*	Percentage (%)
No Education	14	3.4
Primary School	15	3.7
Secondary School	95	23.6
College (Diploma)	124	30.8
University (Degree)	155	38.5
TOTAL	403	100

4.3.1.2 Socio-psychological variables

University students' knowledge, attitudes and behaviours regarding HIV and AIDS could be influenced by various socio-psychological variables as proposed by the HBM.

4.3.1.2.1 Religious affiliations

Religion could be an important indicator affecting knowledge, attitudes and behaviours. Table 4.4 shows the respondents' religious affiliations. Of the 403 respondents=303 (76.3%) were either Christians and 20.7% Pentecostals (f=82) Catholic *f*= 7 (1.7%), indigenous beliefs *f*= 2 (0.5%), Muslims *f*= 2 (0.5%) and Jehovah's Witness=1 (0.2%), and Atheist *f*= 6 (1.5%) 6 did not respond The results depicted in table 4.4 were to be expected since nationally the majority of Zimbabweans are Christians.

Table 4.4: Religious affiliations of the Respondents (n= 397)

Religious Affiliation	Frequency *(f)*	Percentage (%)
Catholic	82	20.7
Muslim	2	0.5
Pentecostals/Christian	303	76.3
Jehovah's Witness	2	0.5
Indigenous Beliefs	7	1.7
Atheist	1	0.2

In this study, the level of involvement of the respondents was not taken into consideration. The data only indicates religious affiliations not level of involvement. Although religious affiliation by itself does not indicate the level of religiosity of the respondents, it is believed that high religiosity makes young adults less likely to engage in premarital sexual activities, young adults who attended religious services regularly delayed the timing of their first sexual encounters (Murray et al 1998:140). However, Ehlers (1999:54) states that religion could sometimes hamper the effective use of contraceptives especially condom usage in the prevention of HIV transmission.

4.3.1.2.2 Social group affiliations

Respondents taking part in youth club activities are expected to be knowledgeable with regard to HIV and AIDS since they have opportunities to discuss reproductive health issues including HIV and AIDS with their peers. The assumption is that if a

young person belongs to a social club, they become motivated to practice safe sex. Figure 4.3 represents the respondents' social group affiliations. The respondents were free to choose more than one response option. The majority of the respondents indicated that they belonged to a youth church group. All respondents (403) answered this question.

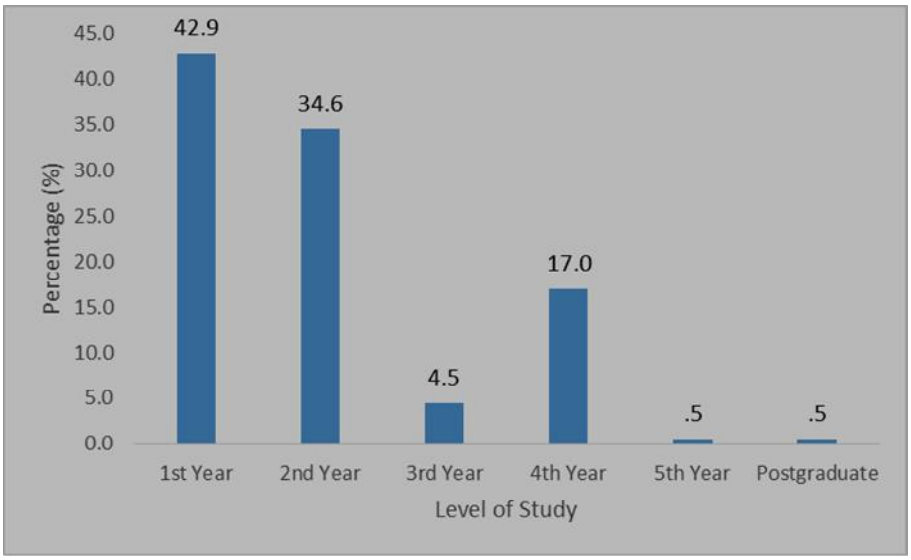


Figure 4.3: Social Group Affiliations

Figure 4.3 shows social group affiliations according to year of study. The majority of students who were affiliated to social groups were first and second year students with percentages of 42.9% and 34. 6% respectively.

Respondents who regularly attend church services and church meetings might be less likely to engage in early sexual debuts (Lollis et al 1997:559). In the current study, more than 50% of the respondents who belonged to church youths groups could be expected to delay their first sexual encounters. Participating in sports also has an influence on sexuality among young adults (Brown et al 2008). Participating in sports has a delaying effect on initiation of the first sexual intercourse, lower frequency of sexual intercourse and decrease number of lifetime sexual partners

(Millers et al 1999:324). The data reveal that only 11% of the respondents belonged to a sports group. This could be attributed to the limited sports facilities available at the university were the research took place. In the current study social group affiliations were correlated with the number of sexual partners (see table 4.38).

4.3.1.2.3 Types of residence

The respondents were asked to indicate the type of their residences. Figure 4.4 represents the respondents' responses. The majority of respondents (89.5%) were staying off campus; either at home/relatives or renting rooms near the university.

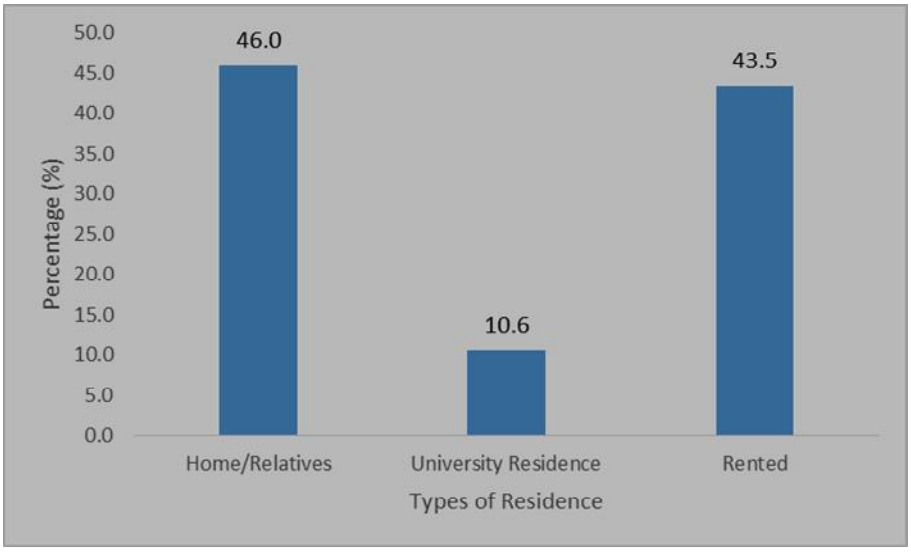


Figure 4.4: Types of Residence

Because of the limited accommodation provided by the university, most respondents were either renting rooms or staying with relatives outside campus. This gave respondents more freedom that could be misused ending up in risk sexual behaviours such as intergenerational sex because of lack of parental control or supervision by university authorities.

4.3.1.2.4 Parent/guardian-respondent communication

This section consisted of seven questions asking the respondents to indicate their agreement on a four-point Likert scale regarding communication on sexual matter

with parents/guardians. Not all respondents answered all the items as indicated in table 4.5. With regard to the first four items on communication relating to condom use, HIV and AIDS and sex in general;, 69.7.0% respondents disagreed that they felt free to discuss condom use with their parents or any adult member of their families; 45.7% disagreed that it was culturally acceptable for parents to discuss sex with their children; 8.2% disagreed that their parents or guardians supported condom use and 27.2% disagreed that they felt free to discuss HIV and AIDS with their parents or guardians. These first four items had an average of 37.7% disagreement. Although this calculation does not clearly differentiate whether the same respondents were involved in each item, it does indicate an undesirably high percentage of respondents being of the opinion that the topic is in some way is shunned and probably that they did not get guidance in this regard from parents or guardians.

With regard to the remaining three items implicating respondents' perceptions on their parents' and guardians' knowledge, 45.7% respondents disagreed that parents were supposed to talk about sex with their children; 8.2% disagreed that their parents or guardians were knowledgeable about condom use and 2.1% disagreed that their parents/guardians were knowledgeable about HIV and AIDS. These findings may indicate that some respondents might not feel free to discuss HIV and AIDS, condoms and sexuality with their parents or guardians. No justifications for these answers were requested from the respondents.

Many parents might be unwilling to discuss sex or might be uncomfortable doing so or they might lack the knowledge themselves. Findings on studies done on sexuality communication between parents and their children in sub-Saharan Africa demonstrate that discussions tend to be authoritarian and unidirectional characterised by vague warnings rather than open direct discussion (Bastien et al 2011). However most respondents stated that their parents/guardians were knowledgeable about HIV and AIDS (87.3%) and condom use (91.8%). Despite the high levels of educational qualifications of parents, many barriers might prevent open communication between parents and children about sexual issues. Adults might fear that informing young adults about sex and teaching them how to prevent HIV infection might make them sexually active (WHO 2012:26). Worse still, from personal experiences, sex is considered a taboo subject between parents and children in

most African homes including the community in which the researcher grew up. Parents also find it difficult to talk about sexual issues to their children because of their own sexual socialisation, which inhibits such discussions with children .

Table 4.5: Parent/guardian respondent communication

ITEM	SA		A		SA		SDA		TOTAL	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	N	%
I talk freely about condoms to my parents/guardian	27	6.8	93	23.5	143	36.1	133	33.6	396	100
I feel free to discuss HIV and AIDS related issues with my parents	112	27.9	176	43.9	67	16.7	46	11.5	401	100
Parents are supposed to discuss sexual issues with their children	217	54.3	146	36.5	19	4.8	18	4.5	400	100
It is culturally acceptable for parents/guardians to discuss sexual issues with their children	72	18.2	143	36.1	115	29	66	16.7	396	100
My parents/guardians are knowledgeable about HIV and AIDS	278	69.5	111	27.8	7	1.8	4	1	400	100
My parents/guardians are knowledgeable about condom use	201	51.4	158	40.4	21	5.4	11	2.8	391	100
My parents/guardians support condom use	112	30.9	131	36.2	50	13.8	69	19.1	362	100

4.3.1.2.5 Discrimination and stigmatisation against people living with HIV and AIDS (PLHIV)

This subsection consisted of ten items requiring the respondents to indicate their agreement on a four-point Likert scale regarding discrimination and stigmatisation against PLHIV. The responses to these items are shown in table 4.6. As can be seen all respondents answered all these items. With regard to the first two items on the discrimination against PLHIV 87.9% of the respondents disagreed that PLHIV should be discriminated against while 91.2% agreed that discrimination can be controlled. With regard to the third item on whether respondents believed that the discrimination against PLHIV would impact negatively on the spread of HIV and AIDS, (*f*= 279; 69.2%) either agreed or strongly agreed. On whether they believed that it is normal

practice in Zimbabwe to discriminate against people living with HIV 287 (71.2%) disagreed and 28 (9.4%) of the respondents believed that HIV and AIDS are a punishment from God.

Stigma is one of the most difficult problems to solve in the fight against HIV and AIDS. PLHIV are feared and in some instances threatened. Stigmatisation associated with HIV and AIDS is underpinned by many factors including lack of knowledge of the illness and misconceptions about how HIV is transmitted and the incurability of AIDS (Gurmesa, Fessahaye and Sisay: 2012). People fear contact with PLHIV because they are afraid that they might contract the disease. This is also seen in the responses where 4.7% of the respondents indicated that PLHIV should be isolated. The respondents displayed a degree of empathy, tolerance, acceptance and positive attitudes towards PLHIV, in accordance with studies by Serovich and Greene (1997:440). Of the respondents, 91.2% stated that they would sit next to a fellow student living with HIV and AIDS, while 90% said that they would hug a person living with HIV and AIDS.

Table 4.6: Discrimination and stigmatisation against people living with HIV and AIDS (N=403)

	S A		A		S DA		DA		DNA		Total	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%
Discrimination against HIV and AIDS can be controlled	179	44.4	188	46.7	24	6.0	4	1.0	8	2.0	403	100
People living with HIV and AIDS should be discriminated	5	1.2	2	0.5	42	10.4	348	86.4	6	1.5	403	100
HIV and AIDS is a punishment from God	15	3.7	23	5.7	71	17.6	278	69.0	16	4.0	403	100
Discrimination against people living with HIV and AIDS has a negative impact on the spread of HIV	141	35.0	138	34.2	61	15.1	35	8.7	28	6.9	403	100
In Zimbabwe it is normal practice to discriminate those living with HIV and AIDS	7	1.7	93	23.1	191	47.4	96	23.8	16	4.0	403	100
People with AIDS deserve it	8	2	14	3.5	99	24.6	273	67.7	9	2.2	403	100
People living with HIV and AIDS should be isolated from the rest of the population	11	2.7	8	2	58	14.4	313	77.7	13	3.2	403	100
I will sit next to a fellow student who is HIV positive	256	63.5	112	27.8	7	1.7	18	4.5	10	2.5	403	100
I will hug a person who has AIDS	250	62	116	28.8	10	2.5	15	3.7	12	3	403	100
I can use the same utensils with a person who has AIDS	150	37.2	137	34	64	15.9	41	10.2	11	2.7	403	100

4.3.1.2.6 Economic factors/poverty

4.3.1.2.6.1 *Sources of income of parents/guardian*

The respondents were asked to indicate their fathers', mothers' and guardians' sources of income. Responses add up to 537 responses as in some cases both parents might have an income.

Of the people responsible for the welfare of the respondents 28.9% were formally employed (Table 4.7). The table indicates that the respondents' fathers were mostly self-employed or in business while their mothers were mostly self-employed or employed. Self-employment in Zimbabwe means that the father or mother either runs a flea market selling clothes or they have a market stall for vegetables.

Table 4.7: Sources of income of parents/guardian (n=537)

	Self Employed (n=188)		Employed n=263)		Business n=54)		Pensioner (n=32)	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%
Mother	88	46.8	70	26.6	9	16.7	8	25.0
Father	35	18.6	75	28.5	22	40.7	11	34.4
Guardian	14	7.4	33	12.5	10	18.5	3	9.4
Mother, Father	45	23.9	76	28.9	13	24.1	10	31.3
Mother, Guardian	1	0.5	2	0.8				
Father, Guardian	1	0.5	5	1.9				
Mother, Father, Guardian	4	2.1	2	0.8				

4.3.1.2.6.2 *Monthly incomes of parents/guardians*

In the current study, the respondents were asked to indicate the monthly incomes of their parents/guardians. The majority (50% of mothers, 29.9% of fathers and 41.2% of guardians) of respondents indicated that their parents/guardians were earning approximately betweenUS$200 to US$500 monthly (Figure 4.5), which is less than $2.00 per day. According to the World Bank (2013), Zimbabwe with a Gross National

Income per capita (GNI) of US$ 820 is ranked number 175 in the world and is considered to be a low-income country. According to Dinkelman et al (2008) .The, low economic status of parents/guardians may put the respondents at risk of engaging in undesirable sexual behaviours such as intergenerational sex in order to get to pay for their needs such as food and accommodation. Economic hardships could increase university students' high risk situations such as indulging in intergenerational sexual activities exposing them to HIV and AIDS.

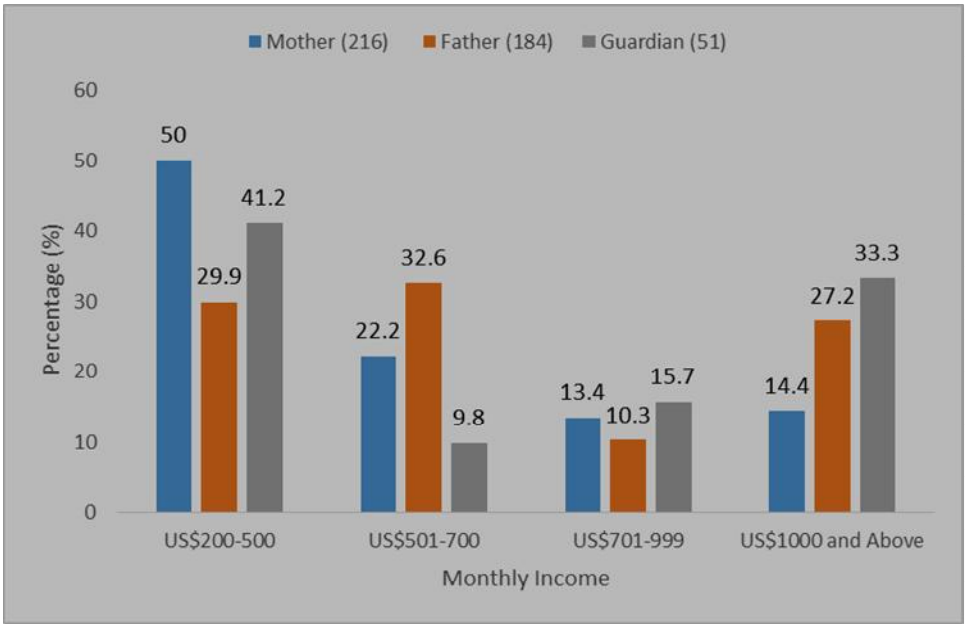


Figure 4.5 Monthly incomes of parents/guardians (N=403)

4.3.1.3 Structural variables

Knowledge is a structural variable according to the HBM which might affect the respondents' perceptions to HIV and AIDS and their behaviours. Knowledge was identified as the main structural variable in this study.

4.3.1.3.1 Awareness of HIV status

This subsection of the questionnaire consisted of five questions. The respondents were asked to indicate whether they knew their HIV status and that of their

partner(s).They were also asked if ever they had had sex and to indicate the number of sexual partners they have had in the past year. The majority 330 (81.9%) of both male and female respondents had heard about HIV and AIDS and knew their HIV status (Figure 4.6 and 4.7).

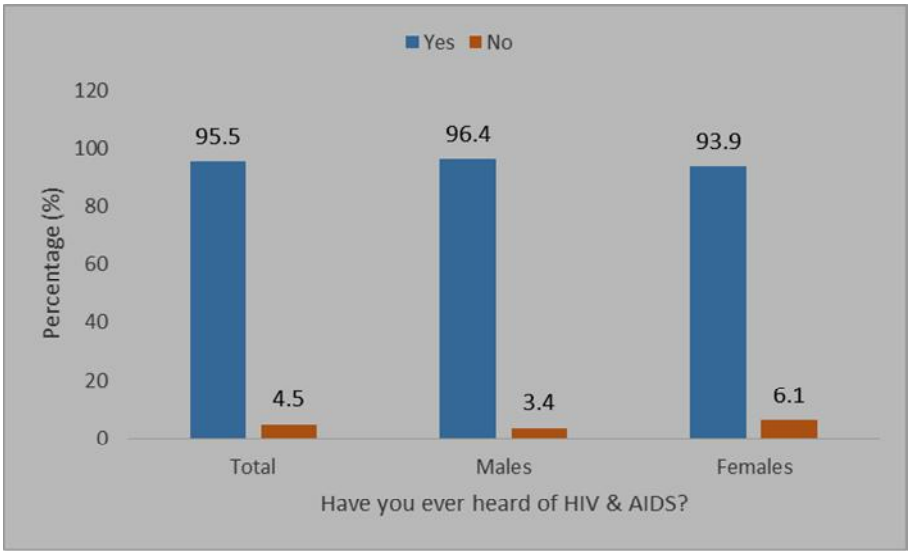


Figure 4.6: Have you ever heard of HIV and AIDS? (N=403)

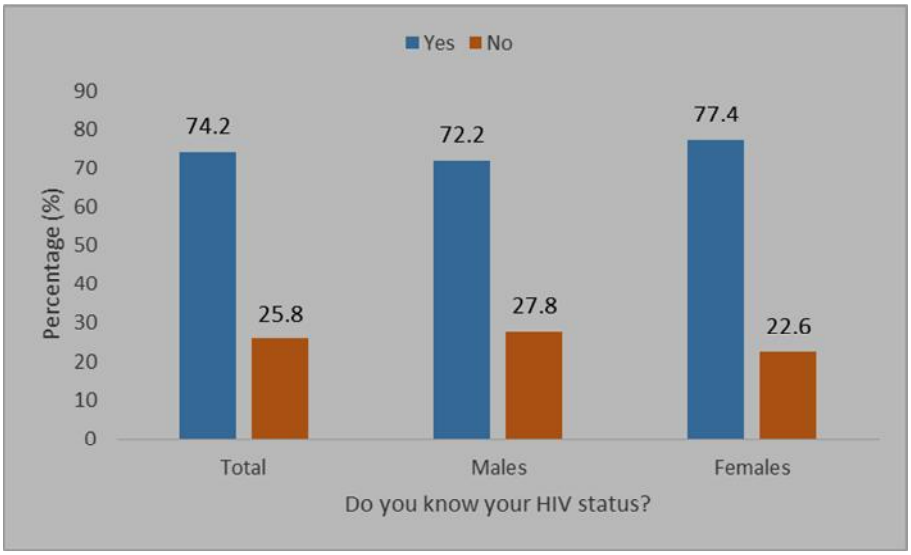


Figure 4.7 Do you know your HIV Status? (N=403)

The figure shows that 72.2% of male respondents knew their HIV status while 77.4% of female respondent also indicated they knew their status and 13.6% of the respondents did not answer the question (Figure 4.8). More males (48.6%) indicated

that they did not know the HIV status of the partners, whilst more females (54%) indicated that they knew the HIV status of their partners. A slightly higher percentage (48.5%) of males indicated that they had engaged in sex, whilst a higher percentage of females (62.9%) indicated that had not (Fig. 4.9). This scenario was also reflected in studies done in South Africa (Shafer, Strobel & Jacobs: 2012) and Ethiopia (Gurmesa, Fessaye & Sisay: 2012). Not knowing the HIV status of one's partner could put either partner at risk of being infected with HIV.

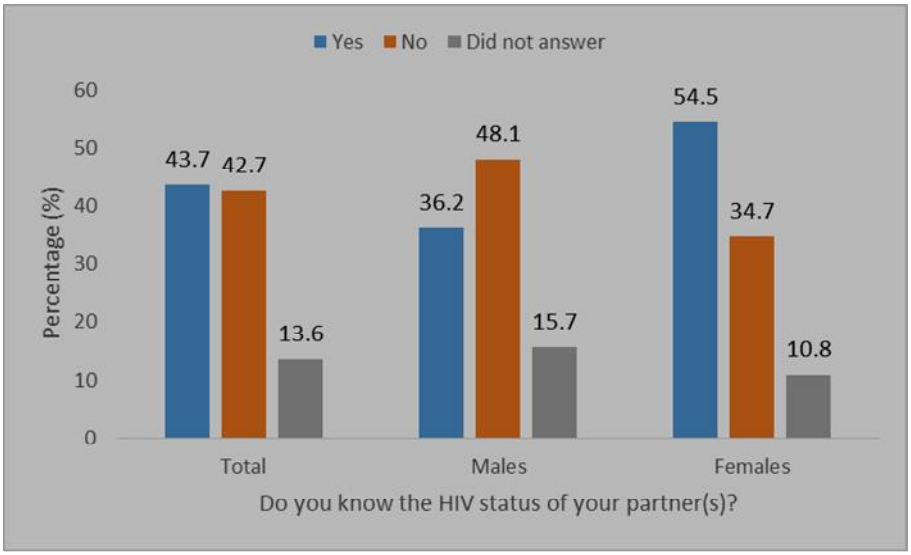


Figure 4.8 Do you know the HIV Status of your partner(s)? (N=403)

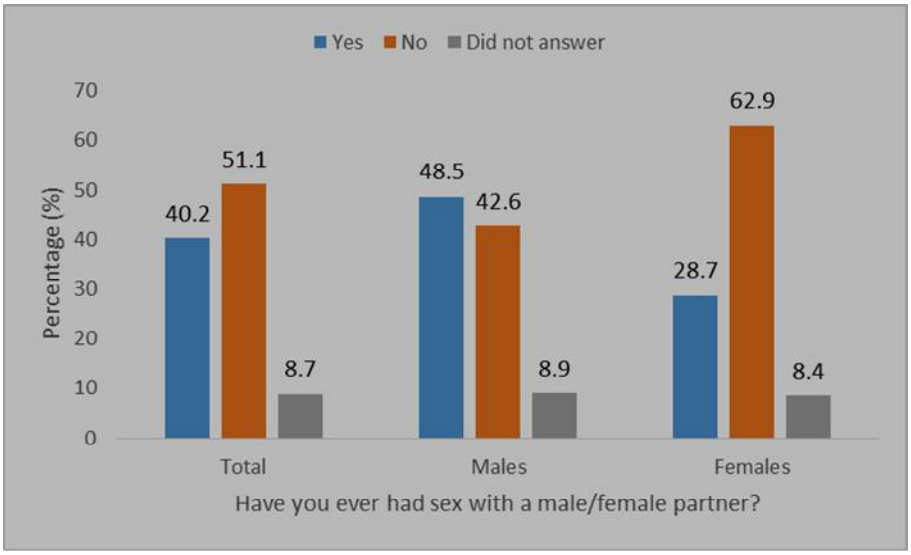


Figure 4.9 Have had sex during the year preceding data collection (N=403)

The majority (46.9%) of respondents indicated that they had not had any sexual partners in the past year. More female (54. 5%) respondents had not had sex while more male (59. 7%) respondents had had sex. A substantial number (18%) of the respondents did not answer the question maybe because they perceived it to be too personal or sensitive.

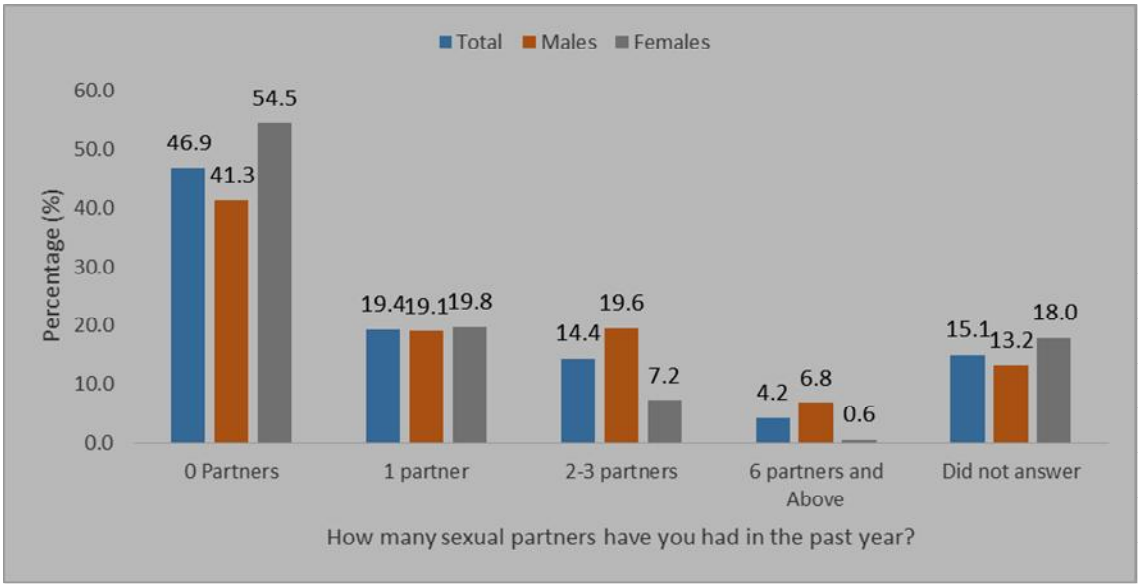


Figure 4.10 How many sexual partners have you had in the past year? (N=403)

A significant number of male (26.4%) respondents had had sex with more than one partner. This increased their risk of either infecting their partner or of being infected themselves. It was also not clear whether the partners were among the student community or from outside.

4.3.1.3.2 Knowledge on HIV and AIDS

The Penguin Reference Dictionary (2006:821) refers to knowledge as the information, understanding and skills that one gains through education or experience. Knowledge refers to facts, feelings or experiences known by a person or group of people. Knowledge is awareness of and familiarity gained by experience or learning. . Section C of the questionnaire examined the respondents' knowledge regarding HIV and AIDS including: conceptual knowledge of HIV and AIDS, sources

providing information about HIV and AIDS, knowledge regarding transmission and the prevention of HIV transmission and knowledge regarding sexual risk behaviours.

4.3.1.3.2.1 *Knowledge regarding transmission of HIV*

- This subsection examined the respondents' knowledge regarding transmission of HIV. It consisted of seven items asking the respondents to indicate their agreement on a four point Likert scale. The results are shown in table 4.8. The majority (92%) of respondents were knowledgeable about HIV transmission. However 117 (29%) believed that they could get HIV through kissing an infected person, 19 (4.8%) through mosquito bites, 82 (20.3%) believed they could be infected by using an HIV positive person's belongings. Some respondents (*f*=47; 11. 6%) disagreed that HIV could be transmitted from mother to child, while three (0.8%) disagreed that could be transmitted through infected blood.

Table 4.8: Knowledge regarding transmission of HIV

HIV can be transmitted:	SA		A		DA		SDA		Total	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%
Through unprotected sexual intercourse	367	92	31	7.8	1	0.3	0	0	399	100
Through infected blood	337	84.7	58	14.6	2	0.5	1	0.3	398	100
Through kissing an infected person	29	7.4	88	22.4	172	43.8	104	26.5	393	100
Through a mosquito bite	6	1.5	13	3.3	140	35.4	236	59.7	395	100
Through mother to child during pregnancy	206	52.2	142	35.9	29	7.3	18	4.6	395	100
Through using an infected person's belongings such as towels	23	5.9	59	15.1	178	45.5	131	33.5	391	100
Through an accidental prick by a used needle	151	38.1	197	49.7	37	9.3	11	2.8	396	100

There was no significant relationship between a respondent's knowledge of HIV and AIDS and knowledge regarding transmission of HIV. The Pearson Chi-square was insignificant with $p>0.05$ ($F=1.42$, d*f*=2, $p=0.349$). The responses provided indicated that respondents who had heard about HIV and those who had not, were both

knowledgeable about the transmission of HIV (Table 4.9). It appears that the responses to whether respondents have heard about HIV/AIDs (awareness) could be questioned.

Table 4.9: Cross tabulation regarding awareness of HIV and AIDS and knowledge regarding transmission of HIV

Have you ever heard of HIV and AIDS?		HIV can be transmitted through unprotected sexual intercourse				Total
		SA	A	DA	SDA	n
Yes	Count *(f)*	351	28	1	0	380
	% of Total (n)	92.4%	7.4%	0.3%	0	100.0%
No	Count *(f)*	15	3	0	0	18
	% of Total (n)	83.3%	16.7%	0.0%	0	100.0%
	Count	366	31	1	0	398

4.3.1.3.2.2 Knowledge regarding prevention of HIV transmission

This subsection examined the knowledge regarding the prevention of HIV transmission. The subsection has three items on the prevention of the spread of HIV, requested the respondents to indicate their agreement on a four-point Likert scale. Table 4.10 shows the responses of the respondents. Of the total respondents, 347 (86.1%) agreed that HIV could be prevented by correctly and consistently using condoms while 33 (8.2%) disagreed, 366 (90.8%) agreed that abstinence from sex could prevent HIV, 28 (6.9%) disagreed and 356 (88.3%) agreed that being faithful to one uninfected partner would prevent HIV and 34 (8.4%) disagreed.

Table 4.10: Knowledge regarding prevention of HIV and AIDS (N=394)

HIV can be prevented:	SA		A		DA		SDA		Total	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%
By correctly and consistently using condoms	157	40.3	190	48.7	31	7.9	12	3.1	390	100
By abstaining from sex	332	84.3	34	8.6	10	2.5	18	4.6	394	100
By being faithful to one uninfected partner	265	67.9	91	23.3	17	4.4	17	4.4	390	100

The Pearson X^2 results are as follows:

- Correctly and consistently using condoms (F=0.732, df=3, p=0.866);
- Abstaining from sex (F=1.750, df=3, p=0.626) and
- Being faithful to one uninfected partner (F=2.080, df=3, p=0.556))

indicating that there were no significant differences in the knowledge levels of respondents who had heard about HIV and AIDS and those who had not regarding the prevention of HIV and AIDS (Table 4.11- Table 4.13).

Table 4.11: Cross tabulation regarding ever heard of HIV and AIDS and knowledge regarding prevention of HIV transmission

			HIV can be prevented by correctly and consistently using condoms				Total (n)
			SA	A	DA	SDA	
Have you ever heard of HIV and AIDS?	Yes	Count	150	182	30	11	373
		%	40.2%	48.8%	8.0%	2.9%	100.0%
	No	Count	7	7	1	1	16
		%	43.8%	43.8%	6.3%	6.3%	100.0%
Total		Count	157	189	31	12	389

Of the respondents that have heard of HIV and AIDS, 89% *(f*=332; n=373) agreed that HIV infection can be prevented by using condoms.

Table 4.12: Cross tabulation regarding ever heard of HIV and AIDS and knowledge regarding prevention of HIV and AIDS

			HIV can be prevented by abstaining from sex				Total
			SA	A	DA	SDA	
Have you ever heard of HIV and AIDS?	Yes	Count	317	31	9	18	375
		%	84.5%	8.3%	2.4%	4.8%	100.0%
	No	Count	14	1	1	0	16
		%	87.5%	6.3%	6.3%	0.0%	100.0%
Total		Count	331	32	10	18	391

Of the respondents that have heard of HIV and AIDS, 92.8% *(f*=348; n=375) agreed that HIV infection can be prevented by abstaining from sex, while7.2% disagreed .However, the question did not probe further for reasons of the answers given.

Table 4.13: Cross tabulation regarding awareness of HIV and AIDS and knowledge regarding prevention of HIV

			HIV can be prevented by being faithful to one uninfected partner				Total
			SA	A	DA	SDA	
Have you ever heard of HIV and AIDS?	Yes	Count	251	87	17	16	371
		%	67.7%	23.5%	4.6%	4.3%	100.0%
	No	Count	13	2	0	1	16
		%	81.3%	12.5%	0.0%	6.3%	100.0%
Total		Count	264	89	17	17	387

Of the respondents that have heard of HIV and AIDS, 91.1% *(f*=338; n=371) agreed that HIV infection can be prevented by being faithful to one uninfected partner while a 8,9% (*f=33 n= 371)* did not agree.

The respondents were also asked to indicate whether they had knowledge about HIV prevention before they first had sexual intercourse. A slightly higher percentage (80. 4%) of males indicated that they had prior knowledge of HIV prevention before becoming sexually active (Figure 4.11).

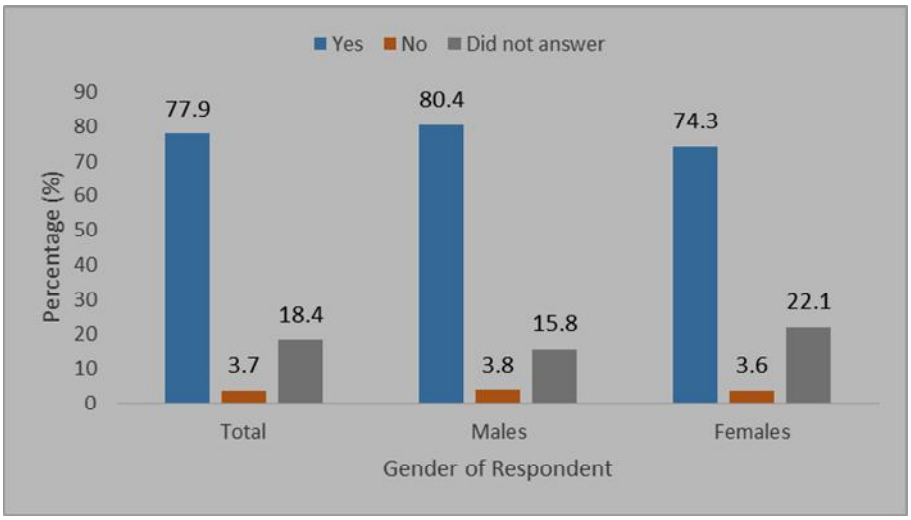


Figure 4.11: Did you have knowledge of prevention of HIV and AIDS before you became sexually active? (N=403)

A slightly higher percentage (83%; n=47) of respondents aged 26 years and above indicated that they had prior knowledge of HIV prevention before becoming sexually active compared to those who were 25 years or less (78%; n=356) (Figure 4.12).The overall knowledge of prevention of HIV in both males and females and in different age groups was encouraging. These findings are similar to other researches done elsewhere in sub-Saharan Africa universities.

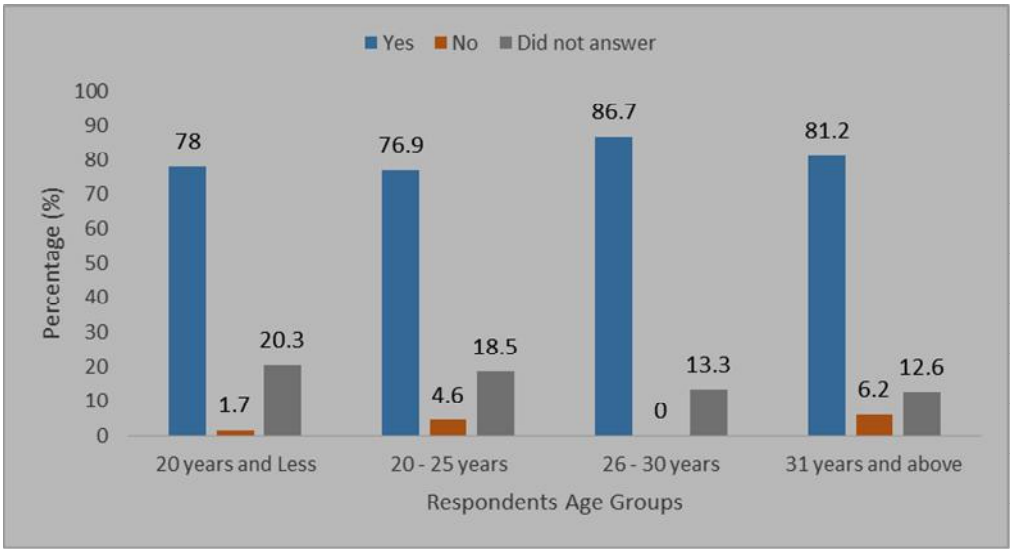


Figure 4.12: Did you have knowledge of prevention of HIV and AIDS before you became sexually active (N=403)?

4.3.1.3.2.3 *Knowledge regarding sexual risk behaviours*

This subsection examined the respondents' knowledge of sexual risk behaviours. All 403 respondents answered the items. The following are the results of the respondents: 351(84.6%) agreed that early sexual debut is a sexual risky behaviour, while 40 (9.9%) disagreed, 16 (4%) disagreed that concurrent multiple sexual partnerships is a risky sexual behaviour and 20 (4.9%) disagreed that unprotected sexual intercourse is a risky sexual behaviour (table 4.14).

Table 4.14: Knowledge regarding sexual risk behaviours

Sexual risk behaviours include:	SA		A		DA		SDA		DNA		Total	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%
Early sexual debut	183	45.4	158	39.2	19	4.7	21	5.2	22	5.5	403	100
Concurrent multiple sexual partnerships	268	66.5	102	25.3	6	1.5	10	2.5	17	4.2	403	100
Forced sex	218	54.1	137	34	15	3.7	14	3.5	19	4.7	403	100
Unprotected sexual intercourse	279	69.2	85	21.1	7	1.7	13	3.2	19	4.7	403	100

Cross tabulation results showed that there were no significant differences in the knowledge regarding the risk sexual behaviours among those with/without prior knowledge of HIV and AIDS, the Pearson Chi-square was not significant ($p>0.05$). A comparison of the observed frequencies shows that there were more respondents who were knowledgeable about risk sexual behaviours (Table 4.15 through 4.18).

Table 4.15: Cross tabulation of awareness of HIV and AIDS perception on early sexual debut as risk behaviour

			Sexual risk behaviours: early sexual debut				Total
			SA	A	DA	SDA	
Have you ever heard of HIV and AIDS?	Yes	Count	177	149	18	20	364
		%	48.6%	40.9%	4.9%	5.5%	100.0%
	No	Count	5	8	1	1	15
		%	33.3%	53.3%	6.7%	6.7%	100.0%
Total		Count	182	157	19	21	379

Of the respondents that have heard of HIV and AIDS, 89.6% *(f*=326; n=364) agreed that sexual risk behaviours included early sexual debut. The Pearson Chi-square was however not significant (F=1.357, df=3, p=0.716) indicating that the knowledge regarding the risk sexual behaviours among those with/without prior knowledge of HIV and AIDS was not significantly different.

Table 4.16: Cross tabulation of awareness of HIV and AIDS and knowledge regarding concurrent multiple sexual partnerships

			Sexual risk behaviours: concurrent multiple sexual partnerships				Total
			SA	A	DA	SDA	
Have you ever heard of HIV and AIDS?	Yes	Count	254	99	6	10	369
		%	68.8%	26.8%	1.6%	2.7%	100.0%
	No	Count	13	2	0	0	15
		%	86.7%	13.3%	0.0%	0.0%	100.0%
Total		Count	267	101	6	10	384

Of the respondents that have heard of HIV and AIDS, 95.7% *(f*=353; n=369) agreed that sexual risk behaviours included concurrent multiple sexual partnerships. The Pearson Chi-square was not significant (F=2.308, df=3, p=0.511) indicating that the knowledge regarding the risk sexual behaviours of concurrent multiple sexual partnerships among those with/without prior knowledge of HIV and AIDS was not significantly different.

Table 4.17: Cross tabulation of awareness of HIV and AIDS and forced sex as risk behaviour

			Sexual risk behaviours: forced sex				Total
			SA	A	DA	SDA	
Have you ever heard of HIV and AIDS?	Yes	Count	211	127	14	14	366
		%	57.7%	34.7%	3.8%	3.8%	100.0%
	No	Count	7	8	1	0	16
		%	43.8%	50.0%	6.3%	0.0%	100.0%
Total		Count	218	135	15	14	382

Of the respondents that have heard of HIV and AIDS, 92.3% *(f*=338; n=366) agreed that sexual risk behaviours included forced sex. The Pearson Chi-square was not significant (F=2.376, df=3, p=0.498) indicating that the knowledge regarding the risk

sexual behaviours of forced sex among those with/without prior knowledge of HIV and AIDS was not significantly different.

Table 4.18: Cross tabulation of awareness levels of HIV and AIDS and unprotected sexual intercourse as risk factor

			Sexual risk behaviours: unprotected sexual intercourse				Total
			SA	A	DA	SDA	
Have you ever heard of HIV and AIDS?	Yes	Count	267	80	7	13	367
		%	72.8%	21.8%	1.9%	3.5%	100.0%
	No	Count	12	3	0	0	15
		%	80.0%	20.0%	0.0%	0.0%	100.0%
Total		Count	279	83	7	13	382

Of the respondents that have heard of HIV and AIDS, 94.6% *(f*=347; n=367) agreed that sexual risk behaviours included unprotected sexual intercourse. The Pearson Chi-square was not significant (F=0.94, df=3, p=0.815) indicating that the knowledge regarding the risk sexual behaviours of unprotected sexual intercourse among those with/without prior knowledge of HIV and AIDS was significantly different.

4.3.1.3.2.4 Sources providing HIV and AIDS related knowledge

The respondents were asked to indicate the sources providing them with information on HIV and AIDS, and they were free to select more than one option. All the respondents answered this section. Their responses are depicted in figure 4.13 and figure 4.14.According to the respondents, their major sources of HIV and AIDS information were TV/Radio (84%) and Peers (75%).

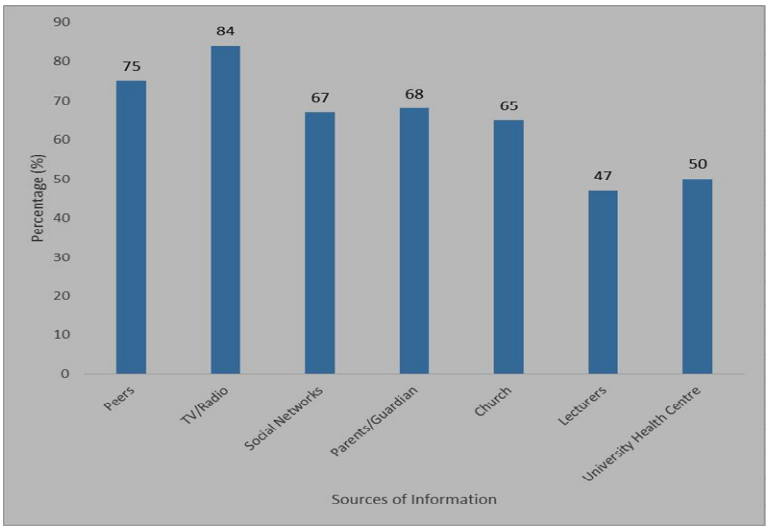


Figure 4.13 Sources of HIV and AIDS information (N=403)

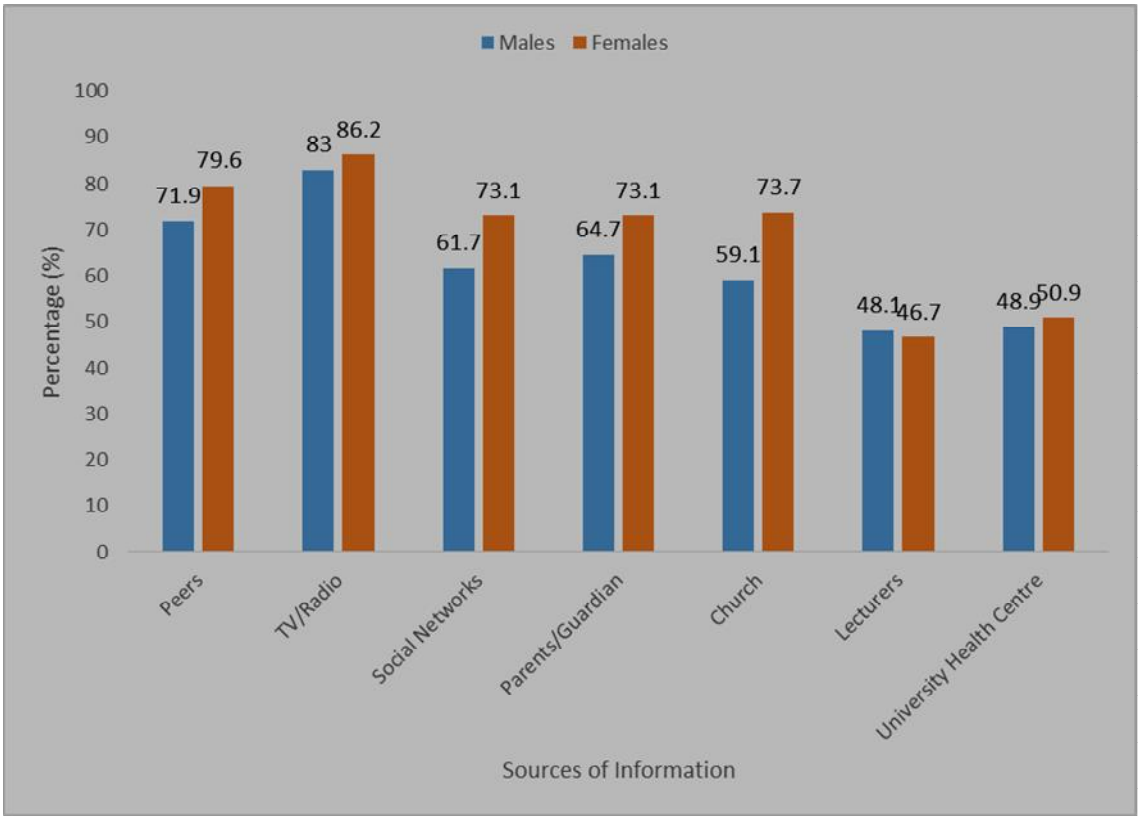


Figure 4.14 Sources of HIV and AIDS information by Gender (N=403)

Among the males 71.9% *(f*=169; n=235) and females 79.6% *(f*=133; n=167) indicated that peers were sources of information of HIV and AIDS (Table 4.19).

Table 4.19: Cross tabulation of Peers as source of information of HIV and AIDS and gender

			Peers as source of Information		Total
			No	Yes	
Gender of Respondent	Male	Count	66	169	235
		%	28.1%	71.9%	100.0%
	Female	Count	34	133	167
		%	20.4%	79.6%	100.0%
Total		Count	100	302	402

The Pearson Chi-square was not significant (F=3.118, df=1, p=0.077) indicating that males and females regarded peers as sources of information. There is thus no statistical significant difference between the responses per gender.

Among the males 83% *(f*=195; n=235) and females 86.2% *(f*=144; n=167) indicated that TV/Radio were sources of information of HIV and AIDS (Table 4.20).

Table 4.20: Cross tabulation of TV/Radio as sources of information of HIV and AIDS and gender

			TV/Radio as sources of information		Total
			No	Yes	
Gender of Respondent	Male	Count	40	195	235
		%	17.0%	83.0%	100.0%
	Female	Count	23	144	167
		%	13.8%	86.2%	100.0%
Total		Count	63	339	402

The Pearson Chi-square was not significant (F=0.780, df=1, p=0.377) indicating that males and females regarded TV/Radio as sources of information. There is thus no statistical significant difference between the responses per gender.

Among the males 61.7% *(f*=145; n=235) and females 73.1% *(f*=122; n=167) indicated that social networks as sources of information of HIV and AIDS (Table 4.21).

Table 4.21: Cross tabulation of social networks as sources of information of HIV and AIDS and gender

			Social networks as sources of information		Total
			No	Yes	
Gender of Respondent	Male	Count	90	145	235
		%	38.3%	61.7%	100.0%
	Female	Count	45	122	167
		%	26.9%	73.1%	100.0%
Total		Count	135	267	402

The Pearson Chi-square was statistically significant (F=5.640, df=1, **p=0.018**) indicating that there was a difference in the way males and females regarded social networks as sources of information.

Among the males 64.7% *(f*=152; n=235) and females 73.1% *(f*=122; n=167) indicated that parents/guardians as sources of information of HIV and AIDS (Table 4.22).

Table 4.22: Cross tabulation of parent/guardian as sources of information of HIV and AIDS and gender

			Parent/Guardian as sources of information		Total
			No	Yes	
Gender of Respondent	Male	Count	83	152	235
		%	35.3%	64.7%	100.0%
	Female	Count	45	122	167
		%	26.9%	73.1%	100.0%
Total		Count	128	274	402

The Pearson Chi-square was not significant (F=3.154, df=1, p=0.076) indicating that males and females regarded parents/guardians as sources of information. There is thus no statistical significant difference between the responses per gender.

Among the males 59.1% *(f*=139; n=235) and females 73.7% *(f*=44; n=167) indicated churches as sources of information of HIV and AIDS (Table 4.23).

Table 4.23: Cross tabulation of Church as source of information of HIV and AIDS and gender

			Church as source of information		Total
			No	Yes	
Gender of Respondent	Male	Count	96	139	235
		%	40.9%	59.1%	100.0%
	Female	Count	44	123	167
		%	26.3%	73.7%	100.0%
Total		Count	140	262	402

The Pearson Chi-square was statistically significant (F=9.048, df=1, **p=0.003**) indicating that there was a statistical significant difference in the way males and females regarded churches as sources of information. More females than males indicated that the churches were sources of information on HIV and AIDS.

Among the males 51.9% *(f*=122; n=235) and females 53.3% *(f*=89; n=167) did not indicate lecturers as sources of information of HIV and AIDS (Table 4.24).

Table 4.24: Cross tabulation of lecturer as source of information of HIV and AIDS and gender

			Lecturer as source of information		Total
			No	Yes	
Gender of Respondent	Male	Count	122	113	235
		%	51.9%	48.1%	100.0%
	Female	Count	89	78	167
		%	53.3%	46.7%	100.0%
Total		Count	211	191	402

The Pearson Chi-square was not significant (F=0.150, df=1, p=0.698) indicating that males and females did not widely regard lecturers as sources of information.

Table 4.25: Cross tabulation of University Health Centre as source of information of HIV and AIDS and gender

			University Health Centre as source of information		Total
			No	Yes	
Gender of Respondent	Male	Count	120	115	235
		%	51.1%	48.9%	100.0%
	Female	Count	82	85	167
		%	49.1%	50.9%	100.0%
Total		Count	202	200	402

The Pearson Chi-square was not statistically significant (F=0.074, df=1, p=0.785) Among the males 51.1% *(f*=120; n=235) and females 49.1% *(f*=89; n=167) did not indicate the University Health Centre as a source of information of HIV and AIDS (Table 4.25).

4.3.2 Perceived susceptibility

Individual perceptions about a disease are "a person's beliefs about one's own susceptibility to the disease plus the seriousness with which one views the perceived threat of the illness" (Gurmesa et al 2013)).In this study individual perceptions concern the respondents' beliefs about their susceptibility to HIV and AIDS and their perceived severity of HIV and AIDS.

Perceived susceptibility refers to an individual's estimated probability of encountering a specific health problem such as HIV and AIDS. This subsection consisted of eight items requesting the respondents to indicate their agreement on a four-point Likert scale on items pertaining to perceptions of susceptibility to HIV and AIDS. All 403 respondents answered this section. Of the respondents 3 (0.9%) believed that HIV does not exist, 41 (10%) believed that university students are invulnerable to HIV, 42 (10.4%) believed that they could see if their partner was infected and that an HIV positive partner on ART could not transmit HIV (Table 4.26).

Table 4.26: Perceived susceptibility to HIV/AIDS

	SA		A		DA		SDA		DNA		Total	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%
HIV and AIDS really exists	356	88.3	30	7.4	3	0.7	1	0.2	13	3.2	403	100
University students are immune to HIV and AIDS	15	3.7	26	6.5	72	17.9	269	66.7	21	0.2	403	100
One can see that their partner is not infected by their physical features	14	3.5	28	6.9	91	22.6	253	62.8	17	4.2	403	100
Youths are prone to HIV and AIDS	162	40.2	175	43.4	21	5.2	20	5	25	6.2	403	100
An HIV positive person on ART can still transmit HIV	193	47.9	146	36.2	18	4.5	22	5.5	24	6	403	100
It is safe to have sex with an HIV positive person on ART	13	3.2	17	4.2	107	26.6	242	60	24	6	403	100
First year students are free from HIV	12	3	12	3	67	16.6	295	73.2	17	4.2	403	100
University students are at risk of contracting HIV and AIDS	223	55.3	134	33.3	13	3.2	16	4	17	4.2	403	100

These responses revealed some misunderstandings and inadequate knowledge of HIV and AIDS among the respondents that could decrease their perceived susceptibility to HIV and AIDS and in turn increase their risk of contracting HIV.

Chi-square and cross tabulations regarding perceived susceptibility to HIV and AIDs among the respondents based on gender, age, religion and social group affiliations are depicted in tables 4.27 to 4.30.

4.3.2.1 Perceived susceptibility: reality of HIV and AIDS

4.3.2.1.1 Susceptibility: reality and gender

Among the males 99.1% *(f*=223; n=225) and females 98.7% *(f*=162; n=164) indicated that HIV and AIDS really exists (Table 4.27).

Table 4.27: Cross tabulation of reality of HIV and AIDS and gender

			HIV and AIDS really exist				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	205	18	1	1	225
		%	91.1%	8.0%	0.4%	0.4%	100.0%
	Female	Count	151	11	2	0	164
		%	92.1%	6.7%	1.2%	0.0%	100.0%
Total		Count	356	29	3	1	389

The Pearson Chi-square was not significant (F=1.690, df=3, p=0.639) indicating that males and females regarded HIV and AIDS to really exists. There is thus no statistical significant difference between the responses per gender.

4.3.2.1.2 Susceptibility: reality and age

Among the respondents aged 20 years and less 98.3% *(f*=115; n=117), 21-25 years 99.6% (f=228; n=229), 26-30 years 100% *(f*=14; n=14) and 31 years and above 96.7% *(f*=29; n=30) indicated that HIV and AIDS really exists (Table 4.28).

Table 4.28: Cross tabulation reality of HIV and AIDS and age

			HIV and AIDS really exist				Total
			SA	A	DA	SDA	
Age Groups	20 and Less	Count	110	5	2	0	117
		%	94.0%	4.3%	1.7%	0.0%	100.0%
	21 – 25 years	Count	209	19	1	0	229
		%	91.3%	8.3%	.4%	0.0%	100.0%
	26-30 years	Count	10	4	0	0	14
		%	71.4%	28.6%	0.0%	0.0%	100.0%
	31 years and Above	Count	27	2	0	1	30
		%	90.0%	6.7%	0.0%	3.3%	100.0%
Total		Count	356	30	3	1	390

The Pearson Chi-square was significant (F=24.580, df=9, **p=0.003**) indicating that there was a variation in the way the different age groups regarded that HIV and AIDS really exists.

4.3.2.1.3 Susceptibility: reality and religious affiliation

Among the respondents Catholics 100% (f=77; n=77), Muslims 100% (f=2; n=2), Pentecostals/Christian 98.6% *(f*=292; n=296), Jehovah's Witness 100% *(f*=2; n=2), Indigenous Beliefs 100% *(f*=7; n=7) and Atheists 100% *(f*=1; n=1) indicated that HIV and AIDS really exists (Table 4.29).

Table 4.29: Cross tabulation of HIV and AIDS really exists and religion

			HIV and AIDS really exist				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	74	3	0	0	77
		%	96.1%	3.9%	0.0%	0.0%	100.0%
	Muslim	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Pentecostals/Christian	Count	268	24	3	1	296
		%	90.5%	8.1%	1.0%	0.3%	100.0%
	Jehovah's Witness	Count	2	0	0	0	2
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	Indigenous Beliefs	Count	7	0	0	0	7
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	Atheist	Count	1	0	0	0	1
		%	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	353	28	3	1	385

The Pearson Chi-square was not significant (F=9.102, df=15, p=0.872) indicating that there was no difference in the way respondents from different religions regarded that HIV and AIDS really exists.

4.3.2.1.4 Susceptibility: reality and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 97.4% (f=152; n=156), Sports Group 100% (f=34; n=34), Social Club 100% *(f*=65; n=65), None 100% *(f*=65; n=65), Youth Church Group and Sports Group 100% *(f*=18; n=18), Youth Church Group, Sports Group and Social Group 100% *(f*=16; n=16) and

Sports Group and Social Club 100% *(f*=5; n=5) indicated that HIV and AIDS really exists (Table 4.30).

Table 4.30: Cross tabulation of the reality of HIV and AIDS and Social group affiliation

			HIV and AIDS really exist				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	137	15	3	1	156
		%	87.8%	9.6%	1.9%	.6%	100.0%
	Sports Group	Count	34	0	0	0	34
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	Social Club	Count	62	3	0	0	65
		%	95.4%	4.6%	0.0%	0.0%	100.0%
	None	Count	61	4	0	0	65
		%	93.8%	6.2%	0.0%	0.0%	100.0%
	Youth Group, Sports Group	Count	17	1	0	0	18
		%	94.4%	5.6%	0.0%	0.0%	100.0%
	Youth Group, Social Club	Count	16	3	0	0	19
		%	84.2%	15.8%	0.0%	0.0%	100.0%
	Youth Group, Sports Group, Social Club	Count	15	1	0	0	16
		%	93.8%	6.3%	0.0%	0.0%	100.0%
	Sports Group, Social Club	Count	4	1	0	0	5
		%	80.0%	20.0%	0.0%	0.0%	100.0%
Total		Count	346	28	3	1	378

The Pearson Chi-square was not significant (F=13.989, df=21, p=0.87) indicating that there was no difference in the way respondents from social groups regarded that HIV and AIDS really exists.

4.3.2.2 Susceptibility: invulnerability

Respondents' perception of susceptibility to contracting HIV was measured through their responses to the statement "students are not immune to HIV and AIDS.

4.3.2.2.1 Susceptibility: invulnerability and gender

Among the males 90.1% *(f*=199; n=221) and females 88.1% *(f*=141; n=160) indicated that university students are not immune (invulnerable) to HIV and AIDS (Table 4.31).

Table 4.31: Cross tabulation of invulnerability of university students to HIV and gender

			First year university students are HIV free				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	5	17	43	156	221
		%	2.3%	7.7%	19.5%	70.6%	100.0%
	Female	Count	10	9	29	112	160
		%	6.3%	5.6%	18.1%	70.0%	100.0%
Total		Count	15	26	72	268	381

The Pearson Chi-square was not significant (F=4.421, df=3, p=0.219) indicating that both males and females disagreed with the statement that university students are immune to HIV and AIDS.

4.3.2.2.2 Susceptibility: invulnerability and age

Among the respondents aged 20 years and less 88.4% *(f*=99; n=112), 21-25 years 88.9% (f=200; n=225), 26-30 years 92.9% *(f*=13; n=14) and 31 years and above 93.5% *(f*=29; n=31) indicated that university students are not immune to HIV and AIDS (Table 4.32).

Table 4.32: Cross tabulation of invulnerability to HIV according to age range

			University students are immune to HIV and AIDS				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	3	10	19	80	112
		%	2.7%	8.9%	17.0%	71.4%	100.0%
	21 – 25 years	Count	11	14	45	155	225
		%	4.9%	6.2%	20.0%	68.9%	100.0%
	26-30 years	Count	0	1	4	9	14
		%	0.0%	7.1%	28.6%	64.3%	100.0%
	31 years and Above	Count	1	1	4	25	31
		%	3.2%	3.2%	12.9%	80.6%	100.0%
Total		Count	15	26	72	269	382

The Pearson Chi-square was not significant (F=5.282, df=9, p=0.809) indicating that there is no difference between the age groups' responses to their perception of invulnerability to HIV and AIDS really exists.

4.3.2.2.3 Susceptibility: invulnerability and religion

Among the respondents Catholics 92.2% (f=71; n=77), Muslims 100% (f=2; n=2), Pentecostals/Christian 88.5% *(f*=256; n=289), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 83.3% *(f*=5; n=6) and Atheists 100% *(f*=1; n=1) indicated that university students were not immune to HIV and AIDS (Table 4.33).

Table 4.33: Cross tabulation of invulnerability to HIV and religion

			University students are immune to HIV and AIDS				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	2	4	17	54	77
		%	2.6%	5.2%	22.1%	70.1%	100.0%
	Muslim	Count	0	0	2	0	2
		%	0.0%	0.0%	100.0%	0.0%	100.0%
	Pentecostals/Christian	Count	13	20	51	205	289
		%	4.5%	6.9%	17.6%	70.9%	100.0%
	Jehovah's Witness	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0%
	Indigenous Beliefs	Count	0	1	0	5	6
		%	0.0%	16.7%	0.0%	83.3%	100.0%
	Atheist	Count	0	0	0	1	1
		%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	15	25	71	266	377

The Pearson Chi-square was not significant (F=14.315, df=15, p=0.502) indicating there was no difference in the way respondents from different religions regarded that the statement that university students are immune to HIV and AIDS.

4.3.2.2.4 Susceptibility: invulnerability and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 85.4% (f=129; n=151), Sports Group 85.3% (f=29; n=34), Social Club 92.4% *(f*=61; n=66), None 95.3% *(f*=61; n=64), Youth Church Group and Sports Group 93.8% *(f*=15; n=16), Youth Group and Social Group 89.5% *(f*=17; n=19), Youth Church Group, Sports Group and Social Group 93.8% *(f*=15; n=16) and Sports Group and Social Club

100% *(f*=5; n=5) indicated that university students are not immune to HIV and AIDS (Table 4.34).

Table 4.34: Cross tabulation of 'University students are immune to HIV and AIDS' and Social group affiliation

			University students are immune to HIV and AIDS				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	8	14	34	95	151
		%	5.3%	9.3%	22.5%	62.9%	100.0%
	Sports Group	Count	2	3	3	26	34
		%	5.9%	8.8%	8.8%	76.5%	100.0%
	Social Club	Count	1	4	12	49	66
		%	1.5%	6.1%	18.2%	74.2%	100.0%
	None	Count	2	1	10	51	64
		%	3.1%	1.6%	15.6%	79.7%	100.0%
	Youth Group, Sports Group	Count	0	1	4	11	16
		%	0.0%	6.3%	25.0%	68.8%	100.0%
	Youth Group, Social Club	Count	0	2	4	13	19
		%	0.0%	10.5%	21.1%	68.4%	100.0%
	Youth Group, Sports Group, Social Club	Count	1	0	3	12	16
		%	6.3%	0.0%	18.8%	75.0%	100.0%
	Sports Group, Social Club	Count	0	0	1	4	5
		%	0.0%	0.0%	20.0%	80.0%	100.0%
Total		Count	14	25	71	261	371

The Pearson Chi-square was not significant (F=16.132, df=21, p=0.762) indicating that there was no difference in the way respondents from social groups disagreed with the statement that university students are immune to HIV and AIDS.

4.3.2.3 Susceptibility: Youths' proneness towards contracting HIV

4.3.2.3.1 Susceptibility: Youths' proneness towards contracting HIV and gender

Among the males 88.1% *(f*=193; n=219) and females 90.5% *(f*=143; n=158) indicated that youths are prone to HIV and AIDS (Table 4.35).

Table 4.35: Cross tabulation of youths' proneness to HIV and AIDS' and gender

			Youths are prone to HIV and AIDS				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	93	100	14	12	219
		%	42.5%	45.7%	6.4%	5.5%	100.0%
	Female	Count	69	74	7	8	158
		%	43.7%	46.8%	4.4%	5.1%	100.0%
Total		Count	162	174	21	20	377

The Pearson Chi-square was not significant (F=0.723, df=3, p=0.868) indicating that males and females agreed that youths are prone to HIV and AIDS.

4.3.2.3.2 Susceptibility: Youths' proneness towards contracting HIV and age

Among the respondents aged 20 years and less 87.1% *(f*=101; n=116), 21-25 years 91.8% (f=202; n=220), 26-30 years 75% *(f*=9; n=12) and 31 years and above 83.3% *(f*=25; n=30) indicated that youths are prone to HIV and AIDS (Table 4.36).

Table 4.36: Cross tabulation of 'youths' proneness to HIV and AIDS' and age

			Youths are prone to HIV and AIDS				Total
			SA	A	DA	SDA	
Age Groups	20 and Less	Count	55	46	8	7	116
		%	47.4%	39.7%	6.9%	6.0%	100.0%
	21 – 25	Count	90	112	11	7	220
		%	40.9%	50.9%	5.0%	3.2%	100.0%
	26-30	Count	4	5	1	2	12
		%	33.3%	41.7%	8.3%	16.7%	100.0%
	31 and Above	Count	13	12	1	4	30
		%	43.3%	40.0%	3.3%	13.3%	100.0%
Total		Count	162	175	21	20	378

The Pearson Chi-square was significant (F=12.945, df=9, p=0.165) indicating that the different age groups agreed that youths are prone to HIV and AIDS.

Among the respondents Catholics 89.3% (f=67; n=75), Muslims 100% (f=2; n=2), Pentecostals/Christian 89.2% *(f*=255; n=286), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 85.7% *(f*=6; n=7) and Atheists 100% *(f*=1; n=1) indicated that youths are prone to HIV and AIDS (Table 4.37).

Table 4.37: Cross tabulation of youths' proneness to HIV and AIDS' and religion

			Youths are prone to HIV and AIDS				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	37	30	3	5	75
		%	49.3%	40.0%	4.0%	6.7%	100.0%
	Muslim	Count	0	2	0	0	2
		%	0.0%	100.0%	0.0%	0.0%	100.0%
	Pentecostals/Christian	Count	118	137	17	14	286
		%	41.3%	47.9%	5.9%	4.9%	100.0%
	Jehovah's Witness	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Indigenous Beliefs	Count	3	3	1	0	7
		%	42.9%	42.9%	14.3%	0.0%	100.0%
	Atheist	Count	1	0	0	0	1
		%	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	160	173	21	19	373

The Pearson Chi-square was not significant (F=7.689, df=15, p=0.936) indicating that there was no difference in the way respondents from different religions agreed with the statement that youths are prone to HIV and AIDS.

4.3.2.3.3 Susceptibility: Youths' proneness towards contracting HIV and Social group affiliation

Among the respondents' social group affiliations, Youth Church Group 87.6% (f=134; n=153), Sports Group 81.3% (f=26; n=32), Social Club 91.8% *(f*=56; n=61), None 95.1% *(f*=58; n=61), Youth Church Group and Sports Group 94.1% *(f*=16; n=17), Youth Group and Social Group 100% *(f*=19; n=19), Youth Church Group, Sports Group and Social Group 81.3% *(f*=13; n=16) and Sports Group and Social Club 100% *(f*=5; n=5) indicated that youths are prone to HIV and AIDS (Table 4.38).

Table 4.38: Cross tabulation of youths' proneness to HIV and AIDS' and Social group affiliation

			Youths are prone to HIV and AIDS				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	61	73	12	7	153
		%	39.9%	47.7%	7.8%	4.6%	100.0%
	Sports Group	Count	12	14	3	3	32
		%	37.5%	43.8%	9.4%	9.4%	100.0%
	Social Club	Count	26	30	2	3	61
		%	42.6%	49.2%	3.3%	4.9%	100.0%
	None	Count	31	27	1	4	63
		%	49.2%	42.9%	1.6%	6.3%	100.0%
	Youth Group, Sports Group	Count	7	9	0	1	17
		%	41.2%	52.9%	0.0%	5.9%	100.0%
	Youth Group, Social Club	Count	12	7	0	0	19
		%	63.2%	36.8%	0.0%	0.0%	100.0%
	Youth Group, Sports Group, Social Club	Count	6	7	1	2	16
		%	37.5%	43.8%	6.3%	12.5%	100.0%
	Sports Group, Social Club	Count	2	3	0	0	5
		%	40.0%	60.0%	0.0%	0.0%	100.0%
Total		Count	157	170	19	20	366

The Pearson Chi-square was not significant (F=15.536, df=21, p=0.795) indicating that there was no difference in the way respondents from social groups agreed with the statement that youths are prone to HIV and AIDS.

4.3.2.4 Susceptibility: University students' proneness towards contracting HIV

4.3.2.4.1 Susceptibility: University students' proneness towards contracting HIV and gender

Among the males 92.4% *(f*=206; n=223) and females 92.6% *(f*=150; n=162) indicated that University students are at risk of contracting HIV and AIDS (Table 4.39).

Table 4.39: Cross tabulation of university students' proneness of contracting HIV and gender

			University students are at risk of contracting HIV and AIDS				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	132	74	6	11	223
		%	59.2%	33.2%	2.7%	4.9%	100.0%
	Female	Count	91	59	7	5	162
		%	56.2%	36.4%	4.3%	3.1%	100.0%
Total		Count	223	133	13	16	385

The Pearson Chi-square was not significant (F=1.941, df=3, p=0.585) indicating that males and females agreed in the same way that university students are at risk of contracting HIV and AIDS.

4.3.2.4.2 Susceptibility: University students' proneness towards contracting HIV and age

Among the respondents aged 20 years and less 96.5% *(f*=109; n=113), 21-25 years 91.7% (f=228), 26-30 years 85.7% *(f*=12; n=14) and 31 years and above 97.1% *(f*=27; n=31) indicated that University students are at risk of contracting HIV and AIDS (Table 4.40).

Table 4.40: Cross tabulation of university students' proneness to contracting HIV and Age Groups

			University students are at risk of contracting HIV and AIDS				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	73	36	1	3	113
		%	64.6%	31.9%	.9%	2.7%	100.0%
	21 – 25 years	Count	129	80	9	10	228
		%	56.6%	35.1%	3.9%	4.4%	100.0%
	26 – 30 years	Count	5	7	1	1	14
		%	35.7%	50.0%	7.1%	7.1%	100.0%
	31 years and Above	Count	16	11	2	2	31
		%	51.6%	35.5%	6.5%	6.5%	100.0%
Total		Count	223	134	13	16	386

The Pearson Chi-square was not significant (F=8.676, df=9, p=0.468) indicating that there was no variation in the way the different age groups regarded that University students are at risk of contracting HIV and AIDS.

4.3.2.4.3 Susceptibility: University students' proneness towards contracting HIV and religion

Among the respondents Catholics 94.7% (f=71; n=75), Muslims 100% (f=2; n=2), Pentecostals/Christian 92.2% *(f*=271; n=294), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 85.7% *(f*=6; n=7) and Atheists 100% *(f*=1; n=1) indicated that university students are at risk of contracting HIV and AIDS (Table 4.41).

Table 4.41: Cross tabulation of 'University students are at risk of contracting HIV and AIDS' and religious affiliation

			University students are at risk of contracting HIV and AIDS				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	50	21	1	3	75
		%	66.7%	28.0%	1.3%	4.0%	100.0%
	Muslim	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Pentecostals/ Christian	Count	164	107	11	12	294
		%	55.8%	36.4%	3.7%	4.1%	100.0%
	Jehovah's Witness	Count	2	0	0	0	2
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	Indigenous Beliefs	Count	3	3	1	0	7
		%	42.9%	42.9%	14.3%	0.0%	100.0%
	Atheist	Count	1	0	0	0	1
		%	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	221	132	13	15	381

The Pearson Chi-square was not significant (F=9.087, df=15, p=0.873) indicating that there was no difference in the way respondents from different religions agreed in the same way that university students are at risk of contracting HIV and AIDS.

4.3.3 Perceived severity

The second concept of the HBM is perceived severity. This refers to one's beliefs of how serious a condition and its consequences are (Walker 2006). Perceived severity of a specific health problem indicates the of concern created by the thought of the disease or problems associated with the given health condition such as HIV and AIDS. This subsection consisted of eight items requesting the respondents to indicate their agreement of a four-point Likert scale on their perceptions regarding the severity of HIV and AIDS. Their responses are shown in table 4.58. The majority of respondents indicated that the consequences of being infected by HIV and AIDS are very severe and the disease cannot be treated.

Chi-square analysis showed that age, gender, religion and social group affiliation did not have a bearing on the respondents' perceived severity of HIV and AIDS. Cross tabulations indicated that the majority of respondents regardless of their social demographics would like to avoid becoming infected by HIV, as it cannot be cured.

Table 4.42: Perceived severity of HIV and AIDS

	SA		A		DA		SDA		DNA		Total	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%
HIV and AIDS is just like any other disease	67	16.6	129	32	106	26.3	87	21.6	14	3.5	403	100
HIV and AIDS can be cured	11	2.7	40	9.9	133	33	203	50.4	16	4	403	100
The consequences of HIV are so severe that I might want to avoid it	263	65.3	88	21.8	8	2	29	7.2	15	3.7	403	100
Some traditional and religious practitioners can cure AIDS	24	6	96	8.9	38	24.3	229	56.8	16	4	403	100
HIV can be prevented	278	69	92	22.8	3	0.7	12	3	18	4.5	403	100
Some antibiotics can treat AIDS	15	3.7	32	7.9	122	30.3	213	52.9	21	5.2	403	100
Highly Active Antiretroviral Therapy (HAART) cures AIDS	2	0.5	18	4.5	175	43.4	181	44.9	27	6.7	403	100
HIV is like any other sexually transmitted infection which can be treated	18	4.5	36	8.9	125	31	203	50.4	21	5.2	403	100

4.3.3.1 Perceived severity: HIV and AIDS is just like any other disease'

4.3.3.1.1 Perceived severity: HIV and AIDS is just like any other disease' and gender

Among the males 53.5% *(f*=121; n=226) disagreed and females 55.6% *(f*=90; n=162) agreed with the statement that HIV and AIDS is like any other diseases (Table 4.43). This has implications when the issue of safe sex comes into play.

Table 4.43: Cross tabulation of 'HIV and AIDS is just like any other disease' and gender

			HIV and AIDS is just like any other disease				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	37	68	64	57	226
		%	16.4%	30.1%	28.3%	25.2%	100.0%
	Female	Count	30	60	42	30	162
		%	18.5%	37.0%	25.9%	18.5%	100.0%
Total		Count	67	128	106	87	388

The Pearson Chi-square was not significant (F=3.721, df=3, p=0.293) indicating that males and females had the same perception of HIV and AIDS.

4.3.3.1.2 Perceived severity: HIV and AIDS is just like any other disease' and age

Among the respondents aged 20 years and less 54.3% *(f*=63; n=116) and 21-25 years 51.1% (f=117; n=229) disagreed with the statement that HIV and AIDS is just like any other diseases; 26-30 years 71.4% *(f*=10; n=14) and 31 years and above 70% *(f*=21; n=30) agreed with the statement (Table 4.44). Respondents aged 20 years and below (54.4%) and those between 21-25 years (51.1%) did not agree that AIDS is just like any other disease. These are the age groups of the majority of university students.

Table 4.44: Cross tabulation of 'HIV and AIDS is just like any other disease' and Age

			HIV and AIDS is just like any other disease				Total
			SA	A	DA	SDA	
Age Groups	20 and Less	Count	19	34	38	25	116
		%	16.4%	29.3%	32.8%	21.6%	100.0%
	21 – 25	Count	37	75	59	58	229
		%	16.2%	32.8%	25.8%	25.3%	100.0%
	26-30	Count	3	7	3	1	14
		%	21.4%	50.0%	21.4%	7.1%	100.0%
	31 and Above	Count	8	13	6	3	30
		%	26.7%	43.3%	20.0%	10.0%	100.0%
Total		Count	67	129	106	87	389

The Pearson Chi-square was not significant (F=11.224, df=9, p=0.261) indicating that there was no variation in the way the different age groups perceived HIV and AIDS.

4.3.3.1.3 Perceived severity: HIV and AIDS is just like any other disease' and religion

Among the respondents Catholics 51.9% (f=42; n=79), Muslims 50% (*f*=1; n=2), Pentecostals/Christian 50.9% *(f*=149; n=293) and Jehovah's witness 50% *(f*=1; n=2) disagreed and Indigenous Beliefs 57.1% *(f*=4; n=7) and Atheists 100% *(f*=1; n=1) agreed that HIV and AIDS is just like any other disease (Table 445). More Christian respondents (50.8%) did not agree that HIV and AIDs is just like any other disease.

Table 4.45: Cross tabulation of 'HIV and AIDS is just like any other disease' and Religion

			HIV and AIDS is just like any other disease				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	14	27	23	15	79
		%	17.7%	34.2%	29.1%	19.0%	100.0%
	Muslim	Count	0	1	1	0	2
		%	0.0%	50.0%	50.0%	0.0%	100.0%
	Pentecostals/Christian	Count	50	94	80	69	293
		%	17.1%	32.1%	27.3%	23.5%	100.0%
	Jehovah's Witness	Count	1	0	1	0	2
		%	50.0%	0.0%	50.0%	0.0%	100.0%
	Indigenous Beliefs	Count	1	3	1	2	7
		%	14.3%	42.9%	14.3%	28.6%	100.0%
	Atheist	Count	0	1	0	0	1
		%	0.0%	100.0%	0.0%	0.0%	100.0%
Total		Count	66	126	106	86	384

The Pearson Chi-square was not significant (F=7.689 df=15, p=0.936) indicating that there was no difference in the way respondents from different religions perceived HIV and AIDS.

4.3.3.1.4 Perceived severity: HIV and AIDS is just like any other disease' and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 51% (f=79; n=155), Sports Group 57.6% (f=19; n=33), Youth Church Group and Sports Group

55.6% *(f*=10; n=18), Youth Church Group, Sports Group and Social Group 56.3% *(f*=9; n=16) and Sports Group and Social Club 60% *(f*=3; n=5) agreed; and Social Club 53% *(f*=35; n=66), None 95.3% *(f*=34; n=64), Youth Group and Social Group 57.9% *(f*=11; n=19) disagreed with the statement that HIV and AIDS is just like any other disease (Table 4.46).

Table 4.46: Cross tabulation of 'HIV and AIDS is just like any other disease' and social group affiliation

			HIV and AIDS is just like any other disease				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	29	50	42	34	155
		%	18.7%	32.3%	27.1%	21.9%	100.0%
	Sports Group	Count	8	11	5	9	33
		%	24.2%	33.3%	15.2%	27.3%	100.0%
	Social Club	Count	8	23	22	13	66
		%	12.1%	34.8%	33.3%	19.7%	100.0%
	None	Count	9	22	16	18	65
		%	13.8%	33.8%	24.6%	27.7%	100.0%
	Youth Group, Sports Group	Count	3	7	7	1	18
		%	16.7%	38.9%	38.9%	5.6%	100.0%
	Youth Group, Social Club	Count	3	5	5	6	19
		%	15.8%	26.3%	26.3%	31.6%	100.0%
	Youth Group, Sports Group, Social Club	Count	4	5	5	2	16
		%	25.0%	31.3%	31.3%	12.5%	100.0%
	Sports Group, Social Club	Count	1	2	1	1	5
		%	20.0%	40.0%	20.0%	20.0%	100.0%
Total		Count	65	125	103	84	377

The Pearson Chi-square was not significant (F=12.858, df=21, p=0.914) indicating that there was no difference in the way respondents from social groups perceived HIV and AIDS.

4.3.3.2 Perceived severity: HIV and AIDS can be cured'

4.3.3.2.1 Perceived severity: HIV and AIDS can be cured and gender'

Among the males 86.2% *(f*=193; n=224) and females 87.7% *(f*=142; n=162) indicated that HIV and AIDS has no cure (Table 4.47).

Table 4.47: Cross tabulation of 'HIV and AIDS can be cured' and Gender

			HIV and AIDS can be cured				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	6	25	72	121	224
		%	2.7%	11.2%	32.1%	54.0%	100.0%
	Female	Count	5	15	61	81	162
		%	3.1%	9.3%	37.7%	50.0%	100.0%
Total		Count	11	40	133	202	386

The Pearson Chi-square was not significant (F=1.502, df=3, p=0.682) indicating that both males and females disagreed with the statement that HIV and AIDS can be cured.

4.3.3.2.2 Perceived severity: HIV and AIDS can be cured and age

Among the respondents aged 20 years and less 85.5% *(f*=100; n=117), 21-25 years 88% (f=198; n=225), 26-30 years 78.6% *(f*=11; n=14) and 31 years and above 87.1% *(f*=27; n=31) disagreed with the statement that HIV and AIDS can be cured (Table 4.48).

Table 4.48: Cross tabulation of 'HIV and AIDS can be cured'and Age

			HIV and AIDS can be cured				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	5	12	38	62	117
		%	4.3%	10.3%	32.5%	53.0%	100.0%
	21 – 25 years	Count	4	23	81	117	225
		%	1.8%	10.2%	36.0%	52.0%	100.0%
	26-30 years	Count	1	2	6	5	14
		%	7.1%	14.3%	42.9%	35.7%	100.0%
	31 years and Above	Count	1	3	8	19	31
		%	3.2%	9.7%	25.8%	61.3%	100.0%
Total		Count	11	40	133	203	387

The Pearson Chi-square was not significant (F=5.370, df=9, p=0.801) indicating that there was all the different age groups did not concur with the statement regarded that HIV and AIDS can be cured.

4.3.3.2.3 Perceived severity: HIV and AIDS can be cured and religion

Among the respondents Catholics 90.9% (f=70; n=77), Muslims 100% (f=2; n=2), Pentecostals/Christian 85.7% *(f*=251; n=293), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 100% *(f*=7; n=7) and Atheists 100% *(f*=1; n=1) disagreed with the statement that HIV and AIDS can be cured (Table 4.49).

Table 4.49: Cross tabulation of 'HIV and AIDS can be cured' and Religion

			HIV and AIDS can be cured				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	3	4	29	41	77
		%	3.9%	5.2%	37.7%	53.2%	100.0%
	Muslim	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0%
	Pentecostals/Christian	Count	7	35	97	154	293
		%	2.4%	11.9%	33.1%	52.6%	100.0%
	Jehovah's Witness	Count	0	0	0	2	2
		%	0.0%	0.0%	0.0%	100.0%	100.0%
	Indigenous Beliefs	Count	0	0	3	4	7
		%	0.0%	0.0%	42.9%	57.1%	100.0%
	Atheist	Count	0	0	1	0	1
		%	0.0%	0.0%	100.0%	0.0%	100.0%
Total		Count	10	39	131	202	382

The Pearson Chi-square was not significant (F=8.857, df=15, p=0.885) indicating that respondents from all the different religions disagreed with the statement that HIV and AIDS can be cured.

4.3.3.2.4 Perceived severity: HIV and AIDS can be cured and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 85.2% (f=132; n=155), Sports Group 94.1% (f=32; n=34), Social Club 84.4% *(f*=54; n=64), None 89.1% *(f*=57; n=64), Youth Church Group and Sports Group 77.8% *(f*=14; n=18), Youth Group and Social Group 100% *(f*=19; n=19), Youth Church Group, Sports Group and Social Group 87.5% *(f*=14; n=16) and Sports Group and Social Club

100% *(f*=5; n=5) indicated that university students are not immune to HIV and AIDS (Table 4.50).

Table 4.50: Cross tabulation of 'HIV and AIDS can be cured' and Social Group Affiliation

			HIV and AIDS can be cured				Total
			SA	A	DA	SD	
Social Group Affiliations	Youth Church Group	Count	5	18	51	81	155
		%	3.2%	11.6%	32.9%	52.3%	100.0%
	Sports Group	Count	2	0	14	18	34
		%	5.9%	0.0%	41.2%	52.9%	100.0%
	Social Club	Count	2	8	19	35	64
		%	3.1%	12.5%	29.7%	54.7%	100.0%
	None	Count	2	5	19	38	64
		%	3.1%	7.8%	29.7%	59.4%	100.0%
	Youth Group, Sports Group	Count	0	4	8	6	18
		%	0.0%	22.2%	44.4%	33.3%	100.0%
	Youth Group, Social Club	Count	0	0	7	12	19
		%	0.0%	0.0%	36.8%	63.2%	100.0%
	Youth Group, Sports Group, Social Club	Count	0	2	7	7	16
		%	0.0%	12.5%	43.8%	43.8%	100.0%
	Sports Group, Social Club	Count	0	0	3	2	5
		%	0.0%	0.0%	60.0%	40.0%	100.0%
Total		Count	11	37	128	199	375

The Pearson Chi-square was not significant (F=18.551, df=21, p=0.614) indicating that there was no difference in the way respondents from different social groups disagreed with the statement that HIV and AIDS can be cured.

4.3.3.3 Perceived severity: HIV and AIDS has severe consequences

4.3.3.3.1 Perceived severity: HIV and AIDS has severe consequences and gender

Among the males 87.4% *(f*=195; n=223) and females 95.1% *(f*=156; n=164) agreed with the statement: "The consequences of HIV are so severe that I might want to avoid it" (Table 4.51). In this regard, the majority of the respondents did agree that they would want to avoid HIV infection because of its severity. The findings are

consistent with results of a research done in Nigeria (Mwamwenda: 2012) and South Africa (Adefuye et al: 2012).

Table 4.51: Cross tabulation of 'The consequences of HIV are so severe that I might want to avoid it' and Gender

			The consequences of HIV are so severe that I might want to avoid it				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	142	53	5	23	223
		%	63.7%	23.8%	2.2%	10.3%	100.0%
	Female	Count	121	35	3	5	164
		%	73.8%	21.3%	1.8%	3.0%	100.0%
Total		Count	263	88	8	28	387

The Pearson Chi-square was significant (F=8.636, df=3, **p=0.035**) indicating that there were differences among males and females in the way they agreed with the statement.

4.3.3.3.2 Perceived severity: HIV and AIDS has severe consequences and age

Among the respondents aged 20 years and less 92.2% *(f*=107; n=116), 21-25 years 89.4% (f=203; n=227), 26-30 years 85.7% *(f*=12; n=14) and 31 years and above 96.7% *(f*=29; n=30) agreed with the statement "The consequences of HIV are so severe that I might want to avoid it" (Table 4.52).

Table 4.52: Cross tabulation of 'The consequences of HIV are so severe that I might want to avoid it' and Age

			The consequences of HIV are so severe that I might want to avoid it				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	89	18	3	6	116
		%	76.7%	15.5%	2.6%	5.2%	100.0%
	21 - 25 years	Count	144	59	4	20	227
		%	63.4%	26.0%	1.8%	8.8%	100.0%
	26 - 30 years	Count	8	4	1	1	14
		%	57.1%	28.6%	7.1%	7.1%	100.0%
	31 years and Above	Count	22	7	0	2	31
		%	71.0%	22.6%	0.0%	6.5%	100.0%
Total		Count	263	88	8	29	388

The Pearson Chi-square was not significant (F=10.273, df=9, p=0.329) indicating that there were no differences among males and females in the way they agreed with the statement.

4.3.3.3.3 Perceived severity: HIV and AIDS has severe consequences versus religion

Among the respondents Catholics 91.0% (f=71; n=78), Muslims 100% (f=2; n=2), Pentecostals/Christian 89.8% *(f*=263; n=293), Jehovah's Witness 100% *(f*=2; n=2), Indigenous Beliefs 100% *(f*=7; n=7) and Atheists 100% *(f*=1; n=1) indicated that HIV and AIDS really exists (Table 4.53).

Table 4.53: Cross tabulation of 'The consequences of HIV are so severe that I might want to avoid it' and religion

			The consequences of HIV are so severe that I might want to avoid it				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	57	14	0	7	78
		%	73.1%	17.9%	0.0%	9.0%	100.0%
	Muslim	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Pentecostals /Christian	Count	195	68	8	22	293
		%	66.6%	23.2%	2.7%	7.5%	100.0%
	Jehovah's Witness	Count	2	0	0	0	2
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	Indigenous Beliefs	Count	5	2	0	0	7
		%	71.4%	28.6%	0.0%	0.0%	100.0%
	Atheist	Count	1	0	0	0	1
		%	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	261	85	8	29	383

The Pearson Chi-square was not significant (F=6.772, df=15, p=0.964) indicating that there was no difference in the way respondents from different religions agreed with the statement.

4.3.3.3.4 Perceived severity: HIV and AIDS has severe consequences and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 90.4% (f=129; n=157), Sports Group 94.1% (f=32; n=34), Social Club 93.9% *(f*=62; n=66), None 80.6% *(f*=50; n=62), Youth Church Group and Sports Group 100% *(f*=18; n=18), Youth Group and Social Group 89.5% *(f*=17; n=19), Youth Church Group, Sports Group and Social Group 89.5% *(f*=17; n=19) and Sports Group and Social Club 80% *(f*=4; n=5) indicated that consequences of HIV are so severe that they might want to avoid it (Table 4.54).

Table 4.54: Cross tabulation of 'The consequences of HIV are so severe that I might want to avoid it' and social group affiliation

			The consequences of HIV are so severe that I might want to avoid it				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	109	33	2	13	157
		%	69.4%	21.0%	1.3%	8.3%	100.0%
	Sports Group	Count	23	9	0	2	34
		%	67.6%	26.5%	0.0%	5.9%	100.0%
	Social Club	Count	45	17	1	3	66
		%	68.2%	25.8%	1.5%	4.5%	100.0%
	None	Count	41	9	4	8	62
		%	66.1%	14.5%	6.5%	12.9%	100.0%
	Youth Group, Sports Group	Count	9	9	0	0	18
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Youth Group, Social Club	Count	14	3	0	2	19
		%	73.7%	15.8%	0.0%	10.5%	100.0%
	Youth Group, Sports Group, Social Club	Count	11	4	1	0	16
		%	68.8%	25.0%	6.3%	0.0%	100.0%
	Sports Group, Social Club	Count	3	1	0	1	5
		%	60.0%	20.0%	0.0%	20.0%	100.0%
Total		Count	255	85	8	29	377

The Pearson Chi-square was not significant (F=28.077, df=21, p=0.204) indicating that there was no difference in the way respondents from social groups agreed with the statement.

4.3.3.4 Perceived severity: traditional and religious practitioners can cure AIDS

4.3.3.4.1 Perceived severity: traditional and religious practitioners can cure AIDS and gender

Among the males 82.1% *(f*=223 and females 87.7% *(f*=143; n=163) disagreed with the statement that some traditional and religious practitioners can cure AIDS (Table 4.55). About 18% of male respondents believed that some traditional and religious practitioners could cure AIDS.

Table 4.55: Cross tabulation of 'Some traditional and religious practitioners can cure AIDS' and gender

			Some traditional and religious practitioners can cure AIDS				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	16	24	59	124	223
		%	7.2%	10.8%	26.5%	55.6%	100.0%
	Female	Count	8	12	38	105	163
		%	4.9%	7.4%	23.3%	64.4%	100.0%
Total		Count	24	36	97	229	386

The Pearson Chi-square was not significant (F=3.549, df=3, p=0.314) indicating that the majority of males and females disagreed with the statement that some traditional and religious practitioners can cure AIDS.

4.3.3.4.2 Perceived severity: traditional and religious practitioners can cure AIDS and age

Among the respondents aged 20 years and less 85.2% *(f*=98; n=115), 21-25 years 82.8% (f=188; n=227), 26-30 years 92.9% *(f*=13; n=14) and 31 years and above 90.3% *(f*=28; n=31 disagreed with the statement that some traditional and religious practitioners can cure AIDS (Table 4.56).

Table 4.56: Cross tabulation of ‘‘some traditional and religious practitioners can cure AIDS’’ and Age

			Some traditional and religious practitioners can cure AIDS				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	7	10	28	70	115
		%	6.1%	8.7%	24.3%	60.9%	100.0%
	21 – 25 years	Count	14	25	59	129	227
		%	6.2%	11.0%	26.0%	56.8%	100.0%
	26 – 30 years	Count	1	0	5	8	14
		%	7.1%	0.0%	35.7%	57.1%	100.0%
	31 years and Above	Count	2	1	6	22	31
		%	6.5%	3.2%	19.4%	71.0%	100.0%
Total		Count	24	36	98	229	387

The Pearson Chi-square was not significant (F=5.440, df=9, p=0.794) indicating that there was no variation in the way the different age groups disagreed with the statement that some traditional and religious practitioners can cure AIDS.

4.3.3.4.3 Perceived severity: traditional and religious practitioners can cure AIDS and religion

Among the respondents Catholics 88.6% (f=70; n=79), Muslims 50% (f=1; n=2), Pentecostals/Christian 84.2% *(f*=245; n=291), Jehovah’s witness 100% *(f*=2; n=2), Indigenous Beliefs 71.4% *(f*=5; n=7) and Atheists 100% *(f*=1; n=1) disagreed with the statement that some traditional and religious practitioners can cure AIDS (Table 4.57).

Table 4.57: Cross tabulation of 'Some traditional and religious practitioners can cure AIDS' and religion

			Some traditional and religious practitioners can cure AIDS				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	3	6	21	49	79
		%	3.8%	7.6%	26.6%	62.0%	100.0%
	Muslim	Count	0	1	1	0	2
		%	0.0%	50.0%	50.0%	0.0%	100.0%
	Pentecostals/ Christian	Count	20	26	75	170	291
		%	6.9%	8.9%	25.8%	58.4%	100.0%
	Jehovah's Witness	Count	0	0	0	2	2
		%	0.0%	0.0%	0.0%	100.0%	100.0%
	Indigenous Beliefs	Count	1	1	0	5	7
		%	14.3%	14.3%	0.0%	71.4%	100.0%
	Atheist	Count	0	0	1	0	1
Total		Count	24	34	98	226	382

The Pearson Chi-square was not significant (F=14.015, df=15, p=0.524) indicating that there was no variation in the way the respondents from different religious groups disagreed with the statement that some traditional and religious practitioners can cure AIDS.

4.3.3.4.4 Perceived severity: traditional and religious practitioners can cure AIDS and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 78.2% (f=122; n=156), Sports Group 91.2% (f=31; n=34), Social Club 90.9% *(f*=60; n=66), None 88.9% *(f*=56; n=63), Youth Church Group and Sports Group 88.9% *(f*=16; n=18), Youth Group and Social Group 84.2% *(f*=16; n=19), Youth Church Group, Sports Group and Social Group 87.5% *(f*=14; n=16) and Sports Group and Social Club 75% *(f*=3; n=4) disagreed with the statement that some traditional and religious practitioners can cure AIDS (Table 4.58).

Table 4.58: Cross tabulation of 'Some traditional and religious practitioners can cure AIDS' and social group affiliation

			Some traditional and religious practitioners can cure AIDS				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	14	20	36	86	156
		%	9.0%	12.8%	23.1%	55.1%	100.0%
	Sports Group	Count	2	1	7	24	34
		%	5.9%	2.9%	20.6%	70.6%	100.0%
	Social Club	Count	1	5	17	43	66
		%	1.5%	7.6%	25.8%	65.2%	100.0%
	None	Count	4	3	17	39	63
		%	6.3%	4.8%	27.0%	61.9%	100.0%
	Youth Group, Sports Group	Count	1	1	6	10	18
		%	5.6%	5.6%	33.3%	55.6%	100.0%
	Youth Group, Social Club	Count	1	2	3	13	19
		%	5.3%	10.5%	15.8%	68.4%	100.0%
	Youth Group, Sports Group, Social Club	Count	1	1	6	8	16
		%	6.3%	6.3%	37.5%	50.0%	100.0%
	Sports Group, Social Club	Count	0	1	2	1	4
		%	0.0%	25.0%	50.0%	25.0%	100.0%
Total		Count	24	34	94	224	376

The Pearson Chi-square was not significant (F=17.979, df=21, p=0.650) indicating that there was no statistically significant difference in the way the respondents from different religions groups disagreed with the statement that some traditional and religious practitioners can cure AIDS.

4.3.3.5 Perceived severity: HIV can be prevented

4.3.3.5.1 Perceived severity: HIV can be prevented and gender

Among the males 95.5% *(f*=211; n=221) and females 97.5% *(f*=159; n=163) indicated that HIV can be prevented (Table 4.59). More female respondents (97.5%) believed that HIV could be prevented. The findings are similar to research findings of some studies done in South Africa (Adefuye et al: 2012).

Table 4.59: Cross tabulation of 'HIV can be prevented' and Gender

			HIV can be prevented				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	150	61	1	9	221
		%	67.9%	27.6%	.5%	4.1%	100.0%
	Female	Count	128	31	2	2	163
		%	78.5%	19.0%	1.2%	1.2%	100.0%
Total		Count	278	92	3	11	384

The Pearson Chi-square was not significant (F=7.727, df=3, p=0.052) indicating that the majority of both males and females agreed that HIV can be prevented.

4.3.3.5.2 Perceived severity: HIV can be prevented and age

Among the respondents aged 20 years and less 96.6% *(f*=112; n=116), 21-25 years 95.6% (f=215; n=225), 26-30 years 92.9% *(f*=13; n=14) and 31 years and above 96.8% *(f*=30; n=31) agreed that HIV can be prevented (Table 4.60).

Table 4.60: Cross tabulation of 'HIV can be prevented' and Age

			HIV can be prevented				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	88	24	2	2	116
		%	75.9%	20.7%	1.7%	1.7%	100.0%
	21 - 25 years	Count	162	53	1	8	224
		%	72.3%	23.7%	.4%	3.6%	100.0%
	26 - 30 years	Count	6	7	0	1	14
		%	42.9%	50.0%	0.0%	7.1%	100.0%
	31 years and Above	Count	22	8	0	1	31
		%	71.0%	25.8%	0.0%	3.2%	100.0%
Total		Count	278	92	3	12	385

The Pearson Chi-square was not significant (F=10.033, df=9, p=0.348) indicating that there the majority of respondents among the different age groups concurred that HIV can be prevented.

4.3.3.5.3 Perceived severity: HIV can be prevented and religion

Among the respondents Catholics 94.7% (f=72; n=76), Muslims 100% (f=2; n=2), Pentecostals/Christian 96.2% *(f*=282; n=293), Jehovah's Witness 100% *(f*=2; n=2), Indigenous Beliefs 100% *(f*=6; n=6) and Atheists 100% *(f*=1; n=1) agreed that HIV can be prevented (Table 4.61).

Table 4.61: Cross tabulation of 'HIV can be prevented' and religion

			HIV can be prevented				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	58	14	0	4	76
		%	76.3%	18.4%	0.0%	5.3%	100.0%
	Muslim	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Pentecostals/ Christian	Count	208	74	3	8	293
		%	71.0%	25.3%	1.0%	2.7%	100.0%
	Jehovah's Witness	Count	2	0	0	0	2
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	Indigenous Beliefs	Count	6	0	0	0	6
		%	100.0%	0.0%	0.0%	0.0%	100.0%
	Atheist	Count	1	0	0	0	1
		%	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	276	89	3	12	380

The Pearson Chi-square was not significant (F=7.738, df=15, p=0.934) indicating that there was no difference in the way respondents from different religions agreed that HIV can be prevented.

4.3.3.5.4 Perceived severity: HIV can be prevented and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 95.4% (f=146; n=153), Sports Group 94.1% (f=32; n=34), Social Club 93.9% *(f*=62; n=66), None 98.4% *(f*=63; n=64), Youth Church Group and Sports Group 94.4% *(f*=17; n=18), Youth Group and Social Group 100% *(f*=19; n=19), Youth Church Group, Sports Group and Social Group 93.8% *(f*=15; n=16) and Sports Group and Social Club 80% *(f*=4; n=5) agreed that HIV can be prevented (Table 4.62).

Table 4.62: Cross tabulation of 'HIV can be prevented' and social group affiliation

			HIV can be prevented				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	114	32	1	6	153
		%	74.5%	20.9%	.7%	3.9%	100.0%
	Sports Group	Count	22	10	0	2	34
		%	64.7%	29.4%	0.0%	5.9%	100.0%
	Social Club	Count	46	16	1	1	64
		%	71.9%	25.0%	1.6%	1.6%	100.0%
	None	Count	48	15	1	0	64
	Youth Group, Sports Group	Count	13	4	0	1	18
		%	72.2%	22.2%	0.0%	5.6%	100.0%
	Youth Group, Social Club	Count	13	6	0	0	19
		%	68.4%	31.6%	0.0%	0.0%	100.0%
	Youth Group, Sports Group, Social Club	Count	11	4	0	1	16
		%	68.8%	25.0%	0.0%	6.3%	100.0%
	Sports Group, Social Club	Count	3	1	0	1	5
		%	60.0%	20.0%	0.0%	20.0%	100.0%
Total		Count	270	88	3	12	373

The Pearson Chi-square was not significant (F=13.288, df=21, p=0.900) indicating that there was no difference in the way respondents from social groups agreed that HIV can be prevented.

4.3.3.6 Perceived severity: HIV can be treated by some antibiotics

4.3.3.6.1 Perceived severity: HIV can be treated by some antibiotics and gender

Among the males 89.2% *(f*=198; n=222) and females 85.6% *(f*=136; n=159) disagreed that some antibiotics could treat AIDS (Table 4.63). Support for this statement might indicate a barrier towards preventing the spread of HIV as individuals might see HIV as being curable.

Table 4.63: Cross tabulation of 'Some antibiotics can treat AIDS' and Gender

			Some antibiotics can treat AIDS				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	6	18	78	120	222
		%	2.7%	8.1%	35.1%	54.1%	100.0%
	Female	Count	9	14	44	92	159
		%	5.7%	8.8%	27.7%	57.9%	100.0%
Total		Count	15	32	122	212	381

The Pearson Chi-square was not significant (F=3,965, df=3, p=0.265) indicating that males and females disagreed that some antibiotics can treat AIDS.

4.3.3.6.2 Perceived severity: HIV can be treated by some antibiotics and age

Among the respondents aged 20 years and less 85.1% *(f*=97; n=114), 21-25 years 89.8% (f=203; n=226), 26-30 years 76.9% *(f*=10; n=13) and 31 years and above 86.2% *(f*=25; n=29) disagreed with the statement that some antibiotics can treat AIDS (Table 4.64).

Table 4.64: Cross tabulation of 'Some antibiotics can treat AIDS' and Age

			Some antibiotics can treat AIDS				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	6	11	34	63	114
		%	5.3%	9.6%	29.8%	55.3%	100.0%
	21 - 25 years	Count	6	17	81	122	226
		%	2.7%	7.5%	35.8%	54.0%	100.0%
	26 - 30 years	Count	1	2	3	7	13
		%	7.7%	15.4%	23.1%	53.8%	100.0%
	31 years and Above	Count	2	2	4	21	29
		%	6.9%	6.9%	13.8%	72.4%	100.0%
Total		Count	15	32	122	213	382

The Pearson Chi-square was not significant (F=9.956, df=9, p=0.354) indicating that there was no variation in the way the different age groups disagreed that some antibiotics can treat AIDS.

4.3.3.6.3 Perceived severity: HIV can be treated by some antibiotics and religion

Among the respondents Catholics 94.7% (f=72; n=76), Muslims 100% (f=2; n=2), Pentecostals/Christian 86.5% *(f*=250; n=289), Jehovah's Witness 100% *(f*=2; n=2), Indigenous Beliefs 71.4% *(f*=5; n=7) and Atheists 100% *(f*=1; n=1) indicated that HIV and AIDS really exists (Table 4.65).

Table 4.65: Cross tabulation of 'Some antibiotics can treat AIDS' and religion

			Some antibiotics can treat AIDS				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	3	1	25	47	76
		%	3.9%	1.3%	32.9%	61.8%	100.0%
	Muslim	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0%
	Pentecostals/Christian	Count	11	28	92	158	289
		%	3.8%	9.7%	31.8%	54.7%	100.0%
	Jehovah's Witness	Count	0	0	0	2	2
		%	0.0%	0.0%	0.0%	100.0%	100.0%
	Indigenous Beliefs	Count	0	2	2	3	7
		%	0.0%	28.6%	28.6%	42.9%	100.0%
	Atheist	Count	0	0	0	1	1
		%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	14	31	120	212	377

The Pearson Chi-square was not significant (F=12.586, df=15, p=0.634) indicating that there was no difference in the way respondents from different religions disagreed that some antibiotics can treat AIDS.

4.3.3.6.4 Perceived severity: HIV can be treated by some antibiotics versus social group affiliation

Among the respondents' social group affiliations, Youth Church Group 86.9% (f=133; n=153), Sports Group 85.3% (f=29; n=34), Social Club 90.6% *(f*=58; n=64), None 88.9% *(f*=56; n=63), Youth Church Group and Sports Group 88.2% *(f*=15; n=17),

Youth Group and Social Group 94.4% *(f*=17; n=18), Youth Church Group, Sports Group and Social Group 93.8% *(f*=15; n=16) and Sports Group and Social Club 100% *(f*=5; n=5) disagreed that some antibiotics can treat AIDS (Table 4.66).

Table 4.66: Cross tabulation of 'Some antibiotics can treat AIDS' and Social Group Affiliation

			Some antibiotics can treat AIDS				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	4	16	50	83	153
		%	2.6%	10.5%	32.7%	54.2%	100.0%
	Sports Group	Count	3	2	9	20	34
		%	8.8%	5.9%	26.5%	58.8%	100.0%
	Social Club	Count	1	5	22	36	64
		%	1.6%	7.8%	34.4%	56.3%	100.0%
	None	Count	3	6	16	38	63
		%	4.8%	9.5%	25.4%	60.3%	100.0%
	Youth Group, Sports Group	Count	2	0	9	6	17
		%	11.8%	0.0%	52.9%	35.3%	100.0%
	Youth Group, Social Club	Count	1	0	5	12	18
		%	5.6%	0.0%	27.8%	66.7%	100.0%
	Youth Group, Sports Group, Social Club	Count	1	0	6	9	16
		%	6.3%	0.0%	37.5%	56.3%	100.0%
	Sports Group, Social Club	Count	0	0	1	4	5
		%	0.0%	0.0%	20.0%	80.0%	100.0%
Total		Count	15	29	118	208	370

The Pearson Chi-square was not significant (F=19.506, df=21, p=0.553) indicating that there was no difference in the way respondents from social groups disagreed with the statement that some antibiotics can treat AIDS.

4.3.3.7 Perceived severity: HAART cures AIDS'

4.3.3.7.1 Perceived severity: HAART cures AIDS' and gender

Among the males 99.1% *(f*=209; n=220) and females 98.7% *(f*=146; n=155) disagreed that Highly Active Antiretroviral Therapy (HAART) cures AIDS (Table 4.67).

Table 4.67: Cross tabulation of 'Highly Active Antiretroviral Therapy (HAART) cures AIDS' and Gender

			Highly Active Antiretroviral Therapy (HAART) cures AIDS				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	1	10	102	107	220
		%	.5%	4.5%	46.4%	48.6%	100.0%
	Female	Count	1	8	72	74	155
		%	.6%	5.2%	46.5%	47.7%	100.0%
Total		Count	2	18	174	181	375

The Pearson Chi-square was not significant (F=0.149, df=3, p=0.985) indicating that males and females disagreed that Highly Active Antiretroviral Therapy (HAART) cures AIDS.

4.3.3.7.2 Perceived severity: HAART cures AIDS' and age

Among the respondents aged 20 years and less 95.5% *(f*=106; n=111), 21-25 years 95.1% (f=213; n=224), 26-30 years 84.6% *(f*=11; n=13) and 31 years and above 92.9% *(f*=26; n=28) disagreed that Highly Active Antiretroviral Therapy (HAART) cures AIDS (Table 4.68).

Table 4.68: Cross tabulation of 'Highly Active Antiretroviral Therapy (HAART) cures AIDS' and age

			Highly Active Antiretroviral Therapy (HAART) cures AIDS				Total
			SA	A	DA	SDA	
Age Groups	20 and Less	Count	1	4	45	61	111
		%	.9%	3.6%	40.5%	55.0%	100.0%
	21 – 25	Count	0	11	118	95	224
		%	0.0%	4.9%	52.7%	42.4%	100.0%
	26-30	Count	1	1	6	5	13
		%	7.7%	7.7%	46.2%	38.5%	100.0%
	31 and Above	Count	0	2	6	20	28
		%	0.0%	7.1%	21.4%	71.4%	100.0%
Total		Count	2	18	175	181	376

The Pearson Chi-square was not significant (F=24.580, df=9, p=0.003) indicating that there was no variation in the way the different age groups disagreed that highly Active Antiretroviral Therapy (HAART) cures AIDS.

4.3.3.7.3 Perceived severity: HAART cures AIDS' and religion

Among the respondents Catholics 94.7% (f=71; n=75), Muslims 100% (f=2; n=2), Pentecostals/Christian 95.1% *(f*=271; n=285), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 100% *(f*=6; n=6) and Atheists 100% *(f*=1; n=1) disagreed that highly Active Antiretroviral Therapy (HAART) cures AIDS (Table 4.69).

Table 4.69: Cross tabulation of 'Highly Active Antiretroviral Therapy (HAART) cures AIDS' and religion

			Highly Active Antiretroviral Therapy (HAART) cures AIDS				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	1	3	33	38	75
		%	1.3%	4.0%	44.0%	50.7%	100.0%
	Muslim	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0%
	Pentecostals/ Christian	Count	0	14	135	136	285
		%	0.0%	4.9%	47.4%	47.7%	100.0%
	Jehovah's Witness	Count	0	0	0	2	2
		%	0.0%	0.0%	0.0%	100.0%	100.0%
	Indigenous Beliefs	Count	0	0	5	1	6
		%	0.0%	0.0%	83.3%	16.7%	100.0%
	Atheist	Count	0	0	0	1	1
		%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	1	17	174	179	371

The Pearson Chi-square was not significant (F=10.845, df=15, p=0.763) indicating that there was no difference in the way respondents from different religions disagreed that highly Active Antiretroviral Therapy (HAART) cures AIDS.

4.3.3.7.4 Perceived severity: HAART cures AIDS' and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 93.2% (f=138; n=148), Sports Group 97.1% (f=33; n=34), Social Club 95.5% *(f*=63; n=66), None 94.9% *(f*=56; n=59), Youth Church Group and Sports Group 94.1% *(f*=16; n=17), Youth Group and Social Group 100% *(f*=19; n=19), Youth Church Group, Sports Group and Social Group 100% *(f*=16; n=16) and Sports Group and Social Club 80% *(f*=4; n=5) disagreed that highly Active Antiretroviral Therapy (HAART) cures AIDS (Table 4.70).

Table 4.70: Cross tabulation of 'Highly Active Antiretroviral Therapy (HAART) cures AIDS' and Social Group Affiliation

			Highly Active Antiretroviral Therapy (HAART) cures AIDS				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	1	9	70	68	148
		%	.7%	6.1%	47.3%	45.9%	100.0%
	Sports Group	Count	1	0	17	16	34
		%	2.9%	0.0%	50.0%	47.1%	100.0%
	Social Club	Count	0	3	32	31	66
		%	0.0%	4.5%	48.5%	47.0%	100.0%
	None	Count	0	3	20	36	59
		%	0.0%	5.1%	33.9%	61.0%	100.0%
	Youth Group, Sports Group	Count	0	1	10	6	17
		%	0.0%	5.9%	58.8%	35.3%	100.0%
	Youth Group, Social Club	Count	0	0	10	9	19
		%	0.0%	0.0%	52.6%	47.4%	100.0%
	Youth Group, Sports Group, Social Club	Count	0	0	8	8	16
		%	0.0%	0.0%	50.0%	50.0%	100.0%
	Sports Group, Social Club	Count	0	1	2	2	5
		%	0.0%	20.0%	40.0%	40.0%	100.0%
Total		Count	2	17	169	176	364

The Pearson Chi-square was not significant (F=16.867, df=21, p=0.719) indicating that there was no difference in the way respondents from social groups disagreed that highly Active Antiretroviral Therapy (HAART) cures AIDS.

4.3.3.8 Perceived severity: HIV can be treated like any other STD

4.3.3.8.1 Perceived severity: HIV can be treated like any other STD and gender

Among the males 99.1% *(f*=187; n=221) and females 98.7% *(f*=140; n=160) disagreed that HIV is like any other sexually transmitted infection which can be treated (Table 4.71).

Table 4.71: Cross tabulation of 'HIV is like any other sexually transmitted infection which can be treated' and gender

			HIV is like any other sexually transmitted infection which can be treated				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	8	26	71	116	221
		%	3.6%	11.8%	32.1%	52.5%	100.0%
	Female	Count	10	10	53	87	160
		%	6.3%	6.3%	33.1%	54.4%	100.0%
Total		Count	18	36	124	203	381

The Pearson Chi-square was not significant (F=4.436, df=3, p=0.218) indicating that males and females disagreed that HIV is like any other sexually transmitted infection which can be treated.

4.3.3.8.2 Perceived severity: HIV can be treated like any other STDs and age

Among the respondents aged 20 years and less 86.1% *(f*=99; n=115), 21-25 years 87.0% (f=194; n=223), 26-30 years 86.6% *(f*=13; n=15) and 31 years and above 75.9% *(f*=22; n=29) disagreed that HIV is like any other sexually transmitted infection which can be treated (Table 4.72).

Table 4.72: Cross tabulation of 'HIV is like any other sexually transmitted infection which can be treated' and age

			HIV is like any other sexually transmitted infection which can be treated				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	8	8	36	63	115
		%	7.0%	7.0%	31.3%	54.8%	100.0%
	21 - 25 years	Count	7	22	78	116	223
		%	3.1%	9.9%	35.0%	52.0%	100.0%
	26 - 30 years	Count	2	0	5	8	15
		%	13.3%	0.0%	33.3%	53.3%	100.0%
	31 years and Above	Count	1	6	6	16	29
		%	3.4%	20.7%	20.7%	55.2%	100.0%
Total		Count	18	36	125	203	382

The Pearson Chi-square was not significant (F=12. 809, df=9, p=0.171) indicating that there was no variation in the way the different age groups disagreed with the statement that HIV is like any other sexually transmitted infection which can be treated.

4.3.3.8.3 Perceived severity: HIV can be treated like any other STD and religion

Among the respondents Catholics 88.8% (f=71; n=80), Muslims 100% (f=2; n=2), Pentecostals/Christian 85.6% *(f*=244; n=285), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 71.4% *(f*=5; n=7) and Atheists 100% *(f*=1; n=1 disagreed that HIV is like any other sexually transmitted infection which can be treated (Table 4.73).

Table 4.73: Cross tabulation of 'HIV is like any other sexually transmitted infection which can be treated' and religion

			HIV is like any other sexually transmitted infection which can be treated				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	3	6	31	40	80
		%	3.8%	7.5%	38.8%	50.0%	100.0 %
	Muslim	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0 %
	Pentecostals/Christian	Count	13	28	88	156	285
		%	4.6%	9.8%	30.9%	54.7%	100.0 %
	Jehovah's Witness	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0 %
	Indigenous Beliefs	Count	1	1	3	2	7
		%	14.3%	14.3%	42.9%	28.6%	100.0 %
	Atheist	Count	0	0	0	1	1
		%	0.0%	0.0%	0.0%	100.0%	100.0 %
Total		Count	17	35	124	201	377

The Pearson Chi-square was not significant (F=6.406, df=15, p=0.972) indicating that there was no difference in the way respondents from different religions disagreed with the statement that HIV is like any other sexually transmitted infection which can be treated.

4.3.3.8.4 Perceived severity: HIV can be treated like any other STD and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 88.2% (f=135; n=153), Sports Group 81.3% (f=26; n=32), Social Club 89.2% *(f*=58; n=65), None 85.5% *(f*=53; n=62), Youth Church Group and Sports Group 82.4% *(f*=14; n=17), Youth Group and Social Group 78.9% *(f*=15; n=19), Youth Church Group, Sports Group and Social Group 76.5% *(f*=13; n=17) and Sports Group and Social Club 80% *(f*=4; n=5 disagreed that HIV is like any other sexually transmitted infection which can be treated (Table 4.74).

Table 4.74: Cross tabulation of 'HIV is like any other sexually transmitted infection which can be treated' and Social Group Affiliation

			HIV is like any other sexually transmitted infection which can be treated				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	6	12	54	81	153
		%	3.9%	7.8%	35.3%	52.9%	100.0%
	Sports Group	Count	2	4	9	17	32
		%	6.3%	12.5%	28.1%	53.1%	100.0%
	Social Club	Count	2	5	23	35	65
		%	3.1%	7.7%	35.4%	53.8%	100.0%
	None	Count	3	6	15	38	62
		%	4.8%	9.7%	24.2%	61.3%	100.0%
	Youth Group, Sports Group	Count	1	2	6	8	17
		%	5.9%	11.8%	35.3%	47.1%	100.0%
	Youth Group, Social Club	Count	1	3	8	7	19
		%	5.3%	15.8%	42.1%	36.8%	100.0%
	Youth Group, Sports Group, Social Club	Count	3	1	6	7	17
		%	17.6%	5.9%	35.3%	41.2%	100.0%
	Sports Group, Social Club	Count	0	1	2	2	5
		%	0.0%	20.0%	40.0%	40.0%	100.0%
Total		Count	18	34	123	195	370

The Pearson Chi-square was not significant (F=14.649, df=21, p=0.840) indicating that there was no difference in the way respondents from social groups disagreed with the statement that HIV is like any other sexually transmitted infection which can be treated.

4.3.3.9 Perception of severity: ART as "cure"

Whether respondents consider ART to be a cure to HIV is at this point classified as part of their perception of severity of HIV. However, perception can also become a barrier or an indication of likelihood to take action.

4.3.3.9.1 Perception of severity: ART as "cure" and gender

Among the males 88.7% *(f*=223; n=221) and females 90.4% *(f*=162; n=157) indicated that an HIV positive person on ART can still transmit HIV (Table 4.75).

Table 4.75: Cross tabulation of 'An HIV positive person on ART can still transmit HIV' and gender

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	109	87	9	16	221
		%	49.3%	39.4%	4.1%	7.2%	100.0%
	Female	Count	84	58	9	6	157
		%	53.5%	36.9%	5.7%	3.8%	100.0%
Total		Count	193	145	18	22	378

The Pearson Chi-square was not significant (F=2.829, df=3, p=0.419) indicating that males and females agreed that an HIV positive person on ART can still transmit HIV.

4.3.3 9.2 Perception of severity: ART as "cure" and age

Among the respondents aged 20 years and less 85.3% *(f*=99; n=116), 21-25 years 91.7% (f=200; n=218), 26-30 years 66.7% *(f*=12; n=14) and 31 years and above 90.3% *(f*=28; n=31) indicated that an HIV positive person on ART can still transmit HIV (Table 4.76).

Table 4.76: Cross tabulation of 'An HIV positive person on ART can still transmit HIV' and age

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Age Groups	20 and Less	Count	63	36	9	8	116
		%	54.3%	31.0%	7.8%	6.9%	100.0%
	21 – 25	Count	104	96	8	10	218
		%	47.7%	44.0%	3.7%	4.6%	100.0%
	26-30	Count	8	4	1	1	14
		%	57.1%	28.6%	7.1%	7.1%	100.0%
	31 and Above	Count	18	10	0	3	31
		%	58.1%	32.3%	0.0%	9.7%	100.0%
Total		Count	193	146	18	22	379

The Pearson Chi-square was not significant (F=11.233, df=9, p=0.260) indicating that all age groups agreed that an HIV positive person on ART can still transmit HIV.

4.3.3.9.3 Perception of severity: ART as "cure" and religion

Among the respondents Catholics 92% (f=69; n=75), Muslims 100% (f=2; n=2), Pentecostals/Christian 88.9% *(f*=256; n=288), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 85.7% *(f*=6; n=7) and Atheists 100% *(f*=1; n=1) indicated that an HIV positive person on ART can still transmit HIV (Table 4.77).

Table 4.77: Cross tabulation 'An HIV positive person on ART can still transmit HIV' and religion

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	40	29	2	4	75
		%	53.3%	38.7%	2.7%	5.3%	100.0%
	Muslim	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Pentecostals/Christian	Count	147	109	15	17	288
		%	51.0%	37.8%	5.2%	5.9%	100.0%
	Jehovah's Witness	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Indigenous Beliefs	Count	2	4	1	0	7
		%	28.6%	57.1%	14.3%	0.0%	100.0%
	Atheist	Count	1	0	0	0	1
		%	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	192	144	18	21	375

The Pearson Chi-square was not significant (F=5.515, df=15, p=0.987) indicating that there was no difference in the way respondents from different religious affiliations agreed that an HIV positive person on ART can still transmit HIV.

4.3.3.9.4 Perception of severity: ART as "cure" and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 88% (f=129; n=150), Sports Group 88.2% (f=30; n=34), Social Club 96.9% *(f*=63; n=65), None 83.3% *(f*=50; n=60), Youth Church Group and Sports Group 77.7% *(f*=14; n=18), Youth Group and Social Group 100% *(f*=19; n=19), Youth Church Group, Sports Group and Social Group 87.5% *(f*=14; n=16) and Sports Group and Social Club 100% *(f*=5; n=5) indicated that an HIV positive person on ART can still transmit HIV (Table 4.78).

Table 4.78: Cross tabulation of 'An HIV positive person on ART can still transmit HIV' and Social group affiliation

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	75	57	9	9	150
		%	50.0%	38.0%	6.0%	6.0%	100.0%
	Sports Group	Count	15	15	1	3	34
		%	44.1%	44.1%	2.9%	8.8%	100.0%
	Social Club	Count	36	27	1	1	65
		%	55.4%	41.5%	1.5%	1.5%	100.0%
	None	Count	31	19	4	6	60
		%	51.7%	31.7%	6.7%	10.0%	100.0%
	Youth Group, Sports Group	Count	8	6	2	2	18
		%	44.4%	33.3%	11.1%	11.1%	100.0%
	Youth Group, Social Club	Count	10	9	0	0	19
		%	52.6%	47.4%	0.0%	0.0%	100.0%
	Youth Group, Sports Group, Social Club	Count	8	6	1	1	16
		%	50.0%	37.5%	6.3%	6.3%	100.0%
	Sports Group, Social Club	Count	2	3	0	0	5
		%	40.0%	60.0%	0.0%	0.0%	100.0%
Total		Count	185	142	18	22	367

The Pearson Chi-square was not significant (F=14.743, df=21, p=0.836) indicating that there was no difference in the way respondents from different social groups responded to the statement that an HIV positive person on ART can still transmit HIV.

4.3.3.10 Perception of severity: ART as "cure"

Whether respondents consider ART to be a cure to HIV is at this point classified as part of their perception of severity of HIV. However, perception can also become a barrier or an indication of likelihood to take action.

4.3.3.10.1 Perception of severity: ART as "cure" and gender

Among the males 88.7% *(f*=223; n=221) and females 90.4% *(f*=162; n=157) indicated that an HIV positive person on ART can still transmit HIV (Table 4.79).

Table 4.79: Cross tabulation of 'An HIV positive person on ART can still transmit HIV' and gender

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	109	87	9	16	221
		%	49.3%	39.4%	4.1%	7.2%	100.0%
	Female	Count	84	58	9	6	157
		%	53.5%	36.9%	5.7%	3.8%	100.0%
Total		Count	193	145	18	22	378

The Pearson Chi-square was not significant (F=2.829, df=3, p=0.419) indicating that males and females agreed that an HIV positive person on ART can still transmit HIV.

4.3.3.10.2 Perception of severity: ART as "cure" and age

Among the respondents aged 20 years and less 85.3% *(f*=99; n=116), 21-25 years 91.7% (f=200; n=218), 26-30 years 66.7% *(f*=12; n=14) and 31 years and above 90.3% *(f*=28; n=31) indicated that an HIV positive person on ART can still transmit HIV (Table 4.80).

Table 4.80: Cross tabulation of 'An HIV positive person on ART can still transmit HIV' and age

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Age Groups	20 and Less	Count	63	36	9	8	116
		%	54.3%	31.0%	7.8%	6.9%	100.0%
	21 – 25	Count	104	96	8	10	218
		%	47.7%	44.0%	3.7%	4.6%	100.0%
	26-30	Count	8	4	1	1	14
		%	57.1%	28.6%	7.1%	7.1%	100.0%
	31 and Above	Count	18	10	0	3	31
		%	58.1%	32.3%	0.0%	9.7%	100.0%
Total		Count	193	146	18	22	379

The Pearson Chi-square was not significant (F=11.233, df=9, p=0.260) indicating that all age groups agreed that an HIV positive person on ART can still transmit HIV.

4.3.3.10.3 Perception of severity: ART as "cure" and religion

Among the respondents Catholics 92% (f=69; n=75), Muslims 100% (f=2; n=2), Pentecostals/Christian 88.9% *(f*=256; n=288), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 85.7% *(f*=6; n=7) and Atheists 100% *(f*=1; n=1) indicated that an HIV positive person on ART can still transmit HIV (Table 4.81).

Table 4.81: Cross tabulation 'An HIV positive person on ART can still transmit HIV' and religion

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	40	29	2	4	75
		%	53.3%	38.7%	2.7%	5.3%	100.0%
	Muslim	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Pentecostals/Christian	Count	147	109	15	17	288
		%	51.0%	37.8%	5.2%	5.9%	100.0%
	Jehovah's Witness	Count	1	1	0	0	2
		%	50.0%	50.0%	0.0%	0.0%	100.0%
	Indigenous Beliefs	Count	2	4	1	0	7
		%	28.6%	57.1%	14.3%	0.0%	100.0%
	Atheist	Count	1	0	0	0	1
		%	100.0%	0.0%	0.0%	0.0%	100.0%
Total		Count	192	144	18	21	375

The Pearson Chi-square was not significant (F=5.515, df=15, p=0.987) indicating that there was no difference in the way respondents from different religious affiliations agreed that an HIV positive person on ART can still transmit HIV.

4.3.3.10.4 Perception of severity: ART as "cure" and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 88% (f=129; n=150), Sports Group 88.2% (f=30; n=34), Social Club 96.9% *(f*=63; n=65), None 83.3% *(f*=50; n=60), Youth Church Group and Sports Group 77.7% *(f*=14; n=18), Youth Group and Social Group 100% *(f*=19; n=19), Youth Church Group, Sports Group and Social Group 87.5% *(f*=14; n=16) and Sports Group and Social Club 100% *(f*=5; n=5) indicated that an HIV positive person on ART can still transmit HIV (Table 4.82).

Table 4.82: Cross tabulation of 'An HIV positive person on ART can still transmit HIV' and social group affiliation

			An HIV positive person on ART can still transmit HIV				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	75	57	9	9	150
		%	50.0%	38.0%	6.0%	6.0%	100.0%
	Sports Group	Count	15	15	1	3	34
		%	44.1%	44.1%	2.9%	8.8%	100.0%
	Social Club	Count	36	27	1	1	65
		%	55.4%	41.5%	1.5%	1.5%	100.0%
	None	Count	31	19	4	6	60
		%	51.7%	31.7%	6.7%	10.0%	100.0%
	Youth Group, Sports Group	Count	8	6	2	2	18
		%	44.4%	33.3%	11.1%	11.1%	100.0%
	Youth Group, Social Club	Count	10	9	0	0	19
		%	52.6%	47.4%	0.0%	0.0%	100.0%
	Youth Group, Sports Group, Social Club	Count	8	6	1	1	16
		%	50.0%	37.5%	6.3%	6.3%	100.0%
	Sports Group, Social Club	Count	2	3	0	0	5
		%	40.0%	60.0%	0.0%	0.0%	100.0%
Total		Count	185	142	18	22	367

The Pearson Chi-square was not significant (F=14.743, df=21, p=0.836) indicating that there was no difference in the way respondents from different social groups responded to the statement that an HIV positive person on ART can still transmit HIV.

4.3.4 Perceived barriers to action

4.3.4.1 Perceived barriers to action: physical recognisability of HIV

The item: "One can see that their partner is not infected by their physical features" was intended to measure aspects of perceived barriers to taking appropriate action to prevent the spared of HIV. If respondents were of the opinion that HIV status could be told by the physic al appearance of a person especially a sex partner it could have serious consequences. If a person does not consider another to be HIV positive on "face value", he or she will not refrain from having sex with that person.

4.3.4.1.1 Perceived barriers to action: physical recognisability of HIV and gender

Among the males 88.2% *(f*=195; n=221) and females 90.2% *(f*=148; n=164) indicated that HIV and AIDS really exists (Table 4.83).

Table 4.83: Cross tabulation of 'One can see that their partner is not infected by their physical features' and gender

			One can see that their partner is not infected by their physical features				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	7	19	58	137	221
		%	3.2%	8.6%	26.2%	62.0%	100.0%
	Female	Count	7	9	33	115	164
		%	4.3%	5.5%	20.1%	70.1%	100.0%
Total		Count	14	28	91	252	385

The Pearson Chi-square was not significant (F=4.009, df=3, p=0.260)

4.3.4.1.2 Perceived barriers to action: physical recognisability of HIV and age

Among the respondents aged 20 years and less 87.8% *(f*=101; n=115), 21-25 years 89.9% (f=204; n=227), 26-30 years 84.6% *(f*=11; n=13) and 31 years and above 90.3% *(f*=28; n=31) indicated that one cannot see that their partner is not infected by their physical features (Table 4.84).

Table 4.84: Cross tabulation of 'One can see that their partner is not infected by their physical features' and age

			One can see that their partner is not infected by their physical features				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	5	9	30	71	115
		%	4.3%	7.8%	26.1%	61.7%	100.0%
	21 – 25 years	Count	8	15	52	152	227
		%	3.5%	6.6%	22.9%	67.0%	100.0%
	26 - 30 years	Count	0	2	5	6	13
		%	0.0%	15.4%	38.5%	46.2%	100.0%
	31 years and Above	Count	1	2	4	24	31
		%	3.2%	6.5%	12.9%	77.4%	100.0%
Total		Count	14	28	91	253	386

The Pearson Chi-square was not significant (F=6.858, df=9, p=0.652) indicating that there were no significant differences in the way the different age groups disagreed with the statement that one can see that their partner is not infected by their physical features.

4.3.4.1.3 Perceived barriers to action: physical recognisability of HIV versus religion

Among the respondents Catholics 100% (f=68; n=77), Muslims 100% (f=2; n=2), Pentecostals/Christian 98.6% *(f*=262; n=296), Jehovah's witness 100% *(f*=2; n=2), and Indigenous Beliefs 85.7% *(f*=6; n=7) indicated that one cannot know the HIV status of their partner based on physical features; and Atheists 100% *(f*=1; n=1) agreed with the statement (Table 4.85).

Table 4.85: Cross tabulation 'One can see that their partner is not infected by their physical features' and religion

			One can see that their partner is not infected by their physical features				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	1	8	13	55	77
		%	1.3%	10.4%	16.9%	71.4%	100.0%
	Muslim	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0%
	Pentecostals/Christian	Count	12	18	74	188	292
		%	4.1%	6.2%	25.3%	64.4%	100.0%
	Jehovah's Witness	Count	0	0	2	0	2
		%	0.0%	0.0%	100.0%	0.0%	100.0%
	Indigenous Beliefs	Count	0	1	0	6	7
		%	0.0%	14.3%	0.0%	85.7%	100.0%
	Atheist	Count	0	1	0	0	1
		%	0.0%	100.0%	0.0%	0.0%	100.0%
Total		Count	13	28	90	250	381

The Pearson Chi-square was significant (F=27.995, df=15, **p=0.022**) indicating that there were differences in the way respondents from different religions viewed the statement that one can see that their partner is not infected by their physical features.

4.3.4.1.4 Perceived barriers to action: physical recognisability of HIV and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 88.3% (f=137; n=155), Sports Group 85.3% (f=29; n=34), Social Club 90.6% *(f*=58; n=64), None 88.9% *(f*=56; n=63), Youth Church Group and Sports Group 100% *(f*=18; n=18), Youth Group and Social Group 84.2% *(f*=16; n=19), Youth Church Group, Sports Group and Social Group 93.8% *(f*=15; n=16) and Sports Group and Social Club 80% *(f*=4; n=5) indicated that university students are not immune (invulnerable) to HIV and AIDS (Table 4.86).

Table 4.86 Cross tabulation of 'One can see that their partner is not infected by their physical features' and Social group affiliation

			One can see that their partner is not infected by their physical features				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	6	12	44	93	155
		%	3.9%	7.7%	28.4%	60.0%	100.0%
	Sports Group	Count	0	5	7	22	34
		%	0.0%	14.7%	20.6%	64.7%	100.0%
	Social Club	Count	1	5	10	48	64
		%	1.6%	7.8%	15.6%	75.0%	100.0%
	None	Count	5	2	12	44	63
		%	7.9%	3.2%	19.0%	69.8%	100.0%
	Youth Group, Sports Group	Count	0	0	2	16	18
		%	0.0%	0.0%	11.1%	88.9%	100.0%
	Youth Group, Social Club	Count	1	2	5	11	19
		%	5.3%	10.5%	26.3%	57.9%	100.0%
	Youth Group, Sports Group, Social Club	Count	0	1	4	11	16
		%	0.0%	6.3%	25.0%	68.8%	100.0%
	Sports Group, Social Club	Count	0	1	1	3	5
		%	0.0%	20.0%	20.0%	60.0%	100.0%
Total		Count	13	28	85	248	374

The Pearson Chi-square was not significant (F=22.377, df=21, p=0.378) indicating that there was no difference in the way respondents from social groups disagreed

with the statement that one can see that their partner is not infected by their physical features.

4.3.4.2 Perceived barriers to action: having sex with a person on ART

4.3.4.2.1 Having sex with a person on ART and gender

Among the males 99.1% *(f*=223; n=225) and females 98.7% *(f*=162; n=164) indicated that it is not safe to have sex with an HIV positive person on ART (Table 4.87).

Table 4.87: Cross tabulation of 'It is safe to have sex with an HIV positive person on ART' and gender

			It is safe to have sex with an HIV positive person on ART				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	10	10	64	135	219
		%	4.6%	4.6%	29.2%	61.6%	100.0%
	Female	Count	3	7	42	107	159
		%	1.9%	4.4%	26.4%	67.3%	100.0%
Total		Count	13	17	106	242	378

The Pearson Chi-square was not significant (F=2.647, df=3, p=0.449) indicating that males and females disagreed with the statement that it is safe to have sex with an HIV positive person on ART.

4.3.4.2.2 Having sex with a person on ART and age

Among the respondents aged 20 years and less 89.5% *(f*=102; n=114), 21-25 years 94.1% (f=207; n=220), 26-30 years 78.6% *(f*=11; n=14) and 31 years and above 93.5% *(f*=29; n=31) indicated that it is not safe to have sex with an HIV positive person on ART (Table 4.88).

Table 4.88: Cross tabulation of 'It is safe to have sex with an HIV positive person on ART' and age

			It is safe to have sex with an HIV positive person on ART				Total
			SA	A	DA	SDA	
Age Groups	20 and Less	Count	7	5	28	74	114
		%	6.1%	4.4%	24.6%	64.9%	100.0%
	21 – 25	Count	3	10	67	140	220
		%	1.4%	4.5%	30.5%	63.6%	100.0%
	26-30	Count	2	1	2	9	14
		%	14.3%	7.1%	14.3%	64.3%	100.0%
	31 and Above	Count	1	1	10	19	31
		%	3.2%	3.2%	32.3%	61.3%	100.0%
Total		Count	13	17	107	242	379

The Pearson Chi-square was not significant (F=12.454, df=9, p=0.189) indicating that there was no variation in the way the different age groups disagreed with the statement that it is safe to have sex with an HIV positive person on ART.

4.3.4.2.3 Having sex with a person on ART and religion

Among the respondents Catholics 90.8% (f=69; n=76), Muslims 100% (f=2; n=2), Pentecostals/Christian 92.7% *(f*=265; n=286), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 85.7% *(f*=6; n=7) and Atheists 100% *(f*=1; n=1) indicated that it is not safe to have sex with an HIV positive person on ART (Table 4.89).

Table 4.89: Cross tabulation 'It is safe to have sex with an HIV positive person on ART' and religion

			It is safe to have sex with an HIV positive person on ART				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	1	6	21	48	76
		%	1.3%	7.9%	27.6%	63.2%	100.0%
	Muslim	Count	0	0	1	1	2
		%	0.0%	0.0%	50.0%	50.0%	100.0%
	Pentecostals/Christian	Count	11	10	80	185	286
		%	3.8%	3.5%	28.0%	64.7%	100.0%
	Jehovah's Witness	Count	0	0	0	2	2
		%	0.0%	0.0%	0.0%	100.0%	100.0%
	Indigenous Beliefs	Count	0	1	4	2	7
		%	0.0%	14.3%	57.1%	28.6%	100.0%
	Atheist	Count	0	0	0	1	1
		%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	12	17	106	239	374

The Pearson Chi-square was not significant (F=11.183, df=15, p=0.740) indicating there was no variation in the way the respondents from different religions disagreed with the statement that it is safe to have sex with an HIV positive person on ART.

4.3.4.2.4 Having sex with a person on ART and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 92.8% (f=142; n=153), Sports Group 94.1% (f=32; n=34), Social Club 89.1% *(f*=57; n=64), None 94.9% *(f*=56; n=59), Youth Church Group and Sports Group 88.2% *(f*=15; n=17), Youth Group and Social Group 89.5% *(f*=17; n=19), Youth Church Group, Sports Group and Social Group 93.8% *(f*=15; n=16) and Sports Group and Social Club 100% *(f*=5; n=5) indicated that it is safe to have sex with an HIV positive person on ART (Table 4.90).

Table 4.90: Cross tabulation of 'It is safe to have sex with an HIV positive person on ART' and Social group affiliation

			It is safe to have sex with an HIV positive person on ART				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	3	8	48	94	153
		%	2.0%	5.2%	31.4%	61.4%	100.0%
	Sports Group	Count	2	0	10	22	34
		%	5.9%	0.0%	29.4%	64.7%	100.0%
	Social Club	Count	3	4	19	38	64
		%	4.7%	6.3%	29.7%	59.4%	100.0%
	None	Count	1	2	10	46	59
		%	1.7%	3.4%	16.9%	78.0%	100.0%
	Youth Group, Sports Group	Count	1	1	3	12	17
		%	5.9%	5.9%	17.6%	70.6%	100.0%
	Youth Group, Social Club	Count	1	1	5	12	19
		%	5.3%	5.3%	26.3%	63.2%	100.0%
	Youth Group, Sports Group, Social Club	Count	0	1	5	10	16
		%	0.0%	6.3%	31.3%	62.5%	100.0%
	Sports Group, Social Club	Count	0	0	2	3	5
		%	0.0%	0.0%	40.0%	60.0%	100.0%
Total		Count	11	17	102	237	367

The Pearson Chi-square was not significant (F=13.075, df=21, p=0.906) indicating that there was no difference in the way respondents from social groups disagreed with the statement that it is safe to have sex with an HIV positive person on ART.

4.3.4.3 Perceived barriers to action: 1st year students are free of HIV

4.3.4.3.1 Perceived barriers to action: 1st year students are free from HIV versus gender

Among the males 93.2% *(f*=207; n=222) and females 94.5% *(f*=154; n=163) indicated that they disagreed with the statement that first year students are free from HIV (Table 4.91).

Table 4.91: Cross tabulation of 'First year students are free from HIV' and Gender

			First year students are free from HIV				Total
			SA	A	DA	SDA	
Gender of Respondent	Male	Count	6	9	44	163	222
		%	2.7%	4.1%	19.8%	73.4%	100.0%
	Female	Count	6	3	23	131	163
		%	3.7%	1.8%	14.1%	80.4%	100.0%
Total		Count	12	12	67	294	385

The Pearson Chi-square was not significant (F=4.120, df=3, p=0.249) indicating that males and females disagreed with the statement that first year students are free from HIV.

4.3.4.3.2 Perceived barriers to action: 1st year students are free from HIV and age

Among the respondents aged 20 years and less 90.4% *(f*=103; n=114), 21-25 years 94.3% (f=214; n=227), 26-30 years 100% *(f*=14; n=14) and 31 years and above 100% *(f*=31; n=31) disagreed with the statement that first year students are free from HIV (Table 4.92).

Table 4.92: Cross tabulation of First year students are free from HIV' and age groups

			First year students are free from HIV				Total
			SA	A	DA	SDA	
Age Groups	20 years and Less	Count	6	5	22	81	114
		%	5.3%	4.4%	19.3%	71.1%	100.0%
	21 – 25 years	Count	6	7	39	175	227
		%	2.6%	3.1%	17.2%	77.1%	100.0%
	26 – 30 years	Count	0	0	2	12	14
		%	0.0%	0.0%	14.3%	85.7%	100.0%
	31 years and Above	Count	0	0	4	27	31
		%	0.0%	0.0%	12.9%	87.1%	100.0%
Total		Count	12	12	67	295	386

The Pearson Chi-square was not significant (F=7.002, df=9, p=0.637) indicating that there was no variation in the way the different age groups disagreed with the statement that first year students are free from HIV.

4.3.4.3.3 Perceived barriers to action: 1st year students are free from HIV and religion

Among the respondents Catholics 90.8% (f=69; n=76), Muslims 50% (f=1; n=2), Pentecostals/Christian 95.2% *(f*=280; n=294), Jehovah's witness 100% *(f*=2; n=2), Indigenous Beliefs 85.7% *(f*=6; n=7) and Atheists 100% *(f*=1; n=1) disagreed with the statement that first year students are free from HIV (Table 4.93).

Table 4.93: Cross tabulation of 'First year students are free from HIV' and religious affiliation

			First year students are free from HIV				Total
			SA	A	DA	SDA	
Religious Affiliations	Catholic	Count	5	2	12	57	76
		%	6.6%	2.6%	15.8%	75.0%	100.0%
	Muslim	Count	0	1	0	1	2
		%	0.0%	50.0%	0.0%	50.0%	100.0%
	Pentecostals/Christian	Count	7	7	53	227	294
		%	2.4%	2.4%	18.0%	77.2%	100.0%
	Jehovah's Witness	Count	0	0	0	2	2
		%	0.0%	0.0%	0.0%	100.0%	100.0%
	Indigenous Beliefs	Count	0	1	2	4	7
		%	0.0%	14.3%	28.6%	57.1%	100.0%
	Atheist	Count	0	0	0	1	1
		%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	12	11	67	292	382

The Pearson Chi-square was significant (F=25.038, df=15, **p=0.049**) indicating that there was a difference in the way respondents from different religions responded to the statement that first year students are free from HIV.

4.3.4.3.4 Perceived barriers to action: 1st year students are free from HIV and social group affiliation

Among the respondents' social group affiliations, Youth Church Group 92.9% (f=144; n=155), Sports Group 97.1% (f=33; n=34), Social Club 95.5% *(f*=63; n=66), None 91.9% *(f*=57; n=62), Youth Church Group and Sports Group 100% *(f*=18; n=18), Youth Group and Social Group 100% *(f*=18; n=18), Youth Church Group, Sports Group and Social Group 100% *(f*=16; n=16) and Sports Group and Social Club 80% *(f*=4; n=5) disagreed with the statement that first year students are free from HIV (Table 4.94).

Table 4.94: Cross tabulation of 'First year students are free from HIV' and social group affiliation

			First year students are free from HIV				Total
			SA	A	DA	SDA	
Social Group Affiliations	Youth Church Group	Count	6	5	33	111	155
		%	3.9%	3.2%	21.3%	71.6%	100.0%
	Sports Group	Count	0	1	4	29	34
		%	0.0%	2.9%	11.8%	85.3%	100.0%
	Social Club	Count	2	1	13	50	66
		%	3.0%	1.5%	19.7%	75.8%	100.0%
	None	Count	3	2	8	49	62
		%	4.8%	3.2%	12.9%	79.0%	100.0%
	Youth Group, Sports Group	Count	0	0	1	17	18
		%	0.0%	0.0%	5.6%	94.4%	100.0%
	Youth Group, Social Club	Count	0	0	2	16	18
		%	0.0%	0.0%	11.1%	88.9%	100.0%
	Youth Group, Sports Group, Social Club	Count	0	0	6	10	16
		%	0.0%	0.0%	37.5%	62.5%	100.0%
	Sports Group, Social Club	Count	0	1	0	4	5
		%	0.0%	20.0%	0.0%	80.0%	100.0%
Total		Count	11	10	67	286	374

The Pearson Chi-square was not significant (F=22.918, df=21, p=0.348) indicating that there was no difference in the way respondents from different social groups disagreed with the statement that first year students are free from HIV..

4 3.4.4 Factors contributing to university students having sex

This subsection consisted of eight items requesting the respondents to indicate their agreement on a four-point Likert scale regarding factors that could contribute to university students having sex. From the literature review and background to the research problem, students at university were perceived to have sex due to peer pressure , poverty and new found freedom .This is supported by the findings of this study were peer pressure (*f=257 (63,8%),* poverty *f=249* (61.8%) and new found freedom *f =348 (86.3%)* were the main reasons given as to factors contributing to university students having sex (Table 4.95).

Table 4.95: Factors contributing to university students having sex

	SA		A		DA		SDA		DNA		Total	
	(f)	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%	*(f)*	%
Sex is considered a way of life at universities	58	14.4	166	41.2	117	29	47	11.7	15	3.7	403	100
University students do what their friends do	66	16.4	191	47.4	109	27	23	5.7	14	3.5	403	100
University students' sexual behaviours is influenced by their new found freedom	127	31.5	221	54.8	30	7.4	11	2.7	14	3.5	403	100
University students are not aware of the dangers of early sexual debut	38	9.4	78	19.4	176	43.7	94	23.3	17	4.2	403	100
University students' sexual behaviours are influenced by their need to get high grade marks	35	8.7	115	28.5	166	41.2	69	17.1	18	4.5	403	100
It is right to have sex when you are at university level as long as you are in love	21	5.2	55	13.6	158	39.2	152	37.7	17	4.2	403	100
University students' sexual behaviours are influenced by their need of a high class life	93	23.1	179	44.4	73	18.1	39	9.7	19	4.7	403	100
University students' sexual behaviours are influenced by poverty	83	20.6	166	41.2	94	23.3	42	10.4	18	4.5	403	100

A higher percentage of males (58.7%; n=236) than females (50%; n=167) strongly agreed with the statement that sex is considered a way of life at university (Fig. 2.15).

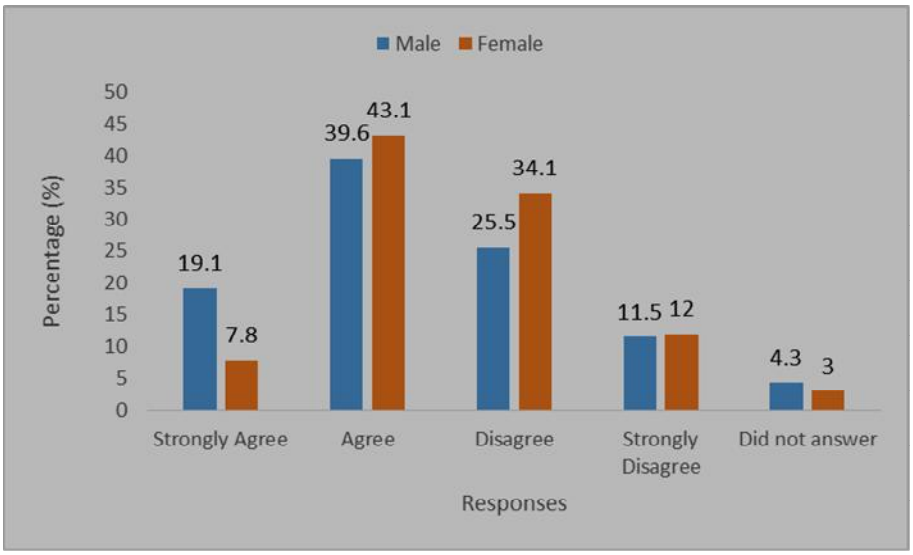


Figure 4.15 Sex is considered a way of life at universities (N=403).

More males (69.4%; n=236) than females (55.7%; n=167) concurred with the idea that at universities friends copy each other even in sexual matters (Fig. 4.16). These findings are in agreement with a study done by Tura et al (2012) at a university in Ethiopia were peer pressure was found to be one of the predisposing factors to university students having sex..

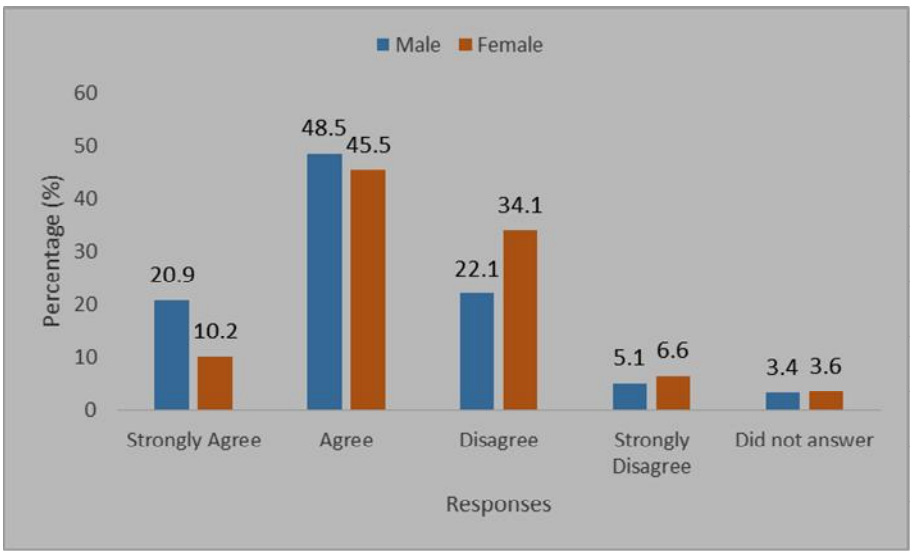


Figure 4.16 University students do what their friends do (N=403)

The majority of both males 86.8% (n=236) and females 85.6% (n=167) indicated that the new freedom experienced by university students has a strong bearing on their sexual behaviours (Fig. 2.17). These findings further confirm the assertion that young people often take advantage of freedom from direct parental supervision and guidance to express their freedom by initiating sexual activity. These findings are similar to other study results of similar researches done elsewhere in Africa such as that done by Tura et al in Ethiopia and another by Adefuye et al in South Africa...

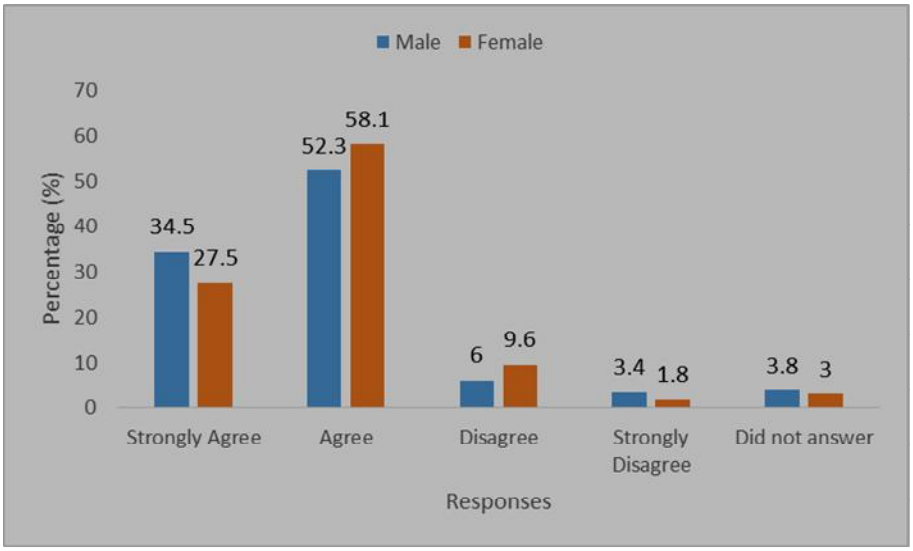


Figure 4.17 University students' sexual behaviours is influenced by their new found freedom (N=403)

University students are aware of the dangers of early sexual debut (Fig. 4.18).Of the male respondents 65.5% (n=236) indicated that they were aware of dangers of early sexual debut. Despite this awareness, this knowledge was not transformed into action because it appears the respondents do not realize the relationship between sexual activities ant the increased risk of infection. This disparity between knowledge and action could be attributed to the primary source were the respondents go their information mainly from, the media instead of the homes and universities.

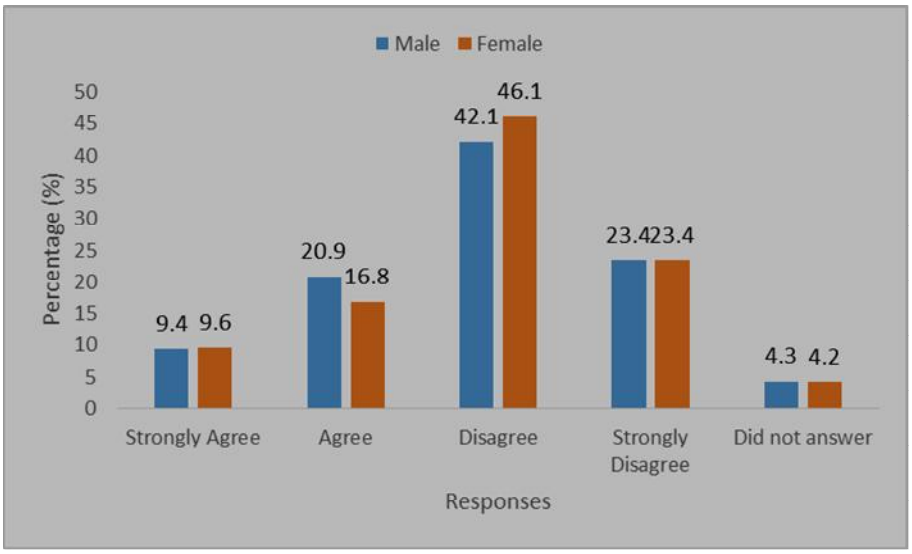


Figure 4.18 University students are not aware of the dangers of early sexual debut (N=403)

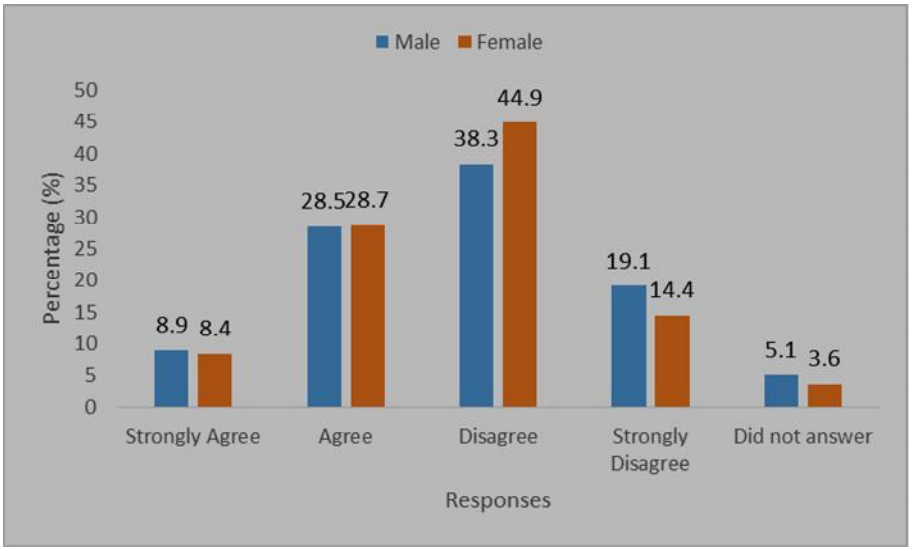


Figure 4.19 University students' sexual behaviours are influenced by their need to get high grade marks (N=403).

A relatively higher percentage of female students indicated that it is not right to have sex when you are at university level as long as you are in love compared to the males (Fig. 4.20).

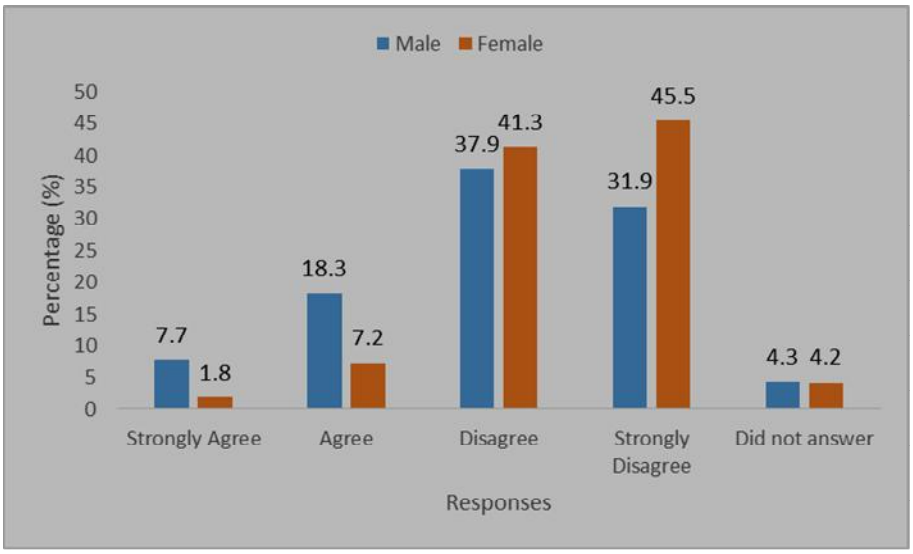


Figure 4.20: It is right to have sex when you are at university level as long as you are in love (N=403).

The majority of respondents both males and females indicated that university students crave for a high class life influences their sexual behaviours (Fig 4.21). Mutinta and Govender (2012) in their research at the University of KwaZulu-Natal found out that the need for a higher social class influenced the sexual behaviours of university students. One male student said: *"for many students social status is dressing in those fancy clothes, going out with many girls, partying all the times, driving those fancy cars, and listening to rap and house music, really loud. It is weird status for spoiled students behaving like Bill Gates on campuses. Being well and Showing off is one thing about many students campus".*

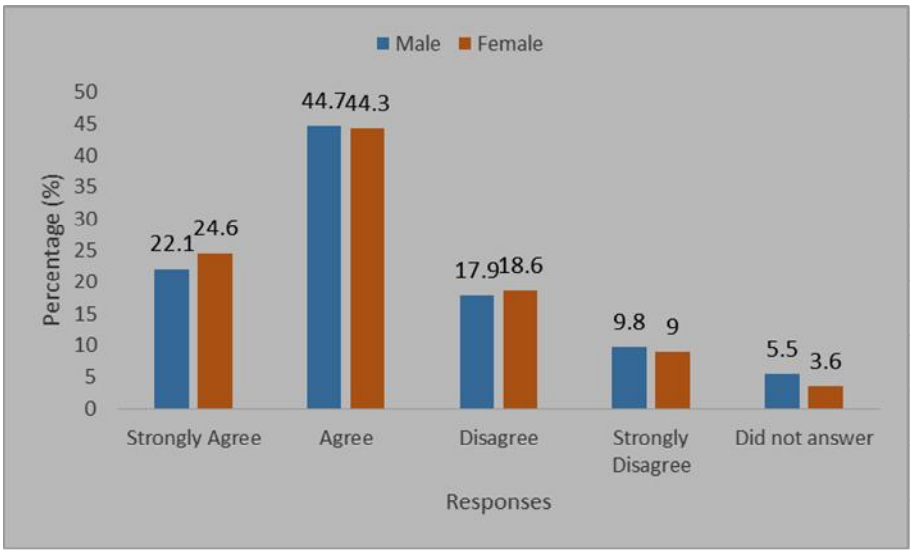


Figure 4.21 University students' sexual behaviours are influenced by their need of a high class life (N=403).

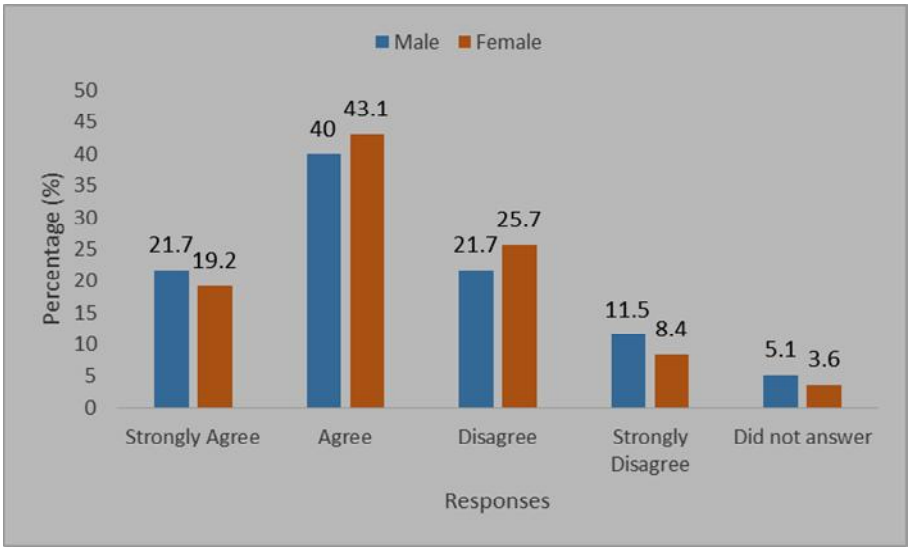


Figure 4.22 University students' sexual behaviours are influenced by poverty (N=403).

Figure 4.22 shows that more respondents (males: 16.7% and females :62.1%) agreed that poverty influenced their sexual behaviours. According to some researches done elsewhere it is stated that because of lack of resources or facilities due to poverty, students would indulge in risky behaviours from the need to generate income (Theodore :2009).

4.4 Summary

In this chapter, the data obtained through a self-designed questionnaire are presented. The presentation follows the format of the questionnaire and the objectives set for the current research and relate to socio-demographic data, HIV and AIDS knowledge, attitudes and behaviours.

Associations among different variables were determined via Chi square (X^2) calculations.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter presents the conclusions, recommendations and limitations of the study regarding knowledge, attitudes and behaviours of students regarding HIV and AIDS at a university in Zimbabwe. The content of this chapter is presented keeping in mind the outcome variable of the current research namely, how at risk the university students perceived themselves to be of contracting HIV and AIDS. The findings of applicable subsections of the data are presented followed by a conclusion and recommendation. As indicated in chapter 3 of this study a number of research questions and objectives underlie the outcome variable of this study:

- Research questions (section 1.5)
- Research objectives (section 1.6)

5.2 KNOWLEDGE RELATING TO HIV AND AIDS

In the context of the HBM, knowledge is a structural variable that has an influence on risk perception as it enables individuals to recognize the risk of an illness and take steps to adopt healthy behaviours to prevent illness (Zhao et al 2012).

5.2.1 Knowledge of personal HIV status

5.2.1.1 Findings

Of the 403 respondents, 290 (72%) said they knew their HIV status (table 4.7), and 116 (40%) of these had had sex (Table 4.8), 169 (42%) (Table 4.9) knew the HIV status of their partners while 55(13.6%) did not answer the question.

5.2.1.2 Conclusion

The findings of this research indicate that university students are sexually active. Therefore, it is of utmost importance that these students know their HIV status and

that this status is re-established from time to time. Knowing one's status is believed to curb further spread of HIV and AIDS though no conclusive research has been done on this aspect.

5.2.1.3 Recommendations

University students should be encouraged to know their HIV status and peer education should be encouraged. In addition, all authorities responsible for policy formulation at tertiary institutions should include universities.

5.2.2 Knowledge of HIV and AIDS

5.2.2.1 Findings

From the responses, there were some indications that university students did not have sufficient knowledge about HIV and AIDS. The data thus revealed a perceived gap in the knowledge regarding HIV and AIDS among university students.

5.2.2.2 Conclusion

The responses referred to are the respondents, personal opinions but the research tool did not measure the actual knowledge level. However this acknowledgment of knowledge discrepancies on HIV and AIDS should serve as an indicator for the need of more formal programmes on HIV and AIDS education and other related subjects for these respondents.

5.2.2.3 Recommendations

It is recommended that it should not be assumed that because of their level of education, university students are knowledgeable about HIV and AIDS. Formal surveys to estimate the students' knowledge levels should be conducted from time to time. Presenters of sexuality education programmes and other health related education on HIV and AIDS should, however, guard against causing so-called HIV and AIDS fatigue among students resulting in carelessness towards the disease. Fatigue is brought about by the sense of information overload, saturation and personal impatience with this barrage of information becomes evident, hence

university students' tiredness with hearing HIV prevention messages may be fuelling HIV risk denial and dulling their consciousness of the importance of safer sexual behaviours (Shafer,Strebel and Jacobs :2012). In addition, programme providers need to guard against the idea that knowledge will necessarily result in expected behaviours (Reddy and Frantz: 2011). It is recommended that peers should be on the fore-front of providing this education. The university authorities need also to strategise to find better ways of using high knowledge to change both behaviours and practice if the war against HIV will ever be won in Zimbabwe and among young people in particular.

5.2.3 Modes of transmission

5.2.3.1 Findings

The results of this study show that most of the 403 respondents were aware of the main modes of HIV transmission namely: through unprotected sexual intercourse 402 (99.8%), through infected blood 401 (99.3%) and through accidental prick by a used needle 354 (87.8%).

5.2.3.2 Conclusion

Of the three major modes of transmission, and seen within the parameters set by the current research instrument and the contents of most information on HIV and AIDS, sexual transmission may overshadow other modes of transmission of HIV and AIDS.

5.2.3.3 Recommendation

Sexuality education on its own is not adequate to prevent HIV transmission. There is a need to put emphasis on the dangers of any substance abuse such as alcohol and drugs which may impair their judgement. The focus on blood should also include that from open wounds often encountered in sports and road injuries. Health education on HIV and AIDS should include practical information and exercises.

5.2.4 Misconception about transmission of HIV

5.2.4.1 Findings

Misconceptions about the spread of HIV is reflected by the following beliefs: that HIV and AIDS can be transmitted through mosquito bites,19 (4.8%); that HIV and AIDS can be transmitted through kissing an infected person,120 (29.8%); and that HIV and AIDS can be transmitted through using the same eating utensils as an infected person,118 (29%).

5.2.4.2 Conclusion

Although it can be argued that these misconceptions were in the minority, this can actually mirror the issue of the continued rampant stigmatisation. Inaccurate knowledge seems to harbour more negative than positive outcomes**.**

5.2.4.3 Recommendation

Correct information on the ways in which HIV and AIDS is not transmitted should be emphasised in all learning material. The presenters of health information should be knowledgeable and be able to give information which de-stigmatises PLHIV. Since most respondents indicated that they get their information from the media, the media practitioners should be given and also be encouraged to get correct information and facts about HIV and AIDS.

5.2.5 Knowledge of sexual risk behaviours

5.2.5.1 Findings

Most of the respondents were aware of sexual behaviours that put them at risk of HIV transmission, such as early sexual debut 341 (84.6%); unprotected sexual intercourse 363 (90.3%); concurrent multiple sexual partnerships 370(91.8%) and coerced or forced sex 355 (88.1%).

5.2.5.2 Conclusion

Though HIV information is given early in primary education in Zimbabwe, there is greater need to improve on the quality of information given to students in order to prevent early sexual debut and peer pressure. Mere awareness of risk factors might not be sufficient to protect students against HIV infections.

5.2.5.3 Recommendations

Research needs to be conducted into the most effective age at which to start sexuality education outside the family or household. Sexuality education programmes should strive to break the psycho-cultural barriers associated with non condom use among the youths (Katikiro & Njau: 2012). Transgender respect and appreciation also merit pertinence in sexuality programmes. In addition, as alluded to earlier on, concerted cooperative project needs to be embarked upon to rid the media of double bind message to the youth regarding sex and HIV and AIDS.

5.3 ATTITUDES TOWARDS PLHIV

5.3.1 Finding

Most of the respondents showed some degree of empathy, tolerance, acceptance and positive attitudes towards PLHIV. However, data from this study also reveal unfavourable and unsympathetic attitudes towards PLHIV by some respondents. Some of the respondents in this study said they would not kiss someone who has HIV and AIDS, which could be indicative of stigma and discrimination towards PLHIV.

5.3.2 Conclusion

In this regard also see 4.3.1.2.5 on misconception about transmission of HIV/AIDS.

5.3.3 Recommendations

The learning materials should include information which is easily understood by the students. The nature of the HI virus should also be explained in simpler, understandable but accurate terms. People living with HIV and AIDS could also be used to educate the students. This could help the students to know that true HIV does really exist. Without moralising, it could be pointed out to students that the disease does not discriminate against people and all people are equally vulnerable of contracting the disease depending on one's sexual and other recreative behaviour.

5.4 PERCEPTIONS REGARDING HIV AND AIDS RISK

5.4.1 Findings

Of the respondents, 349 (86.6%) perceived themselves pertinently to be at high risk of HIV transmission (Table 4.25).

5.4.2 Conclusion

This finding relates directly to the outcome variable of the current research. Students who are aware of their risk of HIV transmission are more likely to take actions to prevent infection. Those respondents who did not perceive themselves as being at high risk of contracting HIV and AIDS, might not take the necessary steps to protect themselves from HIV transmission. Some individuals' perceived themselves of not being at risk of contracting the HIV because they are not sexually active or do not practice casual sex, though this situation could change.

5.4.3 Recommendation

Though the students perceived personal risk of contracting HIV and AIDS, respondents still needed to be informed of the general risk of contracting HIV and AIDS. This implies that students should be duly informed about the real threat, of available statistics, of risk behaviours and the risks involved in any changes in personal sexual practices. Such knowledge might help individual students to estimate correctly their personal risks of contracting HIV and AIDS. However, all information should be offered in a balanced way without causing panic or a sense that contracting HIV and AIDS is inevitable, leading to HIV and AIDS fatigue and a careless attitude that might undermine healthy sexual practices (Shafer,Strebel and Jacobs :2012).

5.5 SOURCES OF INFORMATION ON HIV AND AIDS

5.5.1 Findings

The respondents indicated that they got most of their information from the television and radio 343 (85%), followed by peers 302 (75%), the least source of information was from lecturers 209 (52%).

5.5.2 Conclusion

These findings indicate a move away from the traditional frank talks between parents and their children on sexuality and HIV and AIDS related issues. Many reasons can be put forward for this including parents' lack of knowledge on HIV and AIDS or being 'absentee' parents mostly in the Diaspora.

5.5.3 Recommendation

All sources available to students should provide them with clear and accurate information on HIV and AIDS. Magazines should thus be scrutinised for presenting information uncontaminated by sensationalism. The most important intervention might be to give accurate information to parents about HIV and AIDs and how to discuss matters relating to sexuality and HIV and AIDS with their children.

5.6 SUMMARY OF CONCLUSIONS CONTEXTUALIZED WITHIN THE MAJOR COMPONENTS OF THE HEALTH BELIEF MODEL (HBM)

The HBM was used to explore the knowledge, attitudes and behaviours relating to HIV and AIDS of students at a university in Zimbabwe. Several conclusions were reached during the current study. These conclusions are discussed in relation to the three components of the HBM (see figure 2.1) namely individual perceptions, modifying factors and variables affecting likelihood of taking action.

5.6.1 Individual perceptions regarding HIV/AIDS

Individual perceptions about HIV and AIDS could determine the adoption of preventive measures such as abstinence to prevent HIV and AIDS transmission. University students who are aware of their risk of contracting HIV and AIDS would more likely take measures to prevent themselves from contracting the infection.

5.6.1.1 Perceived susceptibility to HIV and AIDS

5.6.1.1.1 Findings

The findings of this study revealed that the majority of the respondents had an overall accurate perception of their susceptibility to HIV and AIDS (Table 4.76).

5.6.1.1.2 Conclusion

This finding indicates how at risk the respondents perceived themselves.

5.6.1.1.3 Recommendation

This finding could be explained by the fact that respondents who believed HIV and AIDS could be prevented, would perceive their risk of contracting HIV and AIDS to be high. This means that they might be willing to take preventive measures against the disease. If no risk is perceived, there will be no need for taking preventive measures

5.6.1.2 Perceived severity of HIV and AIDS

5.6.1.2.1 Findings

The current results revealed that the majority of students were aware of the severity of HIV and AIDS infection. However, the data also revealed some kind of misconceptions regarding HIV and AIDS among students: of the respondents, 44 (11%) believed that HIV could not be transmitted from mother to child (see fig 4.10) and 43 (10%) believed that university students are immune (invulnerable) to HIV and AIDS (see section 4.3.3).

5.6.1.2.2 Conclusion

This inaccurate perception could lead to lack of action to take measures by students to protect themselves against HIV transmission. The fact that some believe that university students are immune to HIV infection could result in some not taking protective action.

5.6.1.2.3 Recommendation

Reproductive health education and in general HIV and AIDS health programmes should indicate that everyone is susceptible to get HIV and AIDS and no one is immune (invulnerable). Course contents should point out at the modes of transmission of HIV and AIDS.

5.6.2 Modifying factors

Modifying factors that could influence perceived threat to risk of contracting HIV and AIDS include demographic, modifying factors that could influence perceived threat or risk of contracting HIV/AIDS include demographic, socio-psychological and structural variables (Dennill et al 1999:156).

5.6.2.1 Demographic variables

In this study, demographic variables that could influence the respondents (students) to take steps to prevent the transmission of HIV and AIDS included age, gender, marital status, academic profile and highest qualification of parents/guardians.

5.6.2.1.1 Age

Findings

As could be expected from a university undergraduate population and sample, respondents (students) were aged between 19 and 25 years 356 (88.4%).

Conclusion

The age group 16-24 years is within the group of young adults hardest hit by HIV and AIDS in sub-Saharan Africa. Preventative health education on HIV and AIDS at university level will, if implemented, reach a large population of the most at risk population. It is also this age group in which sexual experimentation fuelled by a need for immediate gratification is experienced. This emphasises the indispensability of preventative health education at university level.

Recommendation

The recommendation at this point is a recommendation on recommendations namely, that the recommendations made in this dissertation be considered and that they be implemented meticulously and in conjunction with supporting recommendations and evidence from other studies and literature sources.

5.6.2.1.2 Gender

Findings

As indicated in earlier, there was a statistically significant difference with regard to the following gender and the following aspects:

- More females, (*f*=19; 11.6%) than males (f=23; 10%) strongly agreed that university students are immune to HIV infection, and this belief was statistically influenced by gender
- More females (f=151; 90.5%) than males (f=208; 88.2%) strongly agreed that youth are prone to HIV and AIDS
- More females (f=152; 90.4%) than males (*f*=209; 88.7%) strongly agreed that an HIV positive individual on ART can still transmit HIV
- More males (*f*=21; 9.2%) than females (f=11; 6.3%) strongly believed that it is safe to have sex with an HIV positive individual on ART.

Conclusion

Male students appear more at risk of contracting HIV and AIDS as far as the items included in this discussion are concerned than their female counterparts disregarding the anatomic differences. This shift could be attributed to the myriad of girl child empowerment programs available to the disadvantage of the male child. Despite the statistical calculations, there were more male respondents as compared to female respondents. This is because the university's undergraduate female enrolment figure stands at 38% of the total admissions. This can be attributed to the fact that this particular university has a science and technology bias, many female students do not take sciences at higher levels of study.

Recommendation

Special effort needs to be made towards health education on HIV prevention to male students at the university involved in this study and beyond**.**

5.6.2.1.3 Marital status

Findings

Marital status is one of the demographic variables that predispose one to take preventive action against HIV and AIDS infection (Kimani, Ettarh, Ziraba and Yatich: 2011). Due to repeated exposure to unprotected sexual intercourse and change of sexual partners among unmarried young adults, there is an increase in their risk of HIV and AIDS infection. The majority of the respondents in the current study were single 374 (92.8%) (See table 4.2).

Conclusion

Based on literature findings, the fact that marital status predisposes one to take preventive action against HIV infection and AIDS, and the fact that students at universities are mostly unmarried and of an age in which sexual experimentation is rife, these students need pertinent health education on HIV infection prevention.

Recommendation

The principles of faithfulness and keeping to a single uninfected partner generally advocated by marriage should also be included in programmes at university level. In the absence of marriage, abstinence appreciation and consideration should be promoted amongst students.

5.6.2.1.4 Level of education

Findings

All of the respondents in the current study had a good academic profile; they were all studying for their first degrees at the university.

Conclusion

A high level of academic engagement has an influence on the age of sexual initiation and makes health education messages more meaningful (Moore & Burton 1999:143; Mouton 2001:18). It is believed that young adults with high academic aspirations are more likely not to jeopardise their academics by unwanted pregnancies and STIs including HIV and AIDS by abstaining from sex, by being faithful to one uninfected sexual partner, or by using condoms when engaging in sexual intercourse with multiple partners. It is the researcher's opinion that the respondents would also behave in the same way.

Recommendation

It is recommended that in addition to pertinently assist students to achieve higher educational goals and aspirations, students' self-concepts and self-images should be nurtured and improved over a broad scope psycho-socially and spiritually. Students should be truly educated.

5.6.2.1.5 Parents'/guardians' educational level

Findings

Most of the respondents' parents/guardians had qualifications above the first school level (see table 4.3). However, parents were low on the list of sources for information on condom use and HIV and AIDS

Conclusion

According to Godfrey (1996:21), the parents'/guardians' educational levels are of significance in terms of receptiveness to information and imparting knowledge, especially sexual knowledge to their children. One could therefore expect these parents/guardians to be receptive to information and to impart sexual knowledge to the respondents, which in turn should be reflected in students' (respondents') preference of parents as sources for knowledge on related issues. Lack of informed face-to-face communications on HIV and AIDS between parents/guardians and respondents/students could increase the risk of students contracting HIV.

Recommendation

A concerted effort from all institutions involved (university, church and social organisations) to inform parents about HIV and AIDS, youth sexual practices and parent/youth communication on sexual issues need to be undertaken. Both parents and youths need to be involved in planning content and an air in which these parent/youth conversations could take place.

5.6.3 Socio-psychological variables

5.6.3.1 Religion

5.6.3.1.1 Finding

In this study, most respondents (n=385; 95.5%) were Christians (table 4.4).This was to be expected because in Zimbabwe most of the people are Christians. The statistically significant findings relating to religion are:

- More Christians 45 (11.7%) than Muslims (0.00%) agreed that one can see by the naked eye if their partner is infected
- More Christians 341 (88. 8%) than Muslims 1 (50%) agreed that a person on ART could still transmit the Human Immunodeficiency Virus
- More Christians (16.5%) than Muslims (0.00%) agreed that it is safe to have sexual intercourse with someone on ART

5.6.3.1.2 Discussion

Religions such as Christianity and Islam are factors that could affect customs regarding sexual practices such as condom use. Ehlers (1999:54) states that religion could sometimes hamper the effective use of contraceptives, especially condom usage in the prevention of HIV and AIDS transmission. The Roman Catholic Church, as a Christian church, opposes condom use in favour of “direct contact” (Alsan 2006; Bradshaw 2003). This could have serious implications in the spread of HIV and AIDS.

5.6.3.1.3 Recommendation

Despite the sensitivity of sex and sexuality matters from a religious point of view, every effort should be made educate religious leaders on sex and sexuality education. However, caution should be exercised to maintain the scientific facts surrounding HIV and AIDS and to separate these from value laden beliefs provided by religion.

5.6.3.2 Social groups

5.6.3.2.1 Finding

The majority of the respondents in this study belonged to social groups (figure 4.3). The following represents statistically significant correlation between certain social groups and diverse variables of importance to the current research**.**

- On the statement that one can see if their partner is infected, 11.6% affiliated to a church group and 15.8% affiliated to a social group agreed with the statement
- Whether an HIV positive person on ART can still transmit the virus, 22. 2% (sport group) and 12% (church group) disagreed with the statement
-

5.6.3.2.2 Conclusion

Although some of the statistically significant findings have little logical significance, the overall impression is that youths belonging to youth clubs and sports clubs are more informed about aspects relating to HIV and AIDS. In a research done in Malawi the results showed a positive association between social group affiliation and HIV preventive behaviours (Paz-Soldan et al 2013). Young adults taking part in youth club activities are expected to be more knowledgeable about HIV and sexual behaviours since they have more opportunities to discuss sexual and HIV related issues with their peers (Paz-Soldan et al 2013). One could therefore expect that belonging to youth club could motivate students to practice safe sex. Youth clubs also appear to exert more influence on youths than religion (Paz-Soldan et al 2013).

5.6.3.2.3 Recommendation

Based on the influence social groups clubs exerts on its members, it is recommended that youths should be supported to join such clubs of their choice for social support and peer to peer education.

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5.6.3.3 Residential arrangements

5.6.3.3.1 Finding

The majority of respondents in this study 363 (90%) were residing outside the university halls of residency; they were either residing with parents/relatives181 (45%) or renting 181 (45%).

6.9.3.3.2 Conclusion

Though this could mean that most of the students had parental guidance, it could also pose a major problem to those who were renting and away from parental guidance for the first time in their life, would use the freedom to indulge in unsafe sexual behaviours. This also left some students vulnerable especially the girl child.

5.6.3.3.3 Recommendation

Though many of the residential arrangements were made for students to get accommodation within the vicinity of the university,it is recommended that the university hasten its construction of halls of residency for students.

5.6.3.4 Socio-economic status

5.6.3.4.1 Finding

The majority of the respondents' parents and guardians had monthly incomes of around US$300. Most of the respondents, parents /guardians were self-employed.

5.6.3.4.2 Discussion

Low economic status of parents may put the respondents at risk of engaging in undesirable sexual behaviours because of a need to supplement their finances to enable them to take care of the basic needs.

5.6.3.4.3 Recommendation

As a general recommendation of improving the socioeconomic status of all Zimbabweans is beyond the scope of this research, it is a worthy cause for Government to pursue. A more practical arrangement in the short term would be to re-introduce financial assistance to students in forms of bursaries and scholarships.

5.7 SUMMATIVE CONCLUSION ON THE OUTCOME VARIABLE

Notwithstanding the limitations (see 5.13) of this research, the researcher concluded that respondents at the National University of Science and Technology in Zimbabwe had adequate knowledge in some respect, but also harboured some misconceptions regarding HIV and AIDS transmission. They did not always practice safe sex, and received information regarding sexuality HIV and AIDS and condom use from peers, magazines/newspapers and television and radio. University students also showed some degree of empathy, tolerance and acceptance and positive attitudes towards PLHIV. Their perceptions regarding HIV and AIDS were adequate.

5.8 SUMMARY RECOMMENDATIONS

Based on the findings of this study, and previously indicated specific recommendations, the following broad recommendations are made to improve the knowledge, attitudes and behaviours regarding HIV and AIDS and to improve the sexual behaviours of university students in Zimbabwe in an attempt to lower the risk of these students of contracting HIV and AIDS. Recommendations with regard to future research are also proposed.

5.8.1 Knowledge, attitudes and behaviours regarding HIV and AIDS

To improve university students' knowledge, attitudes and behaviours regarding HIV and AIDS and their sexual behaviours, and to encourage them to practice safe sex, might require the implementation of the following recommendations:

- The Ministry of Health and Child Care and the Ministry Higher and Tertiary Education in Zimbabwe should develop and introduce training programmes and workshops for lecturers and parents about communication between parents and children and between lecturers and students about sexuality, HIV and AIDS, condom use and safe sexual behaviours, so as to motivate and equip them to teach young adults and their children.
- Health education programmes on HIV and AIDS should integrate psychosocial, socio-cultural, gender, epidemiological and bio-medical sciences contents to explicate the real threat of HIV and AIDS to make these programmes real educational programmes.

- The Ministry of Higher and Tertiary Education should develop an HIV and AIDS Policy for universities.
- Universities should incorporate HIV and AIDS education into the university curriculum.
- Programmes should be developed and introduced to address socio-cultural norms that prevent parents from playing an effective role in the prevention of HIV and AIDS among young adults. These programmes should include regular countrywide campaigns to address issues relating to HIV and AIDS, gender inequalities and cultural practices that promote the spread of HIV and AIDS.
- Credible programmes on HIV and AIDS should be presented on television, as many young adults have access to this source of information. Youths should be involved as presenters and make guest appearances in these programmes to ensure that the information needs of others youths are met.
- Mass media campaigns to promote abstinence, delaying sexual debut and consistent condom use should be conducted countrywide to motivate youths to adopt healthy sexual practices. Such campaigns should not be restricted to the period around the world AIDS day.
- More VCT services should be established especially at universities to ensure accessibility to students at affordable cost as the cost of transport to these services in the urban areas can be a barrier to the students.
- In-service lecturer training programmes should be provided and universities should offer both sexuality education and counselling services.
- Existing university health services should be made more youth friendly, and the services should be available around the clock.
- Universities should promote open communication about HIV and AIDS issues among the youths by means of drama and debates. Community discussions and workshops should be organised and held to encourage acceptance of the existence of HIV and AIDS and to reduce the stigma and discrimination against PLHIV.

5.8.2 Recommendations for further research

The researcher recommends further research into the following topics:

- This study should be should be replicated at other universities in Zimbabwe before generalisation of research results can be made to all university students in Zimbabwe.
- This study should also be done targeting students at other tertiary institutions such as polytechnic colleges, nursing schools and teacher training colleges.
- Conduct peer-teaching research by identifying university students who are knowledgeable about HIV and AIDS, and consistently practice safe sexual behaviours and their roles as peer motivators.
- Adequacy of knowledge and skills among university lecturers to give guidance to youths on sexuality, HIV and AIDS and condom use issues.
- Skills and information needs of parents to help them to communicate effectively with youths.
- Resistance of youths to attitudinal and behaviour changes to prevent HIV transmission.
- Qualitative research on students' perceptions of condom utilisation and being sexually active youths in an era of HIV and AIDS to understand the life world of these youths better

5.9 LIMITATIONS OF THE STUDY

According to Burns and Grove (2011:39), limitations are restrictions or problems in a study that may decrease the generalisability of the findings. Limitations applicable to the current study pertain to the Hawthorne effect, population and sample, and issues relating to data collection and analysis. This study has limitation in that it is cross-sectional in nature and may not explain the temporal relationship between the outcome variable and some explanatory variables. The study topic by itself assesses personal and sensitive issues related to sexuality, which might have caused underreporting of some behaviour. Thus, the findings of this study should be interpreted with these limitations in mind.

5.9.1 The Hawthorne effect

Burns and Grove (2011:538), as well as Polit and Beck (2004:180, 218-219, 719) define the Hawthorne effect as a psychological response in which subjects change their behaviours simply because they are subjects in a study, not because of the research instrument. These authors further state that this effect is difficult to control.

It was assumed in this study that the respondents would be objective and truthful in the information they give in response to the questionnaire items. This might not be the case. For the mere fact that the respondents knew that they were under study, they might have given response to questions and items in a manner which they perceived as being more polite and not really as they felt about or perceived them. They might have given the answers they thought the researcher might expect.

5.9.2 Sample size

The sample was small and the sample was homogeneous as it was limited to participants from only one university in the city of Bulawayo. The inclusion of more respondents and universities might have had some effects on the results of the current study. The inclusion of more universities and students will increase the sample size and provide a larger variety of respondents.

5.9.3 Limited site sample

The current study was conducted among university students from one selected university in Zimbabwe. This greatly limits the generalisation potential of the findings of this study to all university students in Zimbabwe. However, the large sample size strengthens the application of the findings of this study to university students in Zimbabwe.

5.9.4 University respondents

During data collection, the respondents, mostly young adults were extremely impatient which is quite normal for this age group. They were impatient with regard to the questions and items presented and the time required. Many felt shy with respect to some items especially those relating to HIV and AIDS and sexual behaviours and some refused to answer some questions and items. It is also possible that some of the responses might have been “wise cracks”.

5.9.5 Misinterpretation of and omission of responding to items

Data were collected using a self-completion questionnaire. Although the researcher and two research assistants were available to clarify queries, it is possible that some respondents might have misinterpreted some of the items. Not all respondents answered all questions and items, further limiting the reliability of the research results. It cannot be assumed that those respondents who answered specific questions and items had the same knowledge, attitudes, and behaviours regarding HIV and AIDS.

It is also possible that some respondents might have been too shy to ask for clarifications, especially as many questions were too sensitive in nature as they related to sexuality issues, HIV and AIDS and respondents personal sexual behaviours, attitudes and perceptions.

5.10 CONCLUSION

This study focused on determining the knowledge, attitudes and behaviours regarding HIV and AIDS of university students in Zimbabwe. A quantitative, exploratory, descriptive and correlational design was used, utilizing a self-designed questionnaire to collect data from 403 university students in Bulawayo, Zimbabwe. The findings indicated that even though the respondents were aware of certain key issues relating to the transmission and consequences of the HIV infection, there were many areas in which a knowledge gap existed.

The prevention of HIV and AIDS transmission is the key strategy in the fight against the spread of HIV and AIDS. Sexual transmission is the most prevalent mode of transmission of HIV and AIDS worldwide. Youths are particularly at high risk of HIV transmission, due to engagement in risk behaviours such as substance abuse, multiple concurrent sexual partnerships, non-use of condoms and early sexual initiation. Abstinence, being faithful to one uninfected partner, correct and consistent use of condoms and delaying sexual debut are among the strategies that could be adopted to curb the spread of HIV and AIDS among youths in Zimbabwe. Youths need to be equipped with adequate and accurate information regarding HIV and AIDS so that they can accurately perceive their risks of infection and be helped to

adopt healthy life styles including health sexual practices. The findings and recommendations of the current study should contribute significantly to controlling and preventing the spread of HIV and AIDS, among university students in Zimbabwe.

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Zimstat: 2013

ANNEXURE A

LETTER REQUESTING PERMISSION TO CONDUCT STUDY

The Registrar

National University of Science and Technology

P O Box Ac 939

Ascot

Bulawayo.

Zimbabwe.

31 May 2012

Dear Sir,

RE: PERMISSION TO CONDUCT RESEARCH

I am a Chief Nursing Officer in the Division of Clinical Practice and Patient Care, Faculty of Medicine, National University of Science and Technology. I am a registered Masters student at the University of South Africa (UNISA).

I wish to apply for permission to carry out a study on **Students' Knowledge, Attitudes and Behaviours Regarding HIV and AIDS.** This is part of the requirement for my Masters of Arts degree in Health Studies.

To ensure the highest quality of education for students and their full integration into higher education culture, there is the need to learn about knowledge, attitudes and behaviours towards HIV and AIDS and what they think should be done at universities.

It is my hope that the findings from this study will assist in understanding the behaviours exhibited and how they can be helped. Furthermore the findings of the study will be disseminated to all stakeholders in education so that the data informs the development of policies, programmes and practices to improve the quality of students at universities.

I shall be very pleased if you can grant me the permission to carry out the study. Should you have any queries, please do not hesitate to contact me or my promoter on the contact details provided below.

I have also attached a copy of the Ethical Clearance Certificate from the university.

Regards,

Ngundu Grace..... (Researcher)

Professor DM van der Wal... (Promoter: +277 12 429338) (vdwaldm@unisa.ac.za)

ANNEXURE B

RESEARCH INFORMATION SHEET

Good morning/afternoon. My name is …. , I am helping Grace Ngundu who is undertaking a course with the University of South Africa. In order for her to qualify for the course she has to undertake a research exercise. This exercise will be done at this university. We are asking some students from this university if they can participate in this exercise. The research will help in understanding some problems related to HIV and AIDS, your knowledge, attitudes and behaviours.

You are one of the students who have been selected at random from the student community. Participation in this survey is voluntary. If you agree to participate, I will ask you to fill some questions about yourself (for example, your age and your education). Other questions will be about your thoughts and behaviour related to HIV and AIDS. Some questions will be about your personal sexual behaviour. Some questions may make you feel uncomfortable. You are free to refuse to answer any questions. You can also stop the interview at any time. There are no direct benefits to you for choosing to participate in this interview. However, you will be helping me to add on knowledge that will help develop better programs to help Zimbabweans in the future. To help in the addition of knowledge, the results from this research will be published in form of a report which other people may access and read. Your name or home will not be mentioned in the report and all your answers will be kept strictly confidential. This interview will take about 30 minutes.

At this time, do you want to ask me anything about the survey? If you have any questions at any time, we want you to tell us. You can also speak to Grace Ngundu for whom we are representing on Telephone Number +263773714873.

ANNEXURE C

CONSENT FORM

Consent Form

I....., a part.....student at the National University of Science and Technology, voluntarily agree to take part in this research process. I know that I will not be rewarded for taking part in this exercise

Signature **Date**

....

ANNEXURE D

RESEARCH QUESTIONNAIRE

PURPOSE OF THE STUDY

The purpose of this study is to investigate the students' knowledge, attitudes and behaviours regarding HIV and AIDS at a university in Zimbabwe

INSTRUCTIONS

1. Your name will not be written on this paper: therefore you will remain anonymous to the researcher.
2. All information will be treated with strict confidentiality.
3. Be as objective as possible, respond to all questions honestly.
4. Tick in the most appropriate box.

You are free to withdraw at any stage of the research

Section A Demographics			
1	State your gender		Male
			Female
2	State your age	.....years	
3	Marital status		Single
			Co-habiting
			Married
			Separated/divorced
			Widowed
4	Indicate your current level of study (e.g. 2nd year)	.....	
5	Indicate your Faculty (e.g. Commerce)	.....	
6	Highest qualification of parents/guardian		No education
			Primary school level
			Secondary school level
			College(diploma)
			University(degree)
7	Religious affiliations		Catholic
			Muslim
			Pentecostals/Christian
			Jehovah's witness
			Indigenous beliefs
8	Social group affiliations		Youth church group
			Sports group
			Social club

			None
9	Accommodation		Home/relatives
			University residence
			Rented

Section B

Parent/Guardian communication

Indicate what you think about the following statements in the boxes below

SA=strongly agree; **A**= Agree; **D**= Disagree; **SD**=Strongly disagree

		SA	**A**	**D**	**SD**
10	I talk freely about condoms to my parents/guardian				
11	I feel free to discuss HIV & AIDS related issues with my parents/guardian				
12	Parents are supposed to discuss sexual issues with their children				
13	It is culturally acceptable for parents/guardians to discuss sexual issues with their children				
14	My parents/guardians are knowledgeable about HIV & AIDS				
15	My parents/guardians are knowledgeable about condom use				
16	My parents/guardians support condom use				

Sources of income of respondent's parents/guardian

Source of income	**Mother**	**Father**	**Guardian**
Self employed			
Employed			
Business			

Pensioner				
Other (specify)				
Monthly income				
US$ 200-500				
US$501-700				
US$701-999				
US$1000 and above				
Bread winner of your household				

Discrimination against people living with HIV & AIDS					
		SA	**A**	**D**	**SD**
17	Discrimination against HIV & AIDS can be controlled				
18	People living with HIV & AIDS should be discriminated				
19	HIV & AIDS is a punishment from God				
20	Discrimination against people living with HIV and AIDS has a negative impact on the spread of HIV				
21	In Zimbabwe it is normal practice to discriminate those living with HIV & AIDS				
22	People with AIDS deserve it				
23	People living with HIV & AIDS should be isolated from the rest of the population				
24	I will sit next to a fellow student who is HIV positive				
26	I will hug a person who has AIDS				
27	I can use the same utensils with a person who has AIDS				

Section C Knowledge on HIV & AIDS			
Please fill in your understanding of the following:			
28	Have you ever heard of HIV & AIDS?		Yes
			No
29	Do you know your HIV status?		Yes
			No
30	Do you know the HIV status of your partner(s)?		Yes
			No
31	Have you ever had sex with a male/female partner?		Yes
			No
32	How many sexual partners have you had in the past year?	.....	

Indicate the extent to which you agree or disagree to the following statements**; SA=strongly agree; A=agree; D= disagree and SD= disagree**					
		SA	**A**	**D**	**SD**
i.**HIV can be transmitted**					
33	Through unprotected sexual intercourse				
34	Through infected blood.				
35	Through kissing an infected person				
36	Through a mosquito bite				
37	Through mother to child during pregnancy				
38	Though using an infected person's belongings such as towels				
39	Through an accidental prick by a used needle				
ii.**HIV can be prevented**					
40	By correctly and consistently using				

	condoms				
41	By abstaining from sex				
42	By being faithful to one uninfected partner				
iii. **Knowledge of HIV prevention before sexual initiation**					
43	Did you have knowledge of prevention of HIV & AIDS before you became sexually active?		Yes		
			No		
iv. **Sexual risk behaviours include:**					
		SA	**A**	**D**	**SD**
44	Early sexual debut				
45	Concurrent multiple sexual partnerships				
46	Forced sex				
47	Unprotected sexual intercourse				
v. Sources of HIV & AIDS information Please tick in the appropriate box(s)					
48	Peers				
	TV/radio				
	Social networks				
	Parents/guardian				
	Church				
	Lecturers				
	University health centre				
Section D **Perceived susceptibility to HIV & AIDS** Indicate the extent to which you agree or disagree to the following statements.**SA= strongly agree; A= agree; D= disagree ;SD= strongly disagree**					
		SA	**A**	**D**	**SD**

49	HIV & AIDS really exists				
50	University students are immune to HIV & AIDS				
51	One can see that their partner is not infected by their physical features				
52	Youths are prone to HIV & AIDS				
53	An HIV positive person on ART can still transmit HIV				
54	It is safe to have sex with an HIV positive person on ART(antiretroviral therapy)				
55	First year students are free from HIV				
56	University students are at risk of contracting HIV & AIDS				

Section E

Perceived severity of HIV & AIDS

Indicate the extent to which you agree or disagree with the following statements

		SA	**A**	**D**	**SD**
57	HIV & AIDS is just like any other disease				
58	HIV & AIDS can be cured				
59	The consequences of HIV are so severe that I might want to avoid it				
60	Some traditional and religious practitioners can cure AIDS				
61	HIV can be prevented				
62	Some antibiotics can treat AIDS				
63	Highly Active Antiretroviral Therapy (HAART) cures AIDS				
64	HIV is like any other sexually transmitted infection which can be treated				

Section F **Factors contributing to university students having sex** Indicate the extent to which you agree with the following statements					
		SA	**A**	**D**	**SD**
65	Sex is considered a way of life at universities				
66	University students do what their friends do				
67	University students' sexual behaviours is influenced by their new found freedom				
68	University students are not aware of the dangers of early sexual debut				
69	University students' sexual behaviours are influenced by their need to get high grade marks				
70	It is right to have sex when you are at university level as long as you are in love				
71	University students' sexual behaviours are influenced by their need of a high class life				
72	University students' sexual behaviours are influenced by poverty				

THANK YOU

DANKIE

Annexure E: Cronbach's Alpha

Use the table below to interpret the results.

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent (High-Stakes testing)
$0.7 \leq \alpha < 0.9$	Good (Low-Stakes testing)
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

1) For the following seven questions the Cronbach's Alpha is **0.642**

Item Statistics

	Mean	Std. Deviation	N
I talk freely about condoms to my parents/guardian	2.95	.925	347
I feel free to discuss HIV & AIDS related issues with my parents	2.12	.934	347
Parents are supposed to discuss sexual issues with their children	1.57	.774	347
It is culturally acceptable for parents/guardians to discuss sexual issues with their children	2.44	.961	347
My parents/guardians are knowledgeable about HIV & AIDS	1.36	.573	347
My parents/guardians are knowledgeable about condom use	1.60	.712	347
My parents/guardians support condom use	2.21	1.084	347

Reliability Statistics

Cronbach's Alpha	N of Items
0.642	7

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
14.25	11.697	3.420	7

2) For the following ten questions it is **0.206**

Item Statistics

	Mean	Std. Deviation	N
Discrimination against HIV & AIDS can be controlled	1.62	.642	341
People living with HIV & AIDS should be discriminated	3.86	.431	341
HIV & AIDS is a punishment from God	3.57	.785	341
Discrimination against people living with HIV and AIDS has a negative impact on the spread of HIV	1.97	.956	341
In Zimbabwe it is normal practice to discriminate those living with HIV and AIDS	2.96	.756	341
People with AIDS deserve it	3.61	.667	341
People living with HIV & AIDS should be isolated from the rest of the population	3.71	.660	341
I will sit next to a fellow student who is HIV positive	1.42	.697	341
I will hug a person who has AIDS	1.44	.707	341
I can use the same utensils with a person who has AIDS	1.99	.978	341

Reliability Statistics

Cronbach's Alpha	N of Items
0.206	10

3) For the following 4 questions it was **0.439**

Item Statistics

	Mean	Std. Deviation	N
Have you ever heard of HIV & AIDS?	1.04	.186	336
Do you know your HIV status?	1.26	.440	336
Do you know the HIV status of your partner(s)?	1.50	.501	336
Have you ever had sex with a male/female partner?	1.53	.500	336

Reliability Statistics

Cronbach's Alpha	N of Items
0.439	4

4) For the following 10 questions it was **0.717**

Item Statistics

	Mean	Std. Deviation	N
HIV can be transmitted through unprotected sexual intercourse	1.08	.289	365
HIV can be transmitted through infected blood	1.15	.376	365
HIV can be transmitted through kissing an infected person	2.87	.881	365
HIV can be transmitted through a mosquito bite	3.54	.630	365
HIV can be transmitted through mother to child during pregnancy	1.65	.810	365
HIV can be transmitted through using an infected person's belongings such as towels	3.05	.850	365
HIV can be transmitted through an accidental prick by a used needle	1.77	.735	365
HIV can be prevented by correctly and consistently using condoms	1.75	.743	365
HIV can be prevented by abstaining from sex	1.27	.731	365
HIV can be prevented by being faithful to one uninfected partner	1.44	.774	365

Reliability Statistics

Cronbach's Alpha	N of Items
0.717	10

5) For the following 4 questions it was **0.797**

Item Statistics

	Mean	Std. Deviation	N
Sexual risk behaviours include early sexual debut	1.66	.790	375
Sexual risk behaviours include concurrent multiple sexual partnerships	1.38	.654	375
Sexual risk behaviours include forced sex	1.55	.744	375
Sexual risk behaviours include unprotected sexual intercourse	1.37	.692	375

Reliability Statistics

Cronbach's Alpha	N of Items
0.797	4

6) For the following 24 questions it was **0.634**

Item Statistics

	Mean	Std. Deviation	N
HIV & AIDS really exist	1.10	.335	295
University students are immune to HIV & AIDS	3.55	.789	295
One can see that their partner is not infected by their physical features	3.51	.791	295
Youths are prone to HIV & AIDS	1.74	.790	295
An HIV positive person on ART can still transmit HIV	1.63	.809	295
It is safe to have sex with an HIV positive person on ART	3.52	.746	295
First year students are free from HIV	3.69	.658	295
University students are at risk of contracting HIV & AIDS	1.51	.732	295
HIV & AIDS is just like any other disease	2.56	1.025	295
HIV & AIDS can be cured	3.39	.756	295
The consequences of HIV are so severe that I might want to avoid it	1.52	.888	295
Some traditional and religious practitioners can cure AIDS	3.38	.876	295
HIV can be prevented	1.36	.670	295
Some antibiotics can treat AIDS	3.40	.818	295
Highly Active Antiretroviral Therapy (HAART) cures AIDS	3.42	.622	295
HIV is like any other sexually transmitted infection which can be treated	3.32	.830	295
Sex is considered a way of life at universities	2.39	.884	295

University students do what their friends do	2.24	.805	295
University students' sexual behaviours is influenced by their new found freedom	1.78	.705	295
University students are not aware of the dangers of early sexual debut	2.85	.899	295
University students' sexual behaviours are influenced by their need to get high grade marks	2.70	.873	295
It is right to have sex when you are at university level as long as you are in love	3.20	.850	295
University students' sexual behaviours are influenced by their need of a high class life	2.15	.906	295
University students' sexual behaviours are influenced by poverty	2.23	.919	295

Reliability Statistics

Cronbach's Alpha	N of Items
0.634	24

Annexure F

UNISA university of south africa

UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE

HSHDC/53/2012

Date of meeting: 23 May 2012 Student No: 4727-113-2

Project Title: Students' knowledge, attitudes and behaviours regarding HIV and AIDS at a University in Zimbabwe

Researcher: Grace Ngundu

Degree: MA Health Studies Code: MPCHS94

Supervisor: Prof DM van der Wal
Qualification: D Litt et Phil
Joint Supervisor: -

DECISION OF COMMITTEE

Approved [√] **Conditionally Approved** [ ]

Prof E Potgieter
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE

Dr MM Moleki
ACTING ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

ANNEXURE G

National University of Science and Technology

P. O. Box AC 939. Bulawayo, Zimbabwe
Cnr. Gwanda Road/Cecil Avenue

Telephone: 263-9-282842/288413/39/58
Fax: 263-9-289057

From Registrar F. Mhlanga Dip Edu, BEd, MSc(UZ); MBA (NUST)

07 June, 2012

Ms Grace Ngundu
Department of Clinical Practice and Patient Care
National University of Science and Technology
P O Box AC 939
Ascot
BULAWAYO

Dear Ms Ngundu

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH

Reference is made to your letter dated 31 May, 2012 on the above request.

We would like to inform you that we have granted you permission to do a research as requested on the following topic: ***"Students' Knowledge, Attitude and Behaviours Regarding HIV and AIDS".***

The University wishes you the best in your research studies.

Yours sincerely

F Mhlanga
Registrar

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
REGISTRAR
P.O. BOX AC 939, ASCOT BULAWAYO

cc Dean of Students